



City of Fort Lupton
CITY COUNCIL/ENTERPRISE BOARDS
REGULAR MEETING AGENDA
Tuesday, March 1, 2022
7:00 PM
130 South McKinley Avenue

Zo Stieber, Mayor
Valerie Blackston, Ward 1
Chris Ceretto, Ward 2
Carlos Barron, Ward 3
David Crespín, Ward 1
Claud Hanes, Ward 2
Bruce Fitzgerald, Ward 3

You may join in person or join remotely by clicking on:
<https://global.gotomeeting.com/join/851983253>

Pledge of Allegiance

Call to Order - Roll Call

Persons to Address Council - This portion of the Agenda is provided to allow members of the audience to present comments to the City Council. The City Council may not respond to your comments this evening, rather they may take your comments and suggestions under advisement or your question may be directed to the appropriate staff member for follow-up. Please limit the time of your comments to three (3) minutes - Mayor Stieber

Approval of Agenda

Review of Accounts Payables

- a. March 1, 2022, Accounts Payable

Consent Agenda - Consent Agenda items are considered to be routine and will be enacted by one motion and vote. There will be no separate discussion of Consent Agenda items unless a Councilmember so requests, in which case the item may be removed/moved from the Consent Agenda.

- a. February 15, 2022, City Council Meeting Minutes
- b. Second Reading Ordinance 2022-1137 An Ordinance of the City of Fort Lupton, Colorado, Amending Section 2-26 Regular Meetings of the City Council and Enterprise Boards of the Fort Lupton Municipal Code
- c. Second Reading Ordinance 2022-1138 An Ordinance by Fort Lupton City Council Acting as the Utilities Enterprise Board, Amending Section 13-26 Sewer Rate Schedules, Section 13-136 Water Rate Schedules, Section 13-135 Water Meter Readings and Section 13-145 Water Leaks of Chapter 13 Municipal Utilities of the Fort Lupton Municipal Code
- d. AM 2022-045 Setting a Public Hearing for March 15, 2022, for Consideration of the Retail Marijuana Business License Application Submitted by 1310 Factory Circle, LLC, Colin Madden, to be located at 1310 Factory Circle
- e. AM 2022-046 Setting a Public Hearing for March 15, 2022, for Consideration of a Retail Marijuana Business License Application Submitted by Carretera Ocho Cinco, LLC,

Daniel Balderals, Rachel Gillette and Puppies & Sushi, LLC, to be located at 7853 Highway 85

- f. AM 2022-047 Setting a Public Hearing for March 15, 2022, for Consideration of the Retail Marijuana Business License Application Submitted by Hlgh Plainz Strains of Fort Lupton, Inc. John Rotherham and Alicia Rotherham, to be located at 1330 Factory Circle

Public Hearings - Public Hearings allow members of the audience to present comments and questions to the City Council on the item being presented. Comments and questions may be limited to three (3) minutes- Mayor Stieber

- a. AM 2022-044 Consideration of a Resolution for the Hope Grayson Site Plan for a General Commercial Development Including a Dental Clinic

Action Memorandum

- a. AM 2022-042 Approve a Resolution in Support of the Brand Guidelines for Use of Official City of Fort Lupton Administrative Documents
- b. AM 2022-043 Award Contract to Polarized Water Solution for Not to Exceed \$240,000.00 for Non-Potable Pump House Retrofit Project from the Utility Fund - Non-Potable Water System
- c. AM 2022-048 Approval of a Pre-Construction Contract with GH Phipps as Construction Manager for the New Public Library Facility

Information Memorandum

- a. IM 2022-005 Completion of Risk and Resilience Assessment and Emergency Response Plan to Comply with the America's Water Infrastructure Act

Staff Reports

Mayor/Council Reports

Executive Session "To determine positions relative to matters that may be subject to negotiations, develop a strategy for negotiations, and/or instruct negotiators, pursuant to C.R.S. § 24-6-402(4)(e)." golf course

Future City Events

- a. March 1, 2022, Upcoming Events

Adjourn



City of Fort Lupton

Check Report

By Check Number

Date Range: 02/16/2022 - 03/01/2022

Vendor Number Payable #	Vendor Name Payable Type	Post Date	Payment Date Payable Description	Payment Type	Discount Amount Discount Amount	Payment Amount Payable Amount	Number
Bank Code: Golf Course-Golf Course							
000024	ACE HARDWARE OF FORT LUPTON		02/22/2022	Regular	0.00	3.59	84944
92632	Invoice	01/24/2022	GOLF-CAULKING-PRO SHOP		0.00	3.59	
000048	AIRGAS USA LLC		02/22/2022	Regular	0.00	16.82	84945
9986097555	Invoice	01/31/2022	GOLF-CYLINDER RENTAL-MAINT		0.00	16.82	
000138	BLACK CLOVER ENTERPRISES LLC		02/22/2022	Regular	0.00	1,535.05	84946
BCE113385	Invoice	02/08/2022	GOLF-APPAREL-PRO SHOP		0.00	1,535.05	
002853	BUCKEYE CLEANING CENTER		02/22/2022	Regular	0.00	301.50	84947
90391417	Invoice	02/11/2022	GOLF-JANITORIAL SUPPLIES-PRO SHOP		0.00	301.50	
000183	CALLAWAY GOLF SALES COMPANY		02/22/2022	Regular	0.00	1,583.23	84948
934225911	Invoice	02/01/2022	GOLF-APPAREL-PRO SHOP		0.00	58.87	
934254303	Invoice	02/08/2022	GOLF-APPAREL-PRO SHOP		0.00	1,524.36	
000239	CITY OF FORT LUPTON		02/22/2022	Regular	0.00	22,657.07	84949
FIN2022043	Invoice	02/11/2022	GOLF-PAYROL EXPENSE 1/22-2/4/22 PAID 2/...		0.00	20,840.80	
FIN2022049	Invoice	02/11/2022	Golf ComData Purchases		0.00	1,816.27	
000307	COMCAST CABLE COMM, LLC		02/22/2022	Regular	0.00	244.47	84950
0120790 FEB22	Invoice	02/06/2022	GOLF-PHONE/INTERNET		0.00	244.47	
001374	EPOCH EYEWEAR		02/22/2022	Regular	0.00	519.32	84951
INV-000283	Invoice	02/11/2022	GOLF-SUNGLASSES-PRO SHOP		0.00	519.32	
001417	JOE PATE		02/22/2022	Regular	0.00	153.46	84952
020922	Invoice	02/09/2022	GOLF-REIMBURSE FOR WINDOW BLINDS-PR...		0.00	153.46	
000974	SAFE SYSTEMS INC		02/22/2022	Regular	0.00	146.00	84953
870192-1062	Invoice	02/06/2022	GOLF-SECURITY MONITORING		0.00	146.00	
001963	WASTE CONNECTIONS OF COLO, INC		02/22/2022	Regular	0.00	801.88	84954
5918870V311	Invoice	01/17/2022	GOLF-TRASH SRVCS JAN/FEB22-PRO SHOP		0.00	473.90	
5918871V311	Invoice	01/17/2022	GOLF-TRASH SRVCS JAN/FEB22-MAINT		0.00	327.98	
001183	WAXIE SANITARY SUPPLY		02/22/2022	Regular	0.00	123.24	84955
80280765-1	Credit Memo	12/01/2021	GOLF-RETURN FOR WRONG PRODUCT-PRO ...		0.00	-101.24	
80498171	Invoice	12/03/2021	GOLF-JANITORIAL SUPPLIES-PRO SHOP		0.00	155.98	
PX97P/00	Invoice	12/01/2021	GOLF-JANITORIAL SUPPLIES-PRO SHOP		0.00	68.50	
000183	CALLAWAY GOLF SALES COMPANY		03/01/2022	Regular	0.00	1,168.20	84956
934302763	Invoice	02/15/2022	GOLF-MERCHANDISE-PRO SHOP		0.00	1,168.20	
000974	SAFE SYSTEMS INC		03/01/2022	Regular	0.00	533.00	84957
SI-566800	Invoice	02/16/2022	GOLF-SECURITY SYSTEM REPAIRS-PRO SHOP		0.00	533.00	
001064	TAYLORMADE GOLF COMPANY INC		03/01/2022	Regular	0.00	459.11	84958
35572493	Invoice	02/11/2022	GOLF-MERCHANDISE-PRO SHOP		0.00	459.11	
001105	TOSHIBA FINANCIAL SERVICES		03/01/2022	Regular	0.00	236.90	84959

Check Report

Date Range: 02/16/2022 - 03/01/2022

Vendor Number	Vendor Name	Payment Date	Payment Type	Discount Amount	Payment Amount	Number
Payable #	Payable Type	Post Date	Payable Description	Discount Amount	Payable Amount	
465321032	Invoice	02/11/2022	GOLF-COPIER LEASE/PROPERTY DAMAGE-P...	0.00	236.90	

Bank Code Golf Course Summary

Payment Type	Payable Count	Payment Count	Discount	Payment
Regular Checks	21	16	0.00	30,482.84
Manual Checks	0	0	0.00	0.00
Voided Checks	0	0	0.00	0.00
Bank Drafts	0	0	0.00	0.00
EFT's	0	0	0.00	0.00
	21	16	0.00	30,482.84

Check Report

Date Range: 02/16/2022 - 03/01/2022

Vendor Number	Vendor Name	Payment Date	Payment Type	Discount Amount	Payment Amount	Number
Payable #	Payable Type	Post Date	Payable Description	Discount Amount	Payable Amount	
Bank Code: Pooled Cash-Pooled Cash						
000005	2EZ ELECTRIC	02/22/2022	Regular	0.00	708.99	71048
4827	Invoice	02/09/2022	REC-ELECTRICAL WORK	0.00	708.99	
000023	ACE EQUIPMENT & SUPPLY	02/22/2022	Regular	0.00	1,220.00	71049
173138	Invoice	01/12/2022	GF-PLOW EDGE-STREETS	0.00	1,220.00	
000026	ACTIVE CABLING & COMMUNICATIONS LLC	02/22/2022	Regular	0.00	385.00	71050
202750	Invoice	01/27/2022	REC-INSTALLED HDMI CABLES FITNESS ROOM	0.00	385.00	
000030	ADAMS COUNTY SHERIFF	02/22/2022	Regular	0.00	600.00	71051
430997	Invoice	02/03/2022	GF-RANGE USE-PD	0.00	600.00	
000031	ADAMSON POLICE PRODUCTS	02/22/2022	Regular	0.00	1,396.93	71052
INV370505	Invoice	01/28/2022	GF-UNIFORMS-PD	0.00	20.85	
INV370633	Invoice	01/31/2022	GF-UNIFORMS-PD	0.00	543.23	
INV370767	Invoice	02/01/2022	GF-UNIFORMS-PD	0.00	25.90	
INV370773	Invoice	02/01/2022	GF-UNIFORMS-PD	0.00	6.95	
INV371472	Invoice	02/10/2022	GF-UNIFORMS-PD	0.00	800.00	
000108	AUSMUS LAW FIRM PC	02/22/2022	Regular	0.00	1,200.00	71053
7476	Invoice	02/12/2022	GF-PROSECUTION SERVICES-COURT	0.00	1,200.00	
001820	BADGER METER	02/22/2022	Regular	0.00	146.16	71054
80091220	Invoice	01/31/2022	UF-METER BEACON SERVICE-UB	0.00	146.16	
002835	BRANDING BY BRE	02/22/2022	Regular	0.00	350.00	71055
1074	Invoice	01/27/2022	GF-COUNCIL HEAD SHOTS-LEGIS	0.00	350.00	
002853	BUCKEYE CLEANING CENTER	02/22/2022	Regular	0.00	1,298.43	71056
90388903	Invoice	01/31/2022	REC-JANITORIAL SUPPLIES	0.00	1,298.43	
000211	CH2M	02/22/2022	Regular	0.00	1,530.00	71057
D3410904-03	Invoice	12/31/2021	UF-REQ DEVELOPMENT SVCES-WWTP	0.00	1,530.00	
000230	CINTAS FIRST AID & SAFETY	02/22/2022	Regular	0.00	51.57	71058
5093746184	Invoice	01/31/2022	REC-FIRST AID SUPPLIES	0.00	51.57	
000232	CIRSA	02/22/2022	Regular	0.00	1,000.00	71059
220505	Invoice	02/11/2022	UF-PC6015569 MAIN BACK UP-SEWER	0.00	1,000.00	
002651	COLORADO COMMUNITY MEDIA	02/22/2022	Regular	0.00	177.08	71060
48142	Invoice	02/11/2022	GF-PUBLIC NOTICES	0.00	177.08	
000306	COMCAST BUSINESS	02/22/2022	Regular	0.00	2,186.34	71061
139426507	Invoice	02/01/2022	GF-FEB22 INTERNET SERVICE	0.00	2,186.34	
000307	COMCAST CABLE COMM, LLC	02/22/2022	Regular	0.00	254.25	71062
0117309 JAN22	Invoice	01/14/2022	REC-CABLE/MUSIC	0.00	254.25	
002958	COX RANCH ORIGINALS	02/22/2022	Regular	0.00	127.00	71063
4165	Invoice	02/09/2022	REC-BIGGEST LOSER SPORTS BAG	0.00	127.00	
002960	DEREK MEYERS	02/22/2022	Regular	0.00	38.22	71064
021522	Invoice	02/15/2022	GF-REIMBURSE D.MEYERS CDL PERMIT-STRE...	0.00	38.22	
001712	ENVIRONMENTAL PRODUCTS & ACCCESS LLC	02/22/2022	Regular	0.00	435.98	71065
87321	Invoice	01/27/2022	UF-HYDROVAC PARTS-S LINES	0.00	435.98	
000455	FASTENAL COMPANY 01COFTL	02/22/2022	Regular	0.00	83.14	71066
COFTL183013	Invoice	02/07/2022	UF-INVERTED STRIPE WAND-W LINES	0.00	83.14	
002568	FORT LUPTON CAR WASH	02/22/2022	Regular	0.00	147.50	71067
275	Invoice	02/03/2022	GF-CAR WASHES-PD	0.00	147.50	
000489	FORT LUPTON RECREATION CTR	02/22/2022	Regular	0.00	1,960.00	71068

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Payable #	Payable Type	Post Date	Payable Description	Discount Amount	Payable Amount	
021622	Invoice	02/16/2022	CPR-ADULT BASKETBALL REFEREE-ATHL	0.00	1,960.00	
002962	FORT LUPTON RISTORANTE LLC	02/22/2022	Regular	0.00	7,224.00	71069
021822	Invoice	02/18/2022	GF-Concrete Sidewalk & Ally Entrance Wholl...	0.00	7,224.00	
000491	FORT LUPTON VETERINARY	02/22/2022	Regular	0.00	825.00	71070
021422	Invoice	02/14/2022	GF-IMPOUND/VET SERVICES-CODE	0.00	825.00	
001919	FUREVERDOG RESCUE AND BOARDING	02/22/2022	Regular	0.00	360.00	71071
021422	Invoice	02/14/2022	GF-BOARDING FEES-CODE	0.00	120.00	
021422-1	Invoice	02/14/2022	GF-BOARDING FEES-CODE	0.00	240.00	
001719	GO PLAY INC	02/22/2022	Regular	0.00	1,500.00	71072
FLLPP1	Invoice	02/15/2022	GF-POURED IN PLACE RESURFACING-PARKS	0.00	1,500.00	
000588	ID EDGE INC	02/22/2022	Regular	0.00	166.50	71073
95491	Invoice	01/12/2022	REC-CARD PRINTING RIBBON	0.00	166.50	
000597	INSIGHT PUBLIC SECTOR INC	02/22/2022	Regular	0.00	13,703.00	71074
1100914052	Invoice	02/08/2022	Microsoft SQL 2019 User Cals	0.00	13,703.00	
002817	JESSICA HANSEL	02/22/2022	Regular	0.00	276.00	71075
2006798-803	Invoice	02/15/2022	REC-SUMMER CAMP REFUND	0.00	276.00	
000698	L.G. EVERIST, INC	02/22/2022	Regular	0.00	654.28	71076
584137	Invoice	02/15/2022	SSTX-ICE SLICER/SAND MIX-STREETS	0.00	654.28	
000720	LEXIPOL LLC	02/22/2022	Regular	0.00	3,716.96	71077
INVLEX6402	Invoice	12/01/2021	Annual subscription	0.00	3,716.96	
002964	LIFETIME CONSTRUCTION LLC	02/22/2022	Regular	0.00	1,885.21	71078
020122	Invoice	02/01/2022	OVERPAYMENT PERMIT #21FTL-00110-C/SO...	0.00	1,885.21	
000783	MEANDERING WITH MARY	02/22/2022	Regular	0.00	100.00	71079
020822	Invoice	02/08/2022	CPR-FEB CASINO TRIP-SENIORS	0.00	100.00	
000862	O'REILLY AUTO PARTS	02/22/2022	Regular	0.00	355.49	71080
4489-347626	Invoice	12/28/2021	GF-BATTERY-STREETS	0.00	247.54	
4489-349481	Invoice	01/06/2022	GF-LOCKS-PW	0.00	60.97	
4489-350460	Invoice	01/11/2022	GF-OIL-PD	0.00	26.99	
4489-355546	Invoice	02/07/2022	GF-BLOW GUN-PARKS	0.00	19.99	
000916	PRAIRIE MOUNTAIN MEDIA	02/22/2022	Regular	0.00	1,456.60	71081
294480	Invoice	12/31/2021	REC-WINTER/SPRING 2022 BROCHURE	0.00	1,439.00	
297148	Invoice	01/31/2022	GF-PUBLIC NOTICE	0.00	17.60	
000932	R & M SERVICES	02/22/2022	Regular	0.00	1,586.07	71082
10633	Invoice	01/18/2022	GF-VEHICLE MAINTENANCE-PD	0.00	106.60	
10634	Invoice	01/18/2022	GF-VEHICLE MAINTENANCE-PD	0.00	91.61	
10635	Invoice	01/19/2022	GF-VEHICLE MAINTENANCE-PD	0.00	90.50	
10636	Invoice	01/20/2022	GF-VEHICLE MAINTENANCE-CODE	0.00	60.63	
10637	Invoice	01/24/2022	GF-VEHICLE MAINTENANCE-PD	0.00	96.60	
10639	Invoice	02/03/2022	GF-VEHICLE MAINTENANCE-PD	0.00	119.33	
10640	Invoice	02/03/2022	GF-VEHICLE MAINTENANCE-PD	0.00	76.61	
10641	Invoice	02/04/2022	GF-VEHICLE MAINTENANCE-PD	0.00	944.19	
001735	SCHOOL DISTRICT 27J	02/22/2022	Regular	0.00	125.00	71083
013122	Invoice	01/31/2022	GF-J.WAMBOLT CDL TEST-STREETS	0.00	125.00	
001008	SHRED-IT USA LLC	02/22/2022	Regular	0.00	30.00	71084
8000921190	Invoice	01/31/2022	GF-SHREDDING SERVICES-CITY CL	0.00	30.00	
001040	STERICYCLE	02/22/2022	Regular	0.00	61.00	71085
3005866165	Invoice	02/01/2022	REC-BIOHAZARD	0.00	61.00	
001075	THE CONSOLIDATED MUTUAL	02/22/2022	Regular	0.00	178.36	71086

Check Report

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Payable #	Payable Type	Post Date	Payable Description	Discount Amount	Payable Amount	
021722-1	Invoice	02/17/2022	UF-JAN22 ELECTRICAL PERRY PIT-WELL B	0.00	34.01	
021722-2	Invoice	02/17/2022	UF-JAN22 ELECTRICAL PERRY PIT-WELL C	0.00	33.67	
021722-3	Invoice	02/17/2022	UF-JAN22 ELECTRICAL PERRY PIT-DISCHARGE...	0.00	110.68	
001101	TODD HODGES DESIGN, LLC	02/22/2022	Regular	0.00	10,936.25	71087
3393	Invoice	02/14/2022	GF-PLANNING SRVC 1/31-2/13-PLANNING	0.00	10,936.25	
001105	TOSHIBA FINANCIAL SERVICES	02/22/2022	Regular	0.00	1,914.81	71088
464789189	Invoice	02/04/2022	Copier Lease	0.00	1,914.81	
001126	TYLER TECHNOLOGIES	02/22/2022	Regular	0.00	114.00	71089
130-126060	Invoice	01/28/2022	GF-HARDWARE-PD	0.00	114.00	
001156	VERIZON WIRELESS SVCS LLC	02/22/2022	Regular	0.00	50.00	71090
22104626-325600...	Invoice	01/24/2022	GF-SMS INFO-PD	0.00	50.00	
001199	WELD COUNTY PUBLIC SAFETY IT	02/22/2022	Regular	0.00	146.50	71091
FORTLUPTONPD-0...	Invoice	02/07/2022	GF-J.STEINKE TOKEN-PD	0.00	146.50	
001203	WELD COUNTY SHERIFF'S OFFICE	02/22/2022	Regular	0.00	6,000.00	71092
012722	Invoice	02/02/2022	Annual Guard Terminal Services Fee	0.00	6,000.00	
002950	TOTAL REMODEL CONTRACTOR	02/23/2022	Regular	0.00	5,838.62	71093
1231	Invoice	02/21/2022	GF-Restoration Remodel of Front counter ar...	0.00	5,838.62	
000005	2EZ ELECTRIC	03/01/2022	Regular	0.00	680.00	71094
4706	Invoice	12/01/2021	CPR-INSTALLED NEW IT OUTLET-COM CTR	0.00	680.00	
000011	A TO Z ELEVATOR INSPECTIONS LLC	03/01/2022	Regular	0.00	200.00	71095
1591	Invoice	02/11/2022	REC-ANNUAL ELEVATOR INSPECTION	0.00	200.00	
000034	ADT SECURITY SYSTEM	03/01/2022	Regular	0.00	127.49	71096
50576495 MAR22	Invoice	03/01/2022	REC-SECURITY MONITORING	0.00	127.49	
002819	ASHLEY CAMPBELL	03/01/2022	Regular	0.00	138.00	71097
2006812	Invoice	02/22/2022	REC-SUMMER CAMP OVERPAYMENT	0.00	138.00	
002853	BUCKEYE CLEANING CENTER	03/01/2022	Regular	0.00	566.95	71098
90391500	Invoice	02/11/2022	GF-JANITORIAL SUPPLIES-FAC	0.00	566.95	
002841	COLORADO JUMPS INC.	03/01/2022	Regular	0.00	3,363.50	71099
243747	Invoice	02/16/2022	GF-4TH OF JULY 2022 RENTALS- COM EVENTS	0.00	3,363.50	
000307	COMCAST CABLE COMM, LLC	03/01/2022	Regular	0.00	360.73	71100
0124495 FEB22	Invoice	01/25/2022	REC-CABLE	0.00	140.69	
0164533 MAR22	Invoice	03/01/2022	GF-CABLE/INTERNET MAR22-PW SHOP	0.00	220.04	
000340	CUMMINS ROCKY MOUNTAIN LLC	03/01/2022	Regular	0.00	802.00	71101
42-26877	Invoice	02/11/2022	GF-GENERATOR SERVICE-FAC	0.00	802.00	
000513	G & G EQUIPMENT	03/01/2022	Regular	0.00	70.07	71102
120843	Invoice	02/16/2022	GF-PLOW PIGTAIL CONNECTOR-PARKS	0.00	70.07	
002966	JUSTIN WAMBOLT	03/01/2022	Regular	0.00	35.40	71103
013122	Invoice	01/31/2022	GF-REIMBURSE FOR CDL LICENSE-STREETS	0.00	35.40	
002965	MARK GARCIA	03/01/2022	Regular	0.00	65.00	71104
2006797	Invoice	02/14/2022	REC-SHELTER RENTAL REFUND	0.00	65.00	
000928	PUSH-PEDAL-PULL	03/01/2022	Regular	0.00	326.70	71105
330357	Invoice	02/21/2022	REC-REPLACE CORD AND SERVICE BIKE	0.00	326.70	
002493	QUADIENT LEASING USA INC	03/01/2022	Regular	0.00	380.46	71106
N9274218	Invoice	03/01/2022	GF-QRTLTY LEASE PAYMENT MAR-JUN22-AD...	0.00	380.46	
000931	R & L TIRES	03/01/2022	Regular	0.00	80.99	71107

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Payable #	Payable Type	Post Date	Payable Description	Discount Amount	Payable Amount	
42847	Invoice	02/18/2022	GF-WELD WHEEL-STREETS	0.00	80.99	
002544	RACHAEL DECHANT	03/01/2022	Regular	0.00	65.00	71108
2006809	Invoice	02/22/2022	REC-BASEBALL REFUND	0.00	65.00	
000967	ROYAL-T ROOTER SERVICE, INC	03/01/2022	Regular	0.00	120.00	71109
241185	Invoice	02/03/2022	GF-FLOOR DRAIN MAINTENANCE-FAC	0.00	120.00	
001040	STERICYCLE	03/01/2022	Regular	0.00	63.89	71110
3005904558	Invoice	03/01/2022	REC-BIOHAZARD	0.00	63.89	
002694	SYMMETRY ENERGY SOLUTIONS LLC	03/01/2022	Regular	0.00	6,638.73	71111
12941534	Invoice	01/31/2022	REC-NATURAL GAS DELIVERY JAN22	0.00	6,638.73	
002659	TAIT & ASSOCIATES, INC.	03/01/2022	Regular	0.00	18,815.20	71112
146109	Invoice	01/31/2022	SST-AM2021-204 Engineer Harrison 1st-9th-...	0.00	18,815.20	
001963	WASTE CONNECTIONS OF COLO, INC	03/01/2022	Regular	0.00	242.33	71113
5981265V311	Invoice	03/01/2022	GF-MAR22 TRASH SERVICE-PARKS	0.00	137.86	
5981738V311	Invoice	03/01/2022	CEM-MAR22 TRASH SERVICE	0.00	104.47	
001224	XCEL ENERGY-GAS	03/01/2022	Regular	0.00	429.09	71114
768653767	Invoice	02/21/2022	GF-CITY HALL & GENERATOR GAS 1/19-2/17...	0.00	429.09	
000119	BANK OF COLORADO	02/25/2022	Bank Draft	0.00	6,042.87	DFT0001901
INV0001110	Invoice	02/25/2022	HSA DISTRIBUTION	0.00	6,042.87	
000119	BANK OF COLORADO	02/25/2022	Bank Draft	0.00	675.83	DFT0001902
INV0001111	Invoice	02/25/2022	HSA DISTRIBUTION	0.00	675.83	
001416	VALIC_1	02/25/2022	Bank Draft	0.00	33,241.84	DFT0001903
INV0001112	Invoice	02/25/2022	VALIC - 457(b) \$ Contributions	0.00	33,241.84	
001265	IRS	02/25/2022	Bank Draft	0.00	53,343.00	DFT0001904
INV0001113	Invoice	02/25/2022	Federal Withholding	0.00	53,343.00	
001418	CO DEPARTMENT OF REVENUE	02/25/2022	Bank Draft	0.00	10,115.00	DFT0001905
INV0001114	Invoice	02/25/2022	CO Withholding	0.00	10,115.00	
001416	VALIC_1	02/25/2022	Bank Draft	0.00	84.60	DFT0001906
INV0001115	Invoice	02/25/2022	VALIC - Regular Plan Retirement Contributio...	0.00	84.60	
001265	IRS	02/25/2022	Bank Draft	0.00	-5.08	DFT0001907
CM0000024	Credit Memo	02/25/2022	Federal Withholding	0.00	-5.08	
001418	CO DEPARTMENT OF REVENUE	02/25/2022	Bank Draft	0.00	-2.00	DFT0001908
CM0000025	Credit Memo	02/25/2022	CO Withholding	0.00	-2.00	
001265	IRS	02/25/2022	Bank Draft	0.00	9.54	DFT0001909
INV0001116	Invoice	02/25/2022	Federal Withholding	0.00	9.54	

Bank Code Pooled Cash Summary

Payment Type	Payable Count	Payment Count	Discount	Payment
Regular Checks	87	67	0.00	108,071.77
Manual Checks	0	0	0.00	0.00
Voided Checks	0	0	0.00	0.00
Bank Drafts	9	9	0.00	103,505.60
EFT's	0	0	0.00	0.00
	96	76	0.00	211,577.37

All Bank Codes Check Summary

Payment Type	Payable Count	Payment Count	Discount	Payment
Regular Checks	108	83	0.00	138,554.61
Manual Checks	0	0	0.00	0.00
Voided Checks	0	0	0.00	0.00
Bank Drafts	9	9	0.00	103,505.60
EFT's	0	0	0.00	0.00
	117	92	0.00	242,060.21

Fund Summary

Fund	Name	Period	Amount
600	GOLF ENTERPRISE FUND	2/2022	28,085.63
600	GOLF ENTERPRISE FUND	3/2022	2,397.21
999	POOLED CASH/CONSOLIDATED CASH	2/2022	178,005.84
999	POOLED CASH/CONSOLIDATED CASH	3/2022	33,571.53
			242,060.21

**RECORD OF PROCEEDINGS
FORT LUPTON CITY COUNCIL/ENTERPRISE BOARDS
February 15, 2022**

The City Council of the City of Fort Lupton met in a regular session at the City Complex, 130 South McKinley Avenue, the regular meeting place of the City Council, on Tuesday, February 15, 2022. Mayor Zo Stieber called the meeting to order at 7:00 p.m. and invited everyone to join her in the Pledge of Allegiance.

ROLL CALL

Mari Peña, City Clerk, called the roll. Those present were Mayor Zo Stieber and Councilmembers Chris Ceretto, Bruce Fitzgerald, David Crespín, Valerie Blackston, Carlos Barron and Claud Hanes.

Also present were City Administrator, Chris Cross, City Clerk, Mari Peña, City Attorney, Andy Ausmus, Finance Director, Leann Perino and Public Works Director, Roy Vestal.

PERSONS TO ADDRESS COUNCIL

There was no one to address the Council.

APPROVAL OF AGENDA

It was moved by David Crespín and seconded by Valerie Blackston to approve the agenda as presented. Motion passed unanimously on voice vote.

REVIEW OF ACCOUNTS PAYABLES

Council reviewed the February 15, 2022, payables; there were no questions or comments from the Mayor or Council.

LOTTERY FOR REGULATED MARIJUANA BUSINESS LICENSE

The City Clerk, Mari Peña, stated that five (5) applications are moving forward into the lottery for the opportunity for approval of a license. All applications were reviewed for completeness and background investigations completed. Each application has received an approved zoning verification. Setbacks specific to those businesses have been met. If the applicants are successful in the lottery, a public hearing will be held for each application before the local licensing authority for consideration of a license. The applicants will also need to submit a Pre-Application Review Questionnaire to discuss requirements for potential land use applications and building permits with the Planning and Building Department. It is highly likely that permits and procedures in addition to this marijuana business license will be required.

Moving forward into the lottery for a marijuana business license does not constitute approval of the business license, security plan, site plan, lighting plan, signage, parking, or other land use and building components.

**RECORD OF PROCEEDINGS
FORT LUPTON CITY COUNCIL/ENTERPRISE BOARDS
February 15, 2022**

The City Clerk, Mari Peña indicated that each applicant has taken a ticket and placed it in the tin. One ticket would be selected and that ticket would be the application that would not move forward. It was visually confirmed that five tickets were in the tin. Michael Lai, was selected from the public to assist in the selection. Michael Lai selected ticket number 424299. The City Clerk stated the applicant with that ticket wouldn't be moving forward. The remaining tickets were called and the remaining applicants raised their hands: Colin Madden of 1310 Factory Circle LLC, Rachel Gillette and Daniel Balderas of Carretera Ocho Cinco LLC, John Paoella of Centaurus Farms LLC, and Tucker Elridge of High Plainz Strains of Fort Lupton LLC.

The City Clerk stated that the next step in the process would be the public hearing on the application.

Mayor Stieber asked for a brief recess to clear the room. The regular meeting reconvened at 7:06 p.m.

CONSENT AGENDA

It was moved by Chris Ceretto and seconded by Claud Hanes to approve the Consent Agenda as presented with the following items:

- February 1, 2022 City Council Meeting Minutes
- AM 2022-038 Approve the Public Works Wastewater Sewer Service Agreement with Powell Living Trust for Sanitary Sewer Service Agreement at 14425 County Road 12
- AM 2022-039 Approving an Agreement with CGI Communications Inc. to Create and Provide Chapter Videos About the City of Fort Lupton

Motion passed unanimously on roll call vote.

PUBLIC HEARINGS

AM 2022-032 Consideration of an Amendment to the Future Land Use Map to the 2018 Fort Lupton Comprehensive Plan

Mayor Stieber opened the public hearing at 7:09 p.m. and asked for a brief presentation of the proposal.

The City Planner, Maria Lancto, stated that this request is for the City Council to consider an amendment to the Future Land Use Map that was adopted in 2018 as part of the Fort Lupton Comprehensive Plan.

The City is in receipt of an application for a Change of Zone, Site Plan, and PUD Plan from Vincent Village Associates, LLC (The Michaels Development Company) for a multi-family residential development project, known as the Sagebrush Apartments. These applications have been submitted concurrently and will be reviewed by the Planning Commission and City Council

**RECORD OF PROCEEDINGS
FORT LUPTON CITY COUNCIL/ENTERPRISE BOARDS
February 15, 2022**

at separate public hearings. City staff has determined that an amendment to the 2018 Future Land Use Map is required in order for the property that is the subject of the Sagebrush Apartments applications to conform with the Fort Lupton Comprehensive Plan. This proposed amendment is to reclassify the property from the General Commercial land use type to the Multifamily land use type.

The Municipal Code requires a hearing before the Planning Commission and City Council for any amendment to the Comprehensive Plan, which meets the requirements of the State Statutes that require at least one hearing be held. All notification requirements have been met including notice to Weld County and neighboring municipalities.

Ms. Lancto indicated that the Resolution has been amended to include the language "Comprehensive Plan Amendment is contingent upon the Change of Zone" per the Planning Commission.

Ms. Lancto indicated the proposal includes 2 (two) buildings with a total of 72 units, 36 units per building.

Ryan Zent representative for the Michael Development provided a presentation. Mr. Zent provided a community overview of the project, quality and design including construction plans. Management is to remain by Michaels Development with onsite staffing. The site is located within walking access to schools, parks, and Safeway commercial development. Mr. Zent indicated that the dog park was removed based on feedback from the prior meeting.

Mayor Stieber asked if anyone from the public wished to speak for or against this case. Hearing none, Mayor Stieber closed the public hearing at 7:19 p.m.

It was moved by Carlos Barron and seconded by Bruce Fitzgerald to approve Resolution 2022R018, A RESOLUTION OF THE CITY COUNCIL OF FORT LUPTON ADOPTING AN AMENDMENT TO THE FUTURE LAND USE MAP TO THE 2018 FORT LUPTON COMPREHENSIVE PLAN. Motion passed unanimously on roll call vote.

AM 2022-033 Consideration of an Ordinance Rezoning Land Legally Described in Exhibit A to the Proposed Ordinance, and Known as the Sagebrush Apartment Change of Zone, to the PUD Planned Unit Development Zone District

Mayor Stieber opened the public hearing at 7:20 p.m. and asked for a brief presentation of the proposal.

Mayor Stieber indicated that the presentation from the previous public hearing stands and asked the Planner if all notification requirements were met. Ms. Lancto stated that all notifications were met.

**RECORD OF PROCEEDINGS
FORT LUPTON CITY COUNCIL/ENTERPRISE BOARDS
February 15, 2022**

Mayor Stieber asked if anyone from the public wished to speak for or against this case. Hearing none, Mayor Stieber closed the public hearing at 7:21 p.m.

It was moved by Bruce Fitzgerald and seconded by Carlos Barron to adopt Ordinance 2022-1139, AN ORDINANCE REZONING LAND LEGALLY DESCRIBED IN EXHIBIT A, AND KNOWN AS THE SAGEBRUSH APARTMENTS CHANGE OF ZONE, TO THE PUD PLANNED UNIT DEVELOPMENT ZONE DISTRICT. Motion passed unanimously on roll call vote.

AM 2022-034 Consideration of a Resolution for the Sagebrush Apartments Site Plan and PUD Plan for a Multifamily Residential Development

Mayor Stieber opened the public hearing at 7:21 p.m. and asked for a brief presentation of the proposal.

Mayor Stieber indicated that the presentation from the previous public hearing stands and asked the Planner if all notification requirements were met. Ms. Lancto stated that all notifications were met.

Mayor Stieber asked if anyone from the public wished to speak for or against this case. Hearing none, Mayor Stieber closed the public hearing at 7:22 p.m.

It was moved by Carlos Barron and seconded by David Crespino to approve Resolution 2022R019 A RESOLUTION OF THE CITY COUNCIL OF FORT LUPTON APPROVING THE SAGEBRUSH APARTMENTS SITE PLAN AND PUD PLAN FOR A MULTIFAMILY RESIDENTIAL DEVELOPMENT. Motion passed unanimously on roll call vote.

ACTION MEMORANDUM

AM 2022-035 Adopting an Ordinance Amending Chapter 6 Business Licenses and Regulations, Article II Alcoholic Beverages of the Fort Lupton Municipal Code to Conform to State Statutes

In 2018 the State of Colorado recodified Title 12 Alcohol and Tobacco Regulations to Title 44. The Ordinances is for the City's Code to conform to those changes.

The changes include:

- All references to title 12 are being amended to title 44.
- All references to "3.2% alcohol" are being amended to "fermented malt beverages".
- New definitions
- Section 6-39 (3) (a)Renewals - Addition of "The complete license renewal application shall include an affidavit from the Licensee of an on premises establishment affirming there will be a person on duty during regular business hours that has completed a City approved liquor serving training program." And under (3)(d) Special Event Permits - Addition of "Issuance of Special Events Permits shall require an affidavit from the Event

**RECORD OF PROCEEDINGS
FORT LUPTON CITY COUNCIL/ENTERPRISE BOARDS
February 15, 2022**

Manager affirming there will be a person on duty during the scheduled event hours that has completed a City approved liquor serving training program.”

- Consolidation of repetitive phrases
- Days the tastings may occur.

No changes:

- Number of tasting per year. City allows for 25 tastings per year. The statute 156 days per year.

Hours for Tastings. City allows 11:00 a.m. – 7:00 p.m. The statute 11 a.m. – 9 p.m.

It was moved by Carlos Barron and seconded by Chris Ceretto to adopt Ordinance 2022-1140 AN ORDINANCE OF THE CITY OF FORT LUPTON, COLORADO, AMENDING CHAPTER 6, ARTICLE II, ALCOHOLIC BEVERAGES OF THE CITY OF FORT LUPTON MUNICIPAL CODE TO CONFORM TO STATE STATUTES. Motion passed unanimously on roll call vote.

AM 2022-036 Approval of a Resolution for the Acceptance of the Subdivision Improvements Agreement with CW--Briggs, LLC for the Murata Farms Subdivision Filing No. 1

This Subdivision Improvement Agreement was drafted for the Murata Farms - Filing No. 1 (LUP2021-0028) approved by City Council on November 16, 2021, which is located south of Highway 52, immediately west of S College Avenue.

Improvements are for the construction of water, nonpotable water and sanitary sewer main extensions, roadway construction, landscape and storm drainage system improvements. Approximate cost of this agreement for construction is \$9,082,958.00 in two phases of development.

This agreement includes payments for the reimbursement agreement with Mountain Sky for extension of the water mains and S College Avenue roadway improvements.

Resolution 2021R070, approved by Council on November 16, 2021 requires the applicant to enter into a Subdivision Improvements Agreement. The previously approved agreement under Resolution 2022R017 contained an older version of the agreement by mistake. This version of the agreement has been coordinated between the developer and City staff.

It was moved by Claud Hanes and seconded by Valerie Blackston to approve Resolution 2020R017 A RESOLUTION OF THE CITY COUNCIL OF FORT LUPTON APPROVING THE CORONADO WEST, LLC SUBDIVISION IMPROVEMENT AGREEMENT OF THE MURATA FARMS FILING NO. 1 FINAL PLAT LOCATED IN FORT LUPTON, WELD COUNTY, COLORADO.

**RECORD OF PROCEEDINGS
FORT LUPTON CITY COUNCIL/ENTERPRISE BOARDS
February 15, 2022**

AM 2022-037 Approval of a Resolution Accepting the Subdivision Improvements Agreement with Lupton Land, LLC, for the Coyote Creek PUD Filing No. 4

This Subdivision Improvement Agreement was drafted for the Coyote Creek - Filing No. 4 (LUP2021-0032) approved by City Council on February 1, 2022, which is located north of 4th Street, immediately east of the Short Line Ditch.

Improvements are for the construction of water, nonpotable water and sanitary sewer main extensions, roadway construction, landscape and storm drainage system improvements. Approximate cost of this agreement for construction is \$2,623,509.00.

Resolution 2022R015, approved by Council on February 1, 2022 requires the applicant to enter into a Subdivision Improvements Agreement.

It was moved by Bruce Fitzgerald and seconded by David Crespin to approve Resolution 2020R020 A RESOLUTION OF THE CITY COUNCIL OF FORT LUPTON APPROVING THE LUPTON LAND, LLC SUBDIVISION IMPROVEMENT AGREEMENT OF THE COYOTE CREEK PUD FILING NO. 4 FINAL PLAT. Motion passed on roll call vote.

AM 2022-040 Award Contract to Burns & McDonnell Engineering Company, Inc., for an Amount not to Exceed \$119,428.00 for Engineering Services to Update the Wastewater Utility Plan Allocated from the Utility Fund

The existing Wastewater Utility Plan (WUP) for Fort Lupton is required to be updated per North Front Range Water Quality Planning Association (NFRWQPA) guidelines. While the WUP will be rewritten into a new document, Burns and McDonnell plans to incorporate existing information from the outdated plan where applicable. This is to be completed before the City sends the Application for Site Approval for the Force Main and Lift Station Project to CDPHE and is pivotal in the city maintaining their compliance schedule. Please note that Burns & McDonnell's ability to meet the proposed Schedule (attached) will rely on the City's prompt delivery of requested information and materials.

City staff received a work order proposal from CH2M for \$112,500 in June 2021 that provided for approval of the Utility Plan by NFRWQPA in 400 days. Council elected not to contract the study in July 2021.

Burns and McDonnell has prepared a scope of work with a schedule completing the Utility plan and approval by NFRWQPA in June 2022

It was moved by Claud Hanes and seconded by Bruce Fitzgerald to award contract to Burns & McDonnell Engineering Company, Inc., for an amount not to exceed \$119,428.00 for engineering services to update the Wastewater Utility Plan allocated from the Utility Fund. Motion passed unanimously on roll call vote.

**RECORD OF PROCEEDINGS
FORT LUPTON CITY COUNCIL/ENTERPRISE BOARDS
February 15, 2022**

AM 2022-041 Approve Payment to EMRICK Holdings, LLC, in the Amount of \$7,224.00 for Sidewalk and Alley Entrance Repairs at Wholly Stromboli

Wholly Stromboli building improvements project exposed a discrepancy in the public right-of-way sidewalk configuration. The alley entrance was too wide and encroached upon the north property line of the lot. This causes traffic to turn too early into the alley cutting across the property. The building improvements include extending the building foot print to the north to accommodate a patio feature.

The timing of improvements would not occur until early 2022 with the City contractor, which was being bid out in the fall. The property owner discussed with Council late summer regarding rectifying the conditions. Council was amenable to compensating the property owner for the costs that the City would incur with our concrete repair contractor.

The sidewalk work is completed, the contractor submitted an invoice for \$14,107.93, whereas the original estimate presented to Council was for \$8,469.16. The original City estimate was \$3,794.00. A revised estimate of contractor unit prices from the bid award is \$7,224.00.

It was moved by Carlos Barron and seconded by David Crespin Approve Payment to EMRICK Holdings, LLC, in the Amount of \$7,224.00 for Sidewalk and Alley Entrance Repairs at Wholly Stromboli

INFORMATION MEMORANDUM

IM 2022-003 Withdrawal of Affidavit of Surrender for Liquor License for SBM Travel Stop Colorado, LLC dba TJ's Express at 804 Denver Avenue

On January 18, 2022, SBM Travel Stop Colorado LLC dba TJ's Express at 804 Denver Ave. submitted an affidavit for surrender of their Fermented Malt Beverage ("FMB") license. According to the owner's attorney, TJ's would be out of inventory by January 23, 2022.

On February 10, 2022, Carl Ream, Attorney for TJ's Express submitted a withdrawal of application for surrender due to the fact that the licensee is unable to pursue its proposed business plans at the demised location and that the surrender of its liquor license in anticipation of those plans would cause significant economic hardship.

STAFF

Fiannce Direct, Leann Perino, stated that \$2,011 to assist in paying water bills.

**RECORD OF PROCEEDINGS
FORT LUPTON CITY COUNCIL/ENTERPRISE BOARDS
February 15, 2022**

MAYOR/COUNCIL REPORTS

The Mayor Stieber indicated that she has received citizen complaints that construction debris has blown off dumpsters and she is asking that the City require roll off dumpsters to be covered.

Mayor Stieber also stated that Senator Kirkmeyer has notified her that JBS would like to assist with community projects.

FUTURE CITY EVENTS

February 21, 2022	City Hall closed in Observance of President's Day
February 22, 2022	Town Hall Meeting, 130 S. McKinley Ave. 6:00 p.m.
March 1, 2022	City Council Meeting, 130 S. McKinley Ave. 7:00 p.m.
March 8, 2022	Town Hall Meeting, 130 S. McKinley Ave. 6:00 p.m.

ADJOURNMENT

The meeting adjourned at 7:41 p.m.

Submitted by,

Maricela Peña, City Clerk

Approved by City Council

Zo Stieber, Mayor

ORDINANCE NO. 2022-1137

INTRODUCED BY: CARLOS BARRON

AN ORDINANCE OF THE CITY OF FORT LUPTON, COLORADO, AMENDING SPECIFIC SECTIONS 2-26 REGULAR MEETINGS OF THE CITY COUNCIL AND ENTERPRISE BOARDS OF THE FORT LUPTON MUNICIPAL CODE

INTRODUCED, READ, AND PASSED ON FIRST READING, AND ORDERED PUBLISHED this 1st day of February 2022.

PUBLISHED in the Fort Lupton Press the 10th day of February 2022.

FINALLY READ BY TITLE ONLY, PASSED AND ORDERED FINALLY PUBLISHED by title only this 1st day of March 2022.

PUBLISHED BY TITLE ONLY the 10th day of March 2022.

EFFECTIVE (after publication) the 9th day of April 2022.

CITY OF FORT LUPTON, COLORADO

Zo Stieber, Mayor

ATTEST:

Maricela Peña, City Clerk

Approved as to form:

Andy Ausmus, City Attorney

ORDINANCE NO. 2022-1138

INTRODUCED BY: VALERIE BLACKSTON

AN ORDINANCE BY THE FORT LUPTON CITY COUNCIL ACTING AS THE UTILITIES ENTERPRISE BOARD, AMENDING SECTION 13-26 SEWER RATE SCHEDULES, SECTION 13-136 WATER RATE SCHEDULES, SECTION 13-135 WATER METER READINGS, AND SECTION 13-145 WATER LEAKS OF CHAPTER 13 MUNICIPAL UTILITIES, OF THE FORT LUPTON MUNICIPAL CODE

INTRODUCED, READ, AND PASSED ON FIRST READING, AND ORDERED PUBLISHED this 1st day of February 2022.

PUBLISHED in the Fort Lupton Press the 10th day of February 2022.

FINALLY READ BY TITLE ONLY, PASSED AND ORDERED PUBLISHED BY TITLE ONLY this 1st day of March 2022.

PUBLISHED BY TITLE ONLY the 10th day of March 2022.

EFFECTIVE (after publication) the 9th day of April 2022

City of Fort Lupton, Colorado

Zo Stieber, Mayor

Attest:

Maricela Peña, City Clerk

Approved as to form:

Andy Ausmus, City Attorney

CITY OF FORT LUPTON CITY COUNCIL



Valerie Blackston, Ward 1
Chris Ceretto, Ward 2
Carlos Barron, Ward 3

Zo Stieber, Mayor

David Crespín, Ward 1
Claud Hanes, Ward 2
Bruce Fitzgerald, Ward 3

AM 2022-045

SETTING A PUBLIC HEARING FOR MARCH 15, 2022, FOR CONSIDERATION OF THE RETAIL MARIJUANA BUSINESS LICENSE APPLICATION SUBMITTED BY 1310 FACTORY CIRCLE LLC, COLIN MADDEN, TO BE LOCATED AT 1310 FACTORY CIRCLE

I. Agenda Date: Council Meeting – March 1, 2022

II. Attachments: N/A

III. Summary Statement:

On February 15, 2022, the applicant was successful in the lottery and pursuant to Fort Lupton Municipal Code, a public hearing shall be scheduled for any new application.

IV. Submitted by: _____
Mari Peña, City Clerk

V. Finance Reviewed _____
Finance Director

VI. Approved for Presentation: _____
City Administrator

VII. Attorney Reviewed _____ Approved _____ Pending Approval

VIII. Certification of Council Approval: _____
City Clerk _____ Date _____

IX. Detail of Issue/Request:

On February 15, 2022, the applicant was successful in the lottery and pursuant to Fort Lupton Municipal Code, a public hearing shall be scheduled for any new application.

X. Legal/Political Considerations:

N/A

XI. Alternatives/Options:

N/A

XII. Financial Considerations:

N/A

XIII. Staff Recommendation:

Staff recommends approval of setting the public hearing to March 15, 2022

CITY OF FORT LUPTON CITY COUNCIL



Valerie Blackston, Ward 1
Chris Ceretto, Ward 2
Carlos Barron, Ward 3

Zo Stieber, Mayor

David Crespín, Ward 1
Claud Hanes, Ward 2
Bruce Fitzgerald, Ward 3

AM 2022-046

SETTING A PUBLIC HEARING FOR MARCH 15, 2022, FOR CONSIDERATION OF THE RETAIL MARIJUANA BUSINESS LICENSE APPLICATION SUBMITTED BY CARRETERA OCHO CINCO, LLC, DANIEL BALDERAS, RACHEL GILLETTE AND PUPPIES & SUSHI, LLC, TO BE LOCATED AT 7853 HIGHWAY 85

I. Agenda Date: Council Meeting – March 1, 2022

II. Attachments: N/A

III. Summary Statement:

On February 15, 2022, the applicant was successful in the lottery and pursuant to Fort Lupton Municipal Code, a public hearing shall be scheduled for any new application.

IV. Submitted by: _____
Mari Peña, City Clerk

V. Finance Reviewed _____
Finance Director

VI. Approved for Presentation: _____
City Administrator

VII. Attorney Reviewed _____ Approved _____ Pending Approval

VIII. Certification of Council Approval: _____
City Clerk Date

IX. Detail of Issue/Request:

On February 15, 2022, the applicant was successful in the lottery and pursuant to Fort Lupton Municipal Code, a public hearing shall be scheduled for any new application.

X. Legal/Political Considerations:

N/A

XI. Alternatives/Options:

N/A

XII. Financial Considerations:

N/A

XIII. Staff Recommendation:

Staff recommends approval of setting the public hearing to March 15, 2022

CITY OF FORT LUPTON CITY COUNCIL



Valerie Blackston, Ward 1
Chris Ceretto, Ward 2
Carlos Barron, Ward 3

Zo Stieber, Mayor

David Crespín, Ward 1
Claud Hanes, Ward 2
Bruce Fitzgerald, Ward 3

AM 2022-047

SETTING A PUBLIC HEARING FOR MARCH 15, 2022, FOR CONSIDERATION OF THE RETAIL MARIJUANA BUSINESS LICENSE APPLICATION SUBMITTED BY HIGH PLAINZ STRAINS OF FORT LUPTON, INC., JOHN ROTHERHAM AND ALICIA ROTHERMAH, TO BE LOCATED AT 1330 FACTORY CIRCLE

I. Agenda Date: Council Meeting – March 1, 2022

II. Attachments: N/A

III. Summary Statement:

On February 15, 2022, the applicant was successful in the lottery and pursuant to Fort Lupton Municipal Code, a public hearing shall be scheduled for any new application.

IV. Submitted by: _____
Mari Peña, City Clerk

V. Finance Reviewed _____
Finance Director

VI. Approved for Presentation: _____
City Administrator

VII. Attorney Reviewed _____ Approved _____ Pending Approval

VIII. Certification of Council Approval: _____
City Clerk _____ Date _____

IX. Detail of Issue/Request:

On February 15, 2022, the applicant was successful in the lottery and pursuant to Fort Lupton Municipal Code, a public hearing shall be scheduled for any new application.

X. Legal/Political Considerations:

N/A

XI. Alternatives/Options:

N/A

XII. Financial Considerations:

N/A

XIII. Staff Recommendation:

Staff recommends approval of setting the public hearing to March 15, 2022

CITY OF FORT LUPTON

CITY COUNCIL



Valerie Blackston, Ward 1
Chris Ceretto, Ward 2
Carlos Barron, Ward 3

Zo Stieber, Mayor

David Crespín, Ward 1
Claud Hanes, Ward 2
Bruce Fitzgerald, Ward 3

AM 2022-044

CONSIDERATION OF A RESOLUTION FOR THE HOPE GRAYSON SITE PLAN FOR A GENERAL COMMERCIAL DEVELOPMENT INCLUDING A DENTAL CLINIC.

I. Agenda Date: Council Meeting – March 1, 2022

II. Attachments:

- a. Proposed Resolution
- b. Planning Commission Resolution
- c. Planning Commission Meeting Minutes
- d. Staff Report
- e. Land Use Application
- f. Project Description
- g. Site Plan
- h. Traffic Letter
- i. Drainage Report
- j. Geotechnical Report
- k. Referral Responses
- l. Legal Notifications

III. Summary Statement:
Hope Grayson Properties, LLC has submitted a request for a site plan consisting of two general commercial buildings. The south building will be used for a dental office, and the north building is planned for a future phase and does not have a specific user at this time. The property is located at the northeast corner of Copper Place and State Highway 52 (1st Street).

IV. Submitted by: _____
Planner

V. Finance Reviewed _____
Finance Director

VI. Approved for Presentation: _____
City Administrator

VII. Attorney Reviewed _____ Approved _____ Pending Approval

VIII. Certification of Council Approval:

_____	_____
City Clerk	Date

IX. Detail of Issue/Request:

Hope Grayson Properties, LLC has submitted a request for a site plan consisting of two general commercial buildings. The south building will be used for a dental office, and the north building is planned for a future phase and does not have a specific user at this time. The property is located at the northeast corner of Copper Place and State Highway 52 (1st Street).

The property is located in the C-1 General Commercial Zone District. Medical and dental clinics are permitted uses in the C-1 Zone District. The future user(s) of the north building will be required to meet the parameters of C-1 zoning as well. Additionally, the Fort Lupton Comprehensive Plan designates this property for Commercial General Land Uses. The proposal abides by this land use designation.

X. Legal/Political Considerations:

The Zoning Regulations require published notice of the hearings at least fifteen (15) days prior to the hearings. The Planning Commission and City Council hearings were published in the Fort Lupton Press on January 20, 2022.

Notice of the public hearings were posted on January 25, 2022 at the Property, which is at least fifteen (15) days prior to the hearings, as required by the Zoning Regulations.

Notice was mailed to neighbors within one-hundred (100) feet of the Property on January 25, 2022.

XI. Alternatives/Options:

City Council has the following options for this request:

1. Approve the request;
2. Deny the request; or
3. Refer the request back to Planning Commission for further study.

XII. Financial Considerations:

The applicant has paid all applicable land use application fees and is covering ongoing review expenses.

XIII. Staff Recommendation:

Staff recommends approval of the Hope Grayson Site Plan.

RESOLUTION NO. 2022Rxxx

A RESOLUTION OF THE CITY COUNCIL OF FORT LUPTON APPROVING THE HOPE GRAYSON SITE PLAN FOR A GENERAL COMMERCIAL DEVELOPMENT ON A PROPERTY LOCATED IN THE NORTHWEST HALF OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, COUNTY OF WELD, STATE OF COLORADO.

WHEREAS, the Planning Commission held a public hearing on February 10, 2022 for the purpose of reviewing the Hope Grayson Site Plan for a general commercial development including a dental clinic; and

WHEREAS, after review of the application for the site plan, and consideration of staff comments, applicant's presentation and any public input, Planning Commission recommended approval with conditions of the site plan; and

WHEREAS, the City Council held a public hearing to consider and review the request for a site plan on March 1, 2022; and

WHEREAS, all legal requirements for the public hearing have been met, including publication of the legal notice in the Fort Lupton Press, mailing of public hearing notices to adjacent property owners within 100 feet, and posting of the hearing on the site; and

NOW THEREFORE BE IT RESOLVED, the Fort Lupton City Council has taken into consideration the supporting documentation and staff comments, all referral comments and any citizen testimony in response to this application. Based on the facts presented on this date, the City Council hereby approves the Hope Grayson Site Plan, with the following conditions:

- I. Prior to recording the site plan map:
 - A. The title of the map shall include Project No. LUP2021-0033 & Plan No. SPR2022-0001.
 - B. Any redline comments provided by staff shall be made to the site plan map.
 - C. Applicant shall provide written acknowledgement of the comments from the Fort Lupton Fire Protection District.
 - D. Applicant shall provide written acknowledgement of the comments from the Public Works Director.
 - E. Applicant shall provide written acknowledgement of the comments from the GIS Specialist.
 - F. Applicant shall provide written evidence that the comments from United Power have been adequately addressed including making the appropriate changes to the site plan map.
 - G. The following notes shall be placed on the site plan map:

1. Lighting on the site shall be maintained so that light is directed downwards and shall not spill onto adjacent properties.
2. Dead and dying landscape material shall be replaced at the earliest reasonable date.
3. The City reserves the right to reevaluate traffic impacts in the future if there is an increase from what was represented to the City in evaluating the site plan.
4. The property shall be maintained to the curb, or roadway if no curb exists.
5. Any proposed signage shall be submitted to the City for review and permitting.

II. Prior to the release of building permits for Phase I:

- A. One set of mylars for the Hope Grayson Site Plan shall be submitted for recording.

III. Prior to occupancy of the Phase II Building:

- A. Applicant shall submit a request for a pre-application meeting to discuss the proposed use of the north building.

APPROVED AND PASSED BY A MAJORITY VOTE OF THOSE ELECTED TO THE CITY COUNCIL THIS 1ST DAY OF MARCH 2022.

City of Fort Lupton, Colorado

Zo Stieber, Mayor

Attest:

Maricela Peña, City Clerk

Approved as to Form:

Andy Ausmus, City Attorney

RESOLUTION NO. P2022-003

A RESOLUTION OF THE PLANNING COMMISSION OF FORT LUPTON RECOMMENDING TO CITY COUNCIL APPROVAL OF THE HOPE GRAYSON SITE PLAN FOR TWO GENERAL COMMERCIAL BUILDINGS LOCATED IN THE NORTHWEST HALF OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, COUNTY OF WELD, STATE OF COLORADO.

WHEREAS, the Planning Commission held a public hearing on February 10, 2022, for the purpose of reviewing Hope Grayson Properties, LLC's application for a site plan for two general commercial buildings including a dental clinic; and

WHEREAS, after review of the application and supporting information, the Planning Commission finds that the site plan conforms to Colorado Revised Statutes and City codes and policies therein, and

WHEREAS, all legal requirements for the public hearing have been met including publication of the legal notice in the Fort Lupton Press, mailing of public hearing notices to adjacent property owners within 100 feet, and posting of the hearing on the site.

NOW THEREFORE BE IT RESOLVED, the Planning Commission has taken into consideration all referral comments and any citizen testimony in response to this application. Based upon the facts presented on this date, the Planning Commission hereby recommends approval of the Sagebrush Apartments Site Plan, conditional upon the following:

- I. Prior to recording the site plan map:
 - A. The title of the map shall include Project No. LUP2021-0033 & Plan No. SPR2022-0001.
 - B. Any redline comments provided by staff shall be made to the site plan map.
 - C. Applicant shall provide written acknowledgement of the comments from the Fort Lupton Fire Protection District.
 - D. Applicant shall provide written acknowledgement of the comments from the Public Works Director.
 - E. Applicant shall provide written acknowledgement of the comments from the GIS Specialist.
 - F. Applicant shall provide written evidence that the comments from United Power have been adequately addressed including making the appropriate changes to the site plan map.
 - G. The following notes shall be placed on the site plan map:
 1. Lighting on the site shall be maintained so that light is directed downwards and

shall not spill onto adjacent properties.

2. Dead and dying landscape material shall be replaced at the earliest reasonable date.
3. The City reserves the right to reevaluate traffic impacts in the future if there is an increase from what was represented to the City in evaluating the site plan.
4. The property shall be maintained to the curb, or roadway if no curb exists.
5. Any proposed signage shall be submitted to the City for review and permitting.

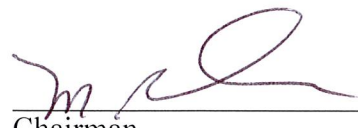
II. Prior to the release of building permits for Phase I:

- A. One set of mylars for the Hope Grayson Site Plan shall be submitted for recording.

III. Prior to occupancy of the Phase II Building:

- A. Applicant shall submit a request for a pre-application meeting to discuss the proposed use of the north building.

DONE THIS 10th DAY OF FEBRUARY, 2022, BY THE PLANNING COMMISSION FOR THE CITY OF FORT LUPTON, COLORADO.


Chairman

ATTEST:


Planning Director

**RECORD OF PROCEEDINGS
FORT LUPTON PLANNING COMMISSION
January 13, 2022**

The Planning Commission of the City of Fort Lupton met in session at the City Complex, 130 South McKinley Avenue, the regular meeting place of the Planning Commission and virtually via GoToMeeting, on Thursday, January 13, 2022.

Chair Mike Simone called the meeting to order at 6:00 p.m.

ROLL CALL

Board Members Present: Chair Mike Simone, Kathy Kvasnicka, and Member Paul Weber. Member Thomas Holton participated remotely via GoToMeeting. Vice-Chair Bush White arrived at 6:01 PM

City Staff Present: Planning Director Todd Hodges, Planner Maria Lancto and Planning Technician Magaly Morales-Tejada. Planner Alyssa Knutson participated remotely via GoToMeeting.

Chair Simone gave the following advisement:

Tonight's meeting shall be a hybrid meeting so as to ensure the health and safety of the general public and the City of Fort Lupton City Council, Planning Commission and staff.

The intent and purpose of the virtual appearance option is to allow the City to be innovative in providing the general public the most meaningful access possible in light of the current challenges present as a result of the Covid-19 pandemic.

An electronic link has been made available for tonight's meeting on the City's website and social media platforms and as posted at City Hall, so that the general public, Planning Commission and staff may participate electronically via the internet or on the phone.

APPROVAL OF AGENDA

Paul Weber moved to approve the agenda and Kathy Kvasnicka seconded.

CONSENT AGENDA

Paul Weber moved to approve the consent agenda and Kathy Kvasnicka seconded.

PUBLIC COMMENT

Jan Martin, resident in the Coyote Creek subdivision, stated that she would like to know the City's plans for inner road improvements in the Coyote Creek development.

ACTION ITEMS

P2022-002 Coyote Creek PUD Filing No. 4 Preliminary Plat

Planner Maria Lancto presented this item, she stated that this site is located northwest of the Coyote Creek Golf Course and south and adjacent of Twombly Elementary. The proposal includes 59 single family detached residential lots and will include a central open space area with a tot lot. The site is zoned PUD and was master planned as part of the Coyote Creek PUD Master Plan, which identifies this area as multi-family, however the map notes allow for lower densities, therefore this proposal is in line with the overall master plan. All notification requirements have been met and the applicants will provide a brief presentation.

RECORD OF PROCEEDINGS
FORT LUPTON PLANNING COMMISSION
January 13, 2022

Chair Simone asked applicant, Ken Merritt, if he understood that some members of the Planning Commission are appearing tonight via virtual connection and are not appearing in-person, if he consented to said members voting on his submittal, even though said members are not present in person, if he has agreed to voluntarily waive that right on behalf of the applicant or themselves by proceeding tonight electronically and if he voluntarily signed and submitted the written waiver and consent to proceed electronically tonight.

Mr. Merritt answered yes to all questions.

Mr. Merritt stated that the property is located in the Northwest corner of the "Fort Lupton Residential Development Plan", south of Twombly Elementary and east of residential development. The Coyote Creek Golf Course lies east and south of this property, Coyote Creek Filing No.1 is also south of the property. This property was originally identified as 193 multi-family residential units; however, this proposal is for 59 single family residential units, therefore is in better compatibility with the surrounding land uses and considerably decreases the density. There will be two entries into this development, the primary entrance being on 4th St and the other on the north end of the property via Twombly road. There will be 2 different lot sizes throughout the property, the density of the development is approximately 3.5 units per acres and there is 17% or 2.5 acres of open space in the center of the development, which will hold a park with a tot lot. The builder for this development will be Challenger Homes and there will be a variety of homes both two-story and single-story homes.

Chair Simone asked Mr. Merritt if he felt that he had a full and fair opportunity to present all application materials to the commission tonight.

Mr. Merritt stated yes.

Chair Simone opened up the public comment portion of the hearing.

Cheryl Loskota, a resident of the Coyote Creek Subdivision, asked when the residential properties were established on the golf course? What will the City do to protect properties from golfers? What the distance from the school to the fence lines on the homes along Twombly road are and if it's possible to add a green belt between those properties and the school? What is the total height of the tallest home?

Jan Martin, a resident of the Coyote Creek Subdivision, asked if the Planning Commission has ever considered that piece of property for an extension to the school and what the commission has done to plan for more schools for the continued growth of the City?

Chair Simone, responded to Ms. Martins question, stating that the school board is separate from the Planning Commission and from his previous experience on the school board, this specific property would most likely not be the most viable option for more school growth.

Planning Director Hodges added that this is a private property that has been planned as a residential development, however if the school had any interest in the property they could have approached the property owner.

Jan Martin added that she is also concerned about the increase in traffic by the school with one of the entrances being behind the school.

RECORD OF PROCEEDINGS
FORT LUPTON PLANNING COMMISSION
January 13, 2022

Mike Loskota, at 1837 Homestead Dr, stated that they did not receive a letter regarding this project, and only saw the public notice signs on the property. He expressed disappointment that his Spanish speaking neighbors did not receive a notice in Spanish. He stated that the Coyote Creek HOA has stated that the HOA would be responsible for the new addition. Mr. Loskota added that when they purchased their home a \$20,000 premium was paid for unobstructed view to the West of his home.

Planning Director Hodges stated that this property was already platted and planned for taller multi-family units when they purchased their home and the city cannot control the unfortunate premium that was charged by the builder.

Jan Martin, asked if there was any truth to a statement made by the builder for the previous Filing 3 which had incentive of paying an additional \$9,000 and the homeowner would not have an outside water bill.

Director Hodges explained that that specific concern is not in the purview of the planning commission and would not be part of this hearing.

Jan Martin asked if the builder for this filing would have any incentives similar to those mentioned?

With no further questions, Chair Simone closed the public comment portion of the hearing.

Applicant Ken Merritt answered some of the questions. He stated that the lots along the southern boundary of the school do back right up to the property line and are technically directly adjacent to the school property with no landscape buffer, there is a bit of an elevation difference along with a chain link fence on the school property. He stated that, as shown on the aerial view of the area, approximately 40% of the school property is still undeveloped. With regards to traffic concerns, a transportation impact analysis was conducted and it was determined that most of the traffic would come through 4th St. rather than the school road.

Mr. Merritt added that the Master Plan has been in place since 2002 and the property was originally planned to be 3-story multi-family units, however they felt as though single-family homes would be a more compatible use. Mr. Merritt stated that this property will use non-potable water for irrigation purposes.

Chair Simone opened up the hearing to Planning Commissioner's comments.

Chair Simone asked staff what the buffer is for mailing notifications to neighbors, if the school district was notified and if they responded?

Planner Lancto stated that the buffer is 500 feet and the school was notified but no response was received. Ms. Lancto pulled up the 500' buffer shown on the County's map and it was established that Mr. Loskota was not within the 500 feet which is why he did not receive a mailing.

Member Holton asked for clarification on the property lines of the homes next to school and if they would be directly adjacent to the chain link fence

Mr. Merritt stated that those rear lot lines of the development are concurrent with the norther boundary of property which is adjoined with the school lot line and there will be no buffer.

RECORD OF PROCEEDINGS
FORT LUPTON PLANNING COMMISSION
January 13, 2022

Member Holton asked if there are plans on improvements to the existing chain link fence if no buffer will exist.

Mr. Merritt stated that the intent is to have an approximately 42" rail fence along the property and homeowners have the option to add individual side fences. There is no allowance in the current submittal for a 5' screening fence. The plan for the northern properties is to have a trail way into the school for residents to walk their children to school.

Member Holton asked if there is planned pedestrian access onto the school property?

Mr. Merritt stated that is the intent.

Planning Director Hodges asked that a condition of approval be added based on these comments that the developer follow up directly with the school administration to address any concerns with the fencing and the proposed pedestrian access.

Member Weber asked what the space between the homes on the West end of the property and the ditch will look like.

Mr. Merritt stated that directly behind those lots is an existing 20-foot utility easement, those bordering lots will be concurrent with the easement and will have a rail fence.

Member Weber asked if the HOA will maintain the open space within the development?

Mr. Merritt stated that it will be maintained by the HOA and not-potable water will be used to maintain this area.

Member White asked if there have been any direct conversations with the school district regarding a potential increase in students and if any plans are in place to improve the fencing between the properties.

Mr. Merritt stated that at this point there had not been any direct conversations, however as previously mentioned and as added to the conditions of approval, they will reach out to the school directly and address any concerns that may come up.

Director Hodges added that he has met and will continue to meet with the school district's administration to work together to address future city growth and the impacts to the schools.

Member Holton asked if these conversations are going through the School Board of with the superintendent?

Planner Lancto stated that referrals are sent directly to Superintendent Kaylor.

Member Kvasnicka stated that she would like to see a screening or separation between the school and the lots that abut the school property.

Chair Simone stated that he would like to see more 4-sided architecture on the buildings.

Lee Eisenheim, with Challenger Homes, stated that there are actually requirements within the city for separation on the rear walls and it is a standard for Challenger Homes to provide 4-sided architecture and all of the homes will have some sort of differentiation.

**RECORD OF PROCEEDINGS
FORT LUPTON PLANNING COMMISSION
January 13, 2022**

Chair Simone asked if the builder will provide some sort of enhancement to the homes to protect from golfers.

Mr. Eisenheim stated that Challenger Homes aims to be transparent with buyers about the concerns on a golf course, due to liability issues they do not provide enhancement as part of the contract however they do provide buyers with contacts for options to add stronger windows, golf balls screens and other enhancements.

With no further comments, Member White moved to approve P2022-002 as amended with the added condition of approval. It was seconded by Member Weber. Motion passed unanimously.

Continuance of Sagebrush Apartments Site Plan

Planner Lancto stated that staff is requesting a continuance due to the Comprehensive Plan Amendment portion of this application not being properly noticed.

Member White motioned to continue this hearing to February 10, 2022. Kathy Kvasnicka seconded. Motion passed unanimously.

Withdrawal of SB Weakland Investments Amended Site Plan

The applicants for this project have chosen to withdraw this application.

DISCUSSION ITEMS

Review of Meeting Discussion

A review of meeting discussions took place.

Development Code Update

A discussion of the Development Code Update took place.

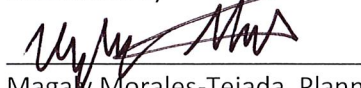
FUTURE BUSINESS

The next meeting of the Planning Commission will be on February 10, 2022 at 6:00 PM.

ADJOURNMENT

Chair Simone adjourned the meeting at 6:53 PM.

Submitted by



Magaly Morales-Tejada, Planning Technician

Approved by Planning Commission



Mike Simone, Chair



**HOPE GRAYSON SITE PLAN
STAFF REPORT
PROJECT NO. LUP2021-0033 / PLAN NO. SPR2022-0001**

PROJECT DESCRIPTION

Project No.: LUP2021-0033 / Plan No. SPR2022-0001

Project Name: Hope Grayson Site Plan

Owner: Juan Ramirez and Denise Tolmich with Hope Grayson properties, LLC

Representative: Anna Fluckey with McCauley Constructors

Location of Request:

The site is located in the Northwest Half of Section 5, Township 1 North, Range 66 West of the Sixth Principal Meridian, City of Fort Lupton, County of Weld, State of Colorado. It is located near the northeast corner of Copper Place and State Highway 52 (First Street) ("Property").



Nature of Request:

The Applicant has submitted a site plan application. The site will include two general commercial buildings totaling approximately 10,000 square feet. The south building will be used for a dental office, and the north building is planned for a future phase and does not have a specific user at this time.

The dental clinic is anticipated to have two to three employees, and the proposed business hours are 8:00 AM to 5:00 PM. These items may change as the dental clinic accumulates more patients.

Site Size: The Property is 0.817 acre, more or less.

Zone District: 'C-1' General Commercial District.

Proposed Use: Dental Clinic in south building (phase 1); general commercial business in north building (phase 2).

Existing Use: Vacant.

Hearing Dates: Planning Commission – February 10, 2022 at 6:00 PM; and
City Council – March 1, 2022 at 7:00 PM.

Hearing Location: Fort Lupton City Hall – Council Chambers, 130 S. McKinley Ave., Fort Lupton, Colorado.

Staff Recommendation: Approval with conditions listed in the proposed resolution.

APPLICATION PROCESS

The Applicant is requesting approval of a site plan. The site plan application is processed under [Section 16-170](#) of the Fort Lupton Municipal Code ("Code"), which states that site plans are required as follows:

- 1) Site plans are required as a step in the building permit review process for multi-family, commercial or industrial development.
- 2) Site plans are required for development which, in the opinion of the Planning Department, would have an adverse environmental impact upon the surrounding area or would have a major community land use impact.
- 3) To change an approved site plan when the change involves additional land use, including but not limited to:
 - a. Additional buildings.
 - b. Increase in the size of any building as shown on an approved site plan by more than ten percent (10%) over such approved building size.
 - c. Outside storage and/or display.
 - d. Vacation or dedication of easements or rights-of-way.

After required public notice of the site plan application, the Planning Commission shall consider the application, referral comments and any public testimony at a public hearing and make a recommendation to City Council to approve, approve with conditions or deny the site plan. The Planning Commission's comments shall be based on the evidence presented, conformance with the Comprehensive Plan and compliance with the City's standards, regulations and policies.

The City Council shall then conduct a public hearing and evaluate the application, referral agency comments, Planning Commission recommendation and any public testimony, and shall approve,

conditionally approve, continue for additional information or for further study or deny the application based on the evidence presented and compliance with the City's standards, regulations and policies and other guidelines.

NOTIFICATION REQUIREMENTS

The Zoning Regulations require published notice of the hearings at least fifteen (15) days prior to the hearings. The Planning Commission and City Council hearings were published in the Fort Lupton press January 20, 2022.

Notice of the public hearings were posted on the Property on January 25, 2022, pursuant to the Zoning Regulations, which require the Applicant post the Property with notice of the hearings at least fifteen (15) days prior to the hearings.

Notice was mailed to neighbors within one-hundred (100) feet of the Property on January 25, 2022.

CONFORMANCE WITH CITY STANDARDS, REGULATIONS AND POLICIES

The property is located within the 'C-1' General Commercial Zone District, which permits the new development of retail business stores and shops subject to the site plan review and approval procedures set forth under Section 16-170 of the Fort Lupton Municipal Code (the "Code"). A site plan review requires a public hearing before Planning Commission and City Council. The intent of the site plan review is to promote orderly and sound development standards as they apply to the City and enhance and protect the community's natural as well as man-made environments.

CONFORMANCE WITH THE COMPREHENSIVE PLAN

The Fort Lupton Comprehensive Plan designates this area for general commercial land uses. This designation allows for commercial businesses that offer residents basic goods and services. This supports a range of development styles, including stand-alone businesses on smaller properties as well as commercial shopping centers with multiple tenants. Primarily located along the City's major corridors, expansion of general commercial will offer residents greater shopping options within Fort Lupton and contribute to increased local commerce. In addition to commercial, these areas can include small office buildings, medical practices, and public and semi-public uses.

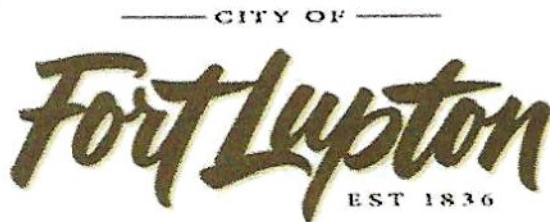
The property is surrounded by uses that are similar or compatible to the proposed use. The proposed use also conforms to the designated land use type and zoning.

REFERRALS

Referrals were provided to the list below. Any comments received are enclosed with the Planning Commission packet.

Buildings / Grounds Manager	Building Inspector	OMI
City Attorney	GIS Specialist	Police Chief
Public Works Director	Finance Director	Fort Lupton Fire Protection District
CDOT	United Power	Comcast
CenturyLink	Xcel Energy	Postmaster
NCWCD	Fulton Ditch Company	

***For more information on this development, please refer to the Planning Commission packet provided.
Additional documents may be available for review at the Fort Lupton City Hall.***



Planning & Building

 130 S. McKinley Avenue
 Fort Lupton, CO 80621

 Phone: 303.857.6694
 Fax: 303.857.0351
www.fortluptonco.gov

Project No. _____

Land Use Application Form

A. CONTACT INFORMATION

- 1) Property Owner Name: Juan Ramirez and Denise Tolmich – (Ramirez)
 Company: Hope Grayson properties, LLC
 Phone: 303.906.8335 Email: denise@ram-cotrucking.com
 Address: 15497 County Road 10
 Preferred method of contact? Email: ☐ Phone: ☐ Mail: ☐
- 2) Representative Name: Anna Fluckey - Director of Design-Build
 Company: McCauley Constructors
 Phone: 970-686-6300 Email: anna.fluckey@mccauleyconstructors.com
 Address: 650 Innovation Circle, PO Box 200, Windsor, CO 80550
 Preferred method of contact? Email: ☒ Phone: ☐ Mail: ☐
- 3) Billing Contact (where invoices should be directed to): Denise Tolmich – (Ramirez)
 Billing Company: Hope Grayson properties, LLC
 Phone: 303.906.8335 Email: denise@ram-cotrucking.com
 Address: Ft. Lupton, CO 80621

B. SITE DESCRIPTION

Site Address: 110 Copper Place, Ft. Lupton, Colorado, 80
 Parcel Number: 147105249006
 Existing Zone Classification: C-1 Proposed Zone Classification: C-1
 Water Type: Municipal Name: City of Ft Lupton
 Sewage Type: Municipal District Name or Location Hauled to: _____

C. APPLICATION TYPE (CHECK ALL THAT APPLY)

- | | | |
|---|--|---|
| ☐ Sketch Plat | ☐ Administrative Site Plan | ☐ PUD Plan (Preliminary & Final) |
| ☐ Preliminary Plat | ☐ Special Use Permit | ☐ Variance |
| ☐ Final Plat | ☐ Oil & Gas Permit | ☐ Administrative Variance |
| ☐ Minor Subdivision | ☐ Annexation & Initial Zone | ☐ Appeal |
| ☐ Amended Plat | ☐ Change of Zone | ☐ Other: _____ |
| ☒ Site Plan | ☐ Comp Plan Amendment | |

D. PROJECT DESCRIPTIONProject Name: HOPE GRAYSON

Please provide a short description of the proposed project in the space provided below:

Development of approx 10,000 sf general commercial space with associated parking,
landscaping and utilities, divided into two buildings. Located on Lot 6, Vincent's 3rd Filing
Second Amended Subdivision (1st St and Copper Pt).

E. REQUIRED DOCUMENTS

For an application to be considered complete, and for planning staff to begin review and schedule any applicable public hearings, this Land Use Application Form must be fully completed and all required attachments included. Planning staff will review the application for completeness and will provide notice to the representative and/or owner whether the application has been deemed complete.

F. CERTIFICATIONS**Representative Certification**

By signing this application, I attest that I am acting with the knowledge and consent of all owners of the property that is the subject of this application, and that I have been designated to act as the representative for the project described in this land use application. I further certify that all information submitted with this application is true and accurate to the best of my knowledge.

Representative: Anna Fluckey Digitally signed by Anna Fluckey
DN: C=US, E=anna.fluckey@reconleyconstructions.com, CN=Anna
Fluckey
Date: 2021.12.09 13:46:10-0700 Date: 12/9/21

Owner Certification

I hereby certify that I am the legal owner of record of the property that is the subject of this application. I hereby authorize the representative listed on this application, if any, to communicate directly with City officials and to submit documentation and information regarding this application on my behalf.

Owner: *Heather Smith* Date: 12.9.2021

For Office Use Only

Received Date: _____

If the application is not complete, state reasons why it is incomplete:

Deemed Complete Date: _____

Fees Submitted: _____ Escrow Submitted: _____

Instructions for Submitting the Land Use Application Form

DEFINITIONS

Words in the singular include the plural and words in the plural include the singular.

Application refers to the official submittal to the City of Fort Lupton's Planning Department for review of the proposed land use development identified in the land use application form. The application includes the form, all materials submitted for review of the project, including those documents required under the Land Use Regulations of the Municipal Code, and any additional information provided.

Project refers to the land use development identified on the land use application form and application materials.

Property refers to the land that is being proposed for development as described in the land use application form and application materials.

A. CONTACT INFORMATION

- 1) Provide contact information for all owners of any property that is the subject of the application. If the contact information for all property owners will not fit on the space provided, submit a separate sheet for the additional owners.
- 2) Provide contact information for all persons, firms or businesses that are authorized by the owners identified in Section A(1) to work on the land use application, including, but not limited to, discussing the project, submitting application materials, and attending meeting and hearings. If the contact information for all representatives will not fit on the space provided, submit a separate sheet for the additional representatives.
- 3) Provide contact and mailing information for the person that should receive all invoices for the project. If this person changes at any time, contact the Planning Department immediately to update this information.

B. SITE DESCRIPTION

Provide all information requested. Parcel numbers and address information may be found at the Weld County Property Portal at <https://www.co.weld.co.us/maps1/propertyportal/>. Current zoning can be found at <http://www.fortlupton.org/405/Zoning>.

C. APPLICATION TYPE

Select the land use application that is applicable to the project. If there are multiple land use application types being submitted to run concurrently, select all that apply. The land use application types will be identified during the required pre-application meeting. If you have any questions about this, please contact the Planning Department at 303.857.6694 or planningdept@fortlupton.org.

D. PROJECT DESCRIPTION

Please select a project name that will be referenced throughout the project and a description of what the project entails. If you need more space for the project description, please attach a separate sheet.

E. REQUIRED DOCUMENTS

Required documents will be discussed during the pre-application meeting with the Planning Department. If any documents are missing, the acceptance of the application may be delayed until the submittal is complete.

F. CERTIFICATIONS

Representative Certification. Provide the signature of all authorized representatives in this section.

Owner Certification. Provide the signature of all owners of properties included in the application in this section.

For any other questions, please contact the Planning Department at 303.857.6694 or planningdept@fortlupton.org.

December 2021

**PROJECT NARRATIVE FOR ADMINISTRATIVE SITE PLAN APPLICATION
HOPE GRAYSON – LOT 6, VINCENT'S EAST ADDITION 3RD FILING SECOND AMENDED
SUBDIVISION – 110 COPPER PLACE – CITY OF FT. LUPTON, COLORADO**

Project Description:

Hope Grayson (Project) is a proposed commercial development located on Lot 6, Vincent's East Addition 3rd Filing Second Amended Subdivision, or 110 Copper Place. The Project is applying for Administrative Site Plan Application. Lot 6 is currently under plat lot line adjustment process, which will increase Lot 6 area with a portion of the eastern adjacent Lot 7. After lot line amendment Lot 6 will be a total area of 0.817 acres (35,585 SF).

The Project is located at the northeast corner of Copper Place and State Highway 52. The current zoning for the project is C-1 General Commercial and the Project will be a developed use allowed by the current zoning code (Dental, Commercial, Retail, etc). North of the project is undeveloped C-1 zoned lots which are anticipated to be developed in the future. South of the Project is State Highway 52. West of the Project is Copper Place and an existing 7-11 gas station. East of the Project is an undeveloped lot (Lot 7) C-1 zoned for future development.

A 15' and 25' utility easements exist along the south border of the property and the building is located north of these easements. A 10' electrical utility easement exists on the west border of the site and the development is planned to accommodate these easements. A 30' access and utility easement exists on the north border and will be constructed as part of access drive to the site. A 50' building setback along SH 52, a 25' building setback along Copper Place, and 10' side/rear setback along the east and north borders of the site.

Utilities are available for use on site and will be utilized for the development. Water and sewer utilities are provided by the City of Ft. Lupton. Water meter will be tapped into the existing water main within Copper Place. An existing sanitary sewer stub exists at the southwest corner of Lot 6 and will serve the south building. A new water meter/fire line connection to the existing water main within Copper Place will occur when the north building (phase 2) is constructed, sometime in the future. Sanitary sewer connection for the south building will be constructed in the future when the north building (phase 2) develops. The included Utility Plan details the differences between phase 1 and phase 2 and limits of work for each phase. The Project is served by a regional stormwater pond and water quality and detention volume is provided off property, northwest of the Project.

Land Use:

The parcel is identified in the Land Development Code Update with a General Commercial (C-1) Zoning. The project is compatible with existing and proposed development in the area and the dental, retail, commercial use is in conformance with the C-1 zoning, therefore no zoning changes are proposed for the Project. The project site will contain two buildings, approximately 10,000 sq ft total. It is anticipated the project will be phased with the south building constructed as part of Phase 1, and the north building constructed in the future. The north building pad will remain in the interim as a seeded/stabilized building pad with proper erosion control until development of Phase 2 occurs.

Architecture Concept:

The proposed 4,598 SF structure will be a wood framed, 1-Story, fully sprinkled building which would accommodate the Hope Grayson Dental Clinic (3,548 SF) and one future lease/expansion space (1,050 SF). The west area will be for the dental clinic and the east end is intended for a lease or future dental

expansion space containing 1,050 SF. The entire core and shell along with the dental clinic will be completed at the same time. The lease space will be built as core and shell space with the tenant finish permitted separately and the build-out will be completed later.

The exterior elevations will be constructed with finishes that complement the existing adjacent buildings. Exterior finishes will be primarily EIFS stucco and synthetic stone along with metal and canvas awning accents. The exterior doors and windows will be bronze anodized aluminum frames. The west exterior door will be hollow metal painted to match adjacent stucco color.

A single pitched membrane roof is planned with scupper boxes and downspouts on the south side. The maximum building height is anticipated to be 23 feet. Mechanical equipment will be located on the rooftops and fully screened by building parapet walls.

The future north building will be constructed the same. All exterior finishes will match the primary building.

Landscape Design Concept:

Linear plantings of street trees reinforce the auto-oriented corridor, with informal groupings and masses of water-wise species promoting visual separation of vehicular and pedestrian uses. Strategic placement of plant material ensures a seamless integration with surrounding landscape, hardscape and proposed improvements, while enhancing desirable views, screening unwanted views and providing adequate sight lines for safety. Plant material is selected to complement the architecture, as well as being adaptable and tolerant to site conditions.

Pedestrian and Vehicle Circulation:

The Project is conveniently accessed from Copper Place directly across from the existing 7-11 access on the west side of Copper Place. An access is located to the north off a future constructed access road, and the north access road will be constructed along the ~295' north border of the site. Pedestrian access will start at the existing 10' sidewalk at the south end of the site along HWY 52 and connect to a new 5' sidewalk along the west border of the site to connect to an existing accessible ramp at the northwest corner of the site. A new 5' sidewalk running east-west along the north border of the site will be constructed to continue east-west pedestrian access connection for the shopping center. Trash/recycling enclosure is located at the north end of the site for trash vehicle receptacle access and to keep the trash location desirable for tenants and customers.

Parking Requirements:

The Project is proposing approximately 10,000 sq ft of commercial/retail space, and the parking ratio for this use is 1 parking space per 500 sq ft building area. Total required parking = 20 spaces, at 10,000 sf building area. Total parking on the Project is 23 spaces, including 2 accessible parking spaces, therefore the Project meets the parking requirements of the city.

HOPE GRAYSON - SITE DEVELOPMENT PLAN - CASE NUMBER: SDP__-_____
LOT 6, VINCENT'S EAST ADDITION 3RD FILING SECOND AMENDED SUBDIVISION, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
110 COPPER PLACE, CITY OF FT. LUPTON, COLORADO

PROJECT INTENT:
DEVELOPMENT OF 0.817 ACRES (LOT 6) INCLUDING APPROX 10,000 SQ FT COMMERCIAL BUILDING AREA, SPLIT INTO TWO BUILDINGS. PROJECT DEVELOPMENT WILL BE PHASED (PHASE 1 AND 2). SEE SITE PLAN FOR MORE DETAIL.

DEVELOPER/OWNER:
HOPE GRAYSON PROPERTIES, LLC
15497 COUNTY ROAD 10
FT. LUPTON, COLORADO 80261
CONTACT: JUAN RAMIREZ & DENISE TOLMICH - (RAMIREZ)
303.906.8335
DENISE@RAM-COTRUCKING.COM

CONTRACTOR:
MCCAULEY CONSTRUCTORS, INC.
650 INNOVATION CIRCLE
PO BOX 200
WINDSOR, COLORADO 80550
CONTACT: ANNA FLUCKEY
970.686.6300
ANNA.FLUCKEY@MCCAULEYCONSTRUCTORS.COM

CIVIL ENGINEER:
COLORADO LAND ENGINEERING, LTD.
6834 S UNIVERSITY BLVD #150
CENTENNIAL, COLORADO 80122
CONTACT: ZANE ROSS, PE, LEED AP
970.270.6218
ZROSS@COLOLANDENG.COM

ARCHITECT:
HAUSER ARCHITECTS, P.C.
3780 EAST 15TH STREET, SUITE 201
LOVELAND, COLORADO 80538
CONTACT: BJ DEFORGE
970.669.8220
BJ@HAUSERARCHITECTSPC.COM

LANDSCAPE ARCHITECT:
FRONTERRA - TFG DESIGN, LLC
PO BOX 178
LOVELAND, COLORADO 80539
CONTACT: JOSH MCCARN, PLA
970.235.1039
JOSH@FRONTERRA.DESIGN

SURVEYOR:
KING SURVEYORS
650 EAST GARDEN DRIVE
WINDSOR, COLORADO 80550
CONTACT: PAUL GROVES, PLs
970.686.5011
PAULG@KINGSURVEYORS.COM

UTILITY CONTACTS:

FIRE DEPARTMENT
FT. LUPTON FIRE PROTECTION DISTRICT
1121 DENVER AVENUE
FT. LUPTON, COLORADO 80261
303-857-4603

NATURAL GAS
XCEL ENERGY
1123 WEST 3RD AVE
DENVER, COLORADO 80223
800.895.4999

ELECTRIC
UNITED POWER
500 COOPERATIVE WAY
BRIGHTON, COLORADO 80603
303.637.1300

TELE
CENTURYLINK
866.963.6665

CABLE
COMCAST
800.934.6489

WATER, SANITARY AND STORM SEWER
CITY OF FT LUPTON PUBLIC WORKS
130 S. MCKINLEY AVENUE
FORT LUPTON, COLORADO 80621
303.857-6694



SCALE: NOT TO SCALE

VICINITY MAP

SHEET INDEX

SHEET NO:	SHEET NAME
C1.0	COVER SHEET
C2.0	SITE PLAN
C3.0	UTILITY PLAN
C4.0	GRADING PLAN
A1	EXTERIOR ELEVATIONS - SOUTH BLDG
A2	EXTERIOR ELEVATIONS - SOUTH BLDG
A3	SITE DETAILS
A4	EXTERIOR ELEVATIONS - NORTH BLDG
A5	EXTERIOR ELEVATIONS - NORTH BLDG
L1.1	LANDSCAPE PLAN
L1.2	LANDSCAPE NOTES AND DETAILS
L1.3	LANDSCAPE SPECIFICATIONS

SITE DATA:

PARCEL ID:147105249006

PROPERTY AREA: 0.817 ACRES

PARKING REQUIRED: 1 SPACE PER 500 SQ FT BUILDING AREA
9,200 SF (APPROX) / 500 SF = 19 PARKING SPACES REQUIRED

PARKING PROVIDED: 21 - 9'X18 PARKING SPACES
2 - 8'X18' VAN ACCESSIBLE PARKING SPACES

FLOODPLAIN STATEMENT:
FLOODZONE BY GRAPHIC PLOTTING ONLY THE SUBJECT PROPERTY IS SITUATED IN FLOOD ZONE "X". AREAS BEING OUTSIDE OF THE 500 YEAR FLOODPLAIN, ACCORDING TO FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NO. 08123C2110E WITH AN EFFECTIVE DATE OF JANUARY 20, 2016.

PROJECT BENCHMARK:
TBD

PROJECT BASIS OF BEARINGS:
(REFERENCED FROM KING SURVEYORS ALTA DATED 7/8/2021)

GPS DERIVED BEARINGS BASED ON A BEARING OF N00°16'10"W ALONG THE EASTERLY LINE OF THE NORTHWEST QUARTER OF SECTION 5, BETWEEN A FOUND #6 REBAR WITH 3 1/4" ALUMINUM CAP "LS 14823" IN RANGE BOX PER MONUMENT RECORD AT THE NORTH QUARTER CORNER OF SECTION 5 AND A FOUND #6 REBAR WITH 3 1/4" ALUMINUM CAP "LS 13155" IN RANGE BOX (PER MONUMENT RECORD) AT THE CENTER QUARTER CORNER OF SECTION 5 AS SHOWN HEREON. COLORADO STATE PLANE COORDINATE SYSTEM, NORTH ZONE, NORTH AMERICAN DATUM 1983 (NAD83/07).

PROPERTY DESCRIPTION:

A PARCEL OF LAND IN THE CITY OF FORT LUPTON, COLORADO, LOCATED IN THE NW 1/2 OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6TH P.M., MORE PARTICULARY DESCRIBED AS FOLLOWS:
LOT 6, VINCENT'S EAST ADDITION 3RD FILING SECOND AMENDED SUBDIVISION

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT HOPE GRAYSON PROPERTIES, LLC, BEING THE SOLE OWNER OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAT AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON.
IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS ____ DAY OF _____, 20____.

OWNER SIGNATURE _____

STATE OF _____)

_____) ss

COUNTY OF _____)

THE FOREGOING DEDICATION WAS ACKNOWLEDGED BEFORE ME

BY _____

ON THIS _____ DAY OF _____, 20____.

AS _____ WITNESS MY HAND AND OFFICIAL SEAL.

NOTARY PUBLIC
MY COMMISSION EXPIRES _____

CITY ENGINEER'S APPROVAL:

APPROVED THIS ____ DAY OF _____, 20____.

CITY ENGINEER _____

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS ____ DAY OF _____, 20____.

DIRECTOR OF PUBLIC WORKS _____

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS ____ DAY OF _____, 20____.

CITY ADMINISTRATOR _____

PLANNING COMMISSION RECOMMEDNATION:

RECOMMENDED THIS ____ DAY OF _____, 20____.

BY RESOLUTION NO. _____.

CHAIRPERSON, FORT LUPTON PLANNING COMMISSION _____

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAT OF THE ABOVE-DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. _____ OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE ____ DAY OF _____, A.D., 20____ AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAT UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

MAYOR, CITY OF FORT LUPTON _____

ATTEST:

CITY CLERK _____ (SEAL)



REVISION	DESCRIPTION	DATE	ADMINISTRATIVE	SITE	PLAN	SUBMITTAL
1		12/15/21				

HOPE GRAYSON
SITE DEVELOPMENT PLAN
LOT 6 - VINCENT'S EAST ADDITION 3RD FILING SECOND AMENDED SUBDIVISION,
CITY OF FT. LUPTON, COLORADO

SEAL

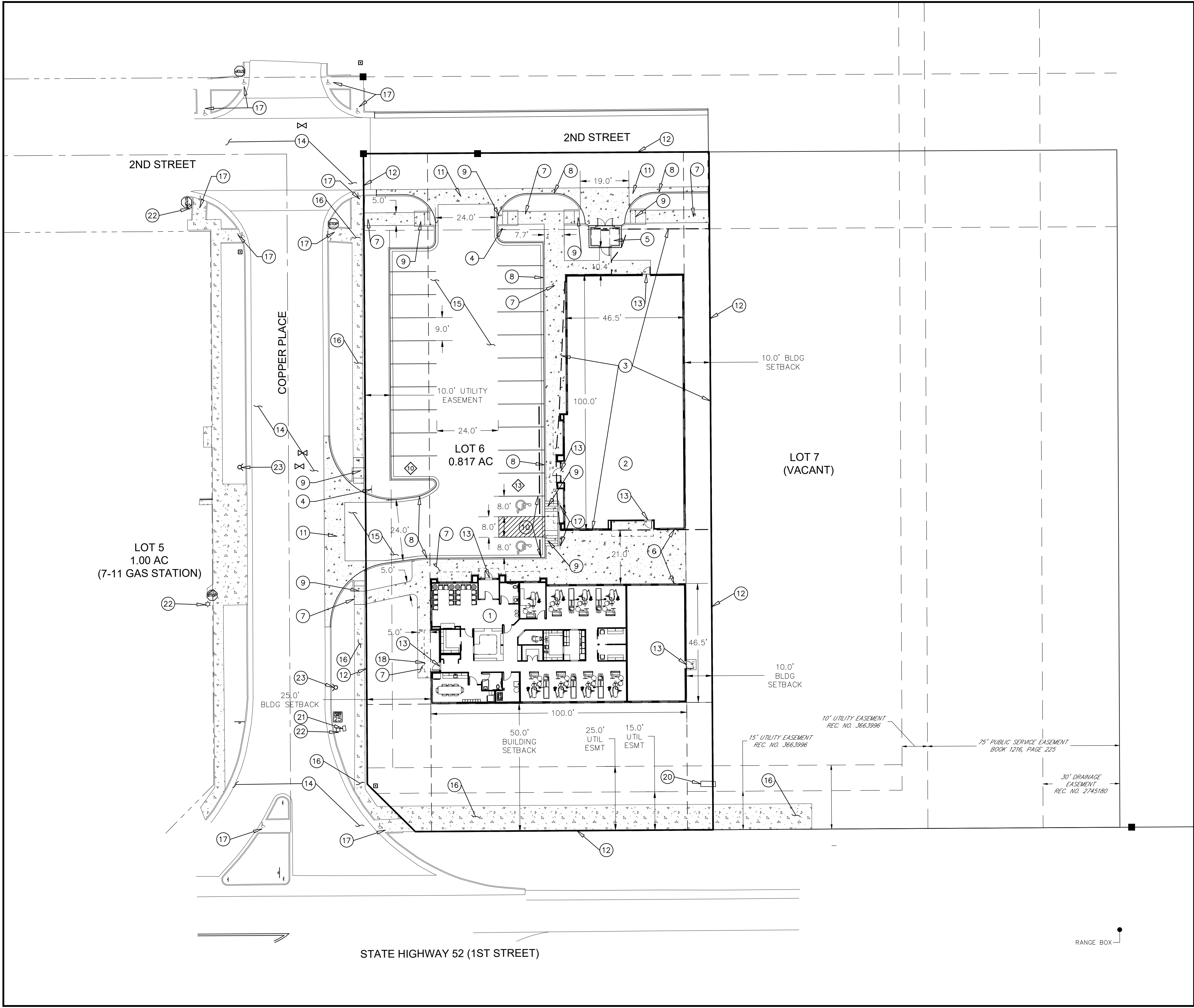
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110 COPPER PLACE, CITY OF FT. LUPTON, COLORADO



REVISION	DATE	DESCRIPTION
1	12/15/21	ADMINISTRATIVE SITE PLAN SUBMITTAL

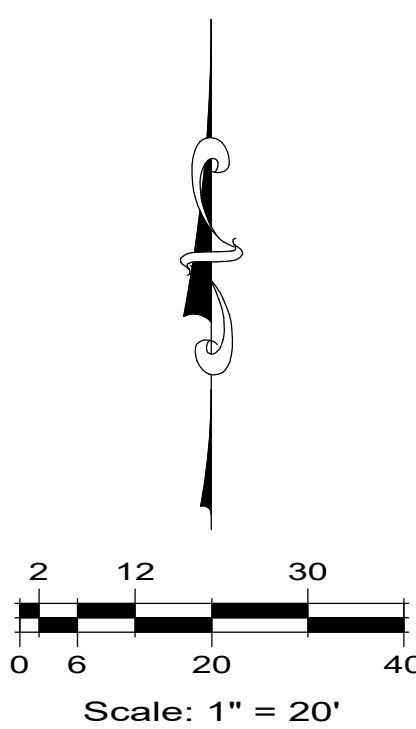
HOPE GRAYSON
SITE DEVELOPMENT PLAN
LOT 6 - VINCENT'S EAST ADDITION 3RD FILING SECOND AMENDED SUBDIVISION,
CITY OF FT. LUPTON, COLORADO

SEAL		



LEGEND	
—E—	ELECTRICAL LINE
—FO—	FIBER-OPTIC LINE
—G—	GAS LINE
—STS—	STORM SEWER LINE
—W—	WATER LINE
—00—	CONTOUR LINE
—	FENCE LINE
—	RAILING
—	GUARD RAIL RAILING
○	ACCESS PLATE
•	BOLLARD
○	CLEANOUT
□	COMMUNICATIONS PEDESTAL
□	ELECTRICAL METER
□	ELECTRIC TRANSFORMER
△	FIRE HYDRANT
△	GAS METER
⊙	IRRIGATION VALVE
⊙	LIGHT POLE (DIRECTIONAL)
○	MANHOLE
▼	SIGN
⊙	STREET LIGHT
⊙	WATER METER
⊙	WATER VALVE

- SITE SCHEDULE NOTES:
- PROPOSED 4,598 SF BUILDING (PHASE 1)
 - PROPOSED 4,598 SF BUILDING (PHASE 2)
 - PHASE 2 DEVELOPMENT (FUTURE)
 - PROPOSED STOP SIGN R1-1
 - PROPOSED TRASH ENCLOSURE
 - PROPOSED CONCRETE PATIO/PLAZA
 - PROPOSED SIDEWALK
 - PROPOSED CURB AND GUTTER
 - PROPOSED ADA RAMP
 - PROPOSED ADA PARKING
 - PROPOSED 6' CONCRETE CROSSSPAN WITH CURB RETURN
 - PROPOSED PROPERTY LINE
 - PROPOSED ENTRY DOOR
 - EX ASPHALT TO REMAIN
 - PROPOSED ASPHALT PAVING
 - EX SIDEWALK TO REMAIN
 - EX ADA RAMP TO REMAIN
 - PROPOSED ACCESSIBLE PARKING SIGN (VAN ACCESSIBLE)
 - PROPOSED PARKING WHEEL STOP
 - EXISTING TRANSFORMER TO REMAIN
 - EXISTING TELEPHONE PEDESTAL TO REMAIN
 - EXISTING STREET LIGHT POLE TO REMAIN
 - EXISTING FIRE HYDRANT TO REMAIN



1 SITE PLAN
SCALE: 1" = 20'

McCauley
CONSTRUCTORS



REVISIONS		
REVISION	DESCRIPTION	DATE
1	ADMINISTRATIVE SITE PLAN SUBMITTAL	12/15/21

HOPE GRAYSON
SITE DEVELOPMENT PLAN
LOT 6 - VINCENT'S EAST ADDITION 3RD FILING SECOND AMENDED SUBDIVISION,
CITY OF FT. LUPTON, COLORADO

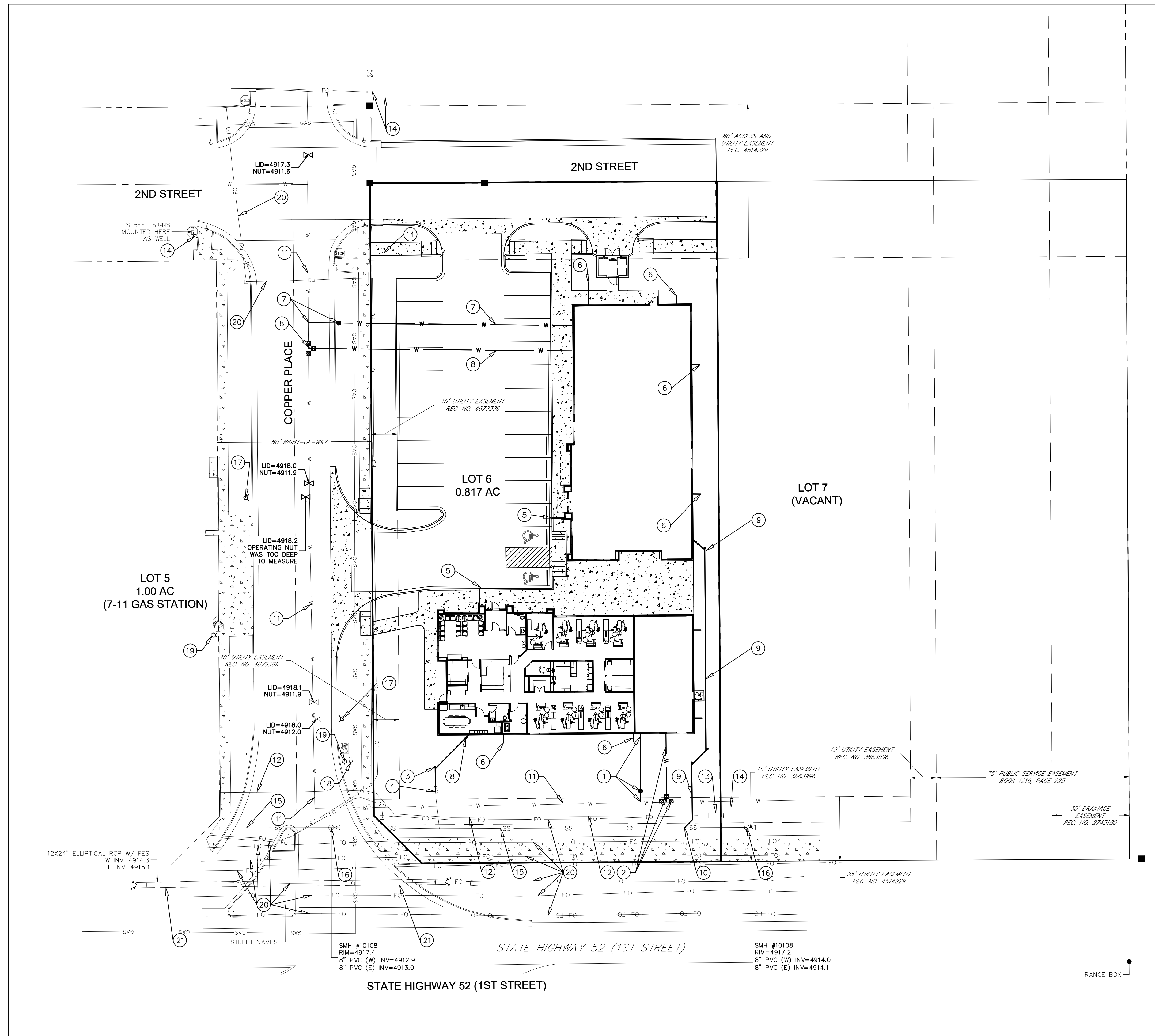
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SCALE H: 1"=20'
V: N/A

JOB No. CLE1104

UTILITY PLAN

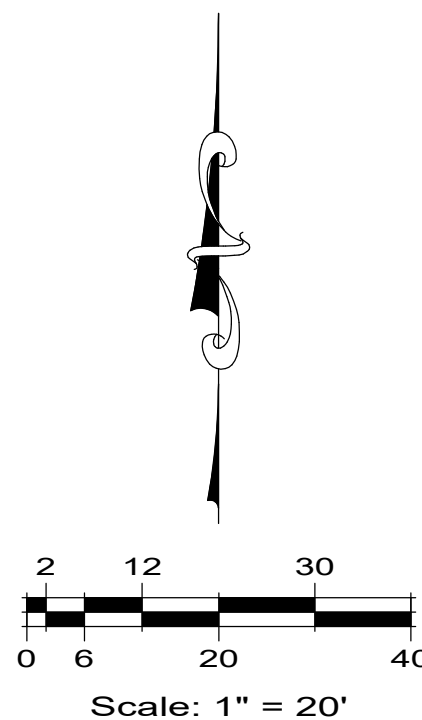
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- # LEGEND
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|  | ELECTRICAL LINE |
|  | FIBER-OPTIC LINE |
|  | GAS LINE |
|  | STORM SEWER LINE |
|  | WATER LINE |
|  | CONTOUR LINE |
|  | FENCE LINE |
|  | RAILING |
|  | GUARD RAIL, RAILING |
|  | ACCESS PLATE |
|  | BOLLARD |
|  | CLEANOUT |
|  | COMMUNICATIONS PEDESTAL |
|  | ELECTRICAL METER |
|  | ELECTRIC TRANSFORMER |
|  | FIRE HYDRANT |
|  | GAS METER |
|  | IRRIGATION VALVE |
|  | LIGHT POLE (DIRECTIONAL) |
|  | MANHOLE |
|  | SIGN |
|  | STREET LIGHT |
|  | WATER METER |
|  | WATER VALVE |

UTILITY SCHEDULE NOTES:

- | | |
|----|---|
| 1 | PROPOSED 1" TYPE K CU WATER LINE, CORP STOP, CURB VALVE, WATER METER (PHASE 1) |
| 2 | PROPOSED 4" DIP FIRE WATER SUPPLY LINE WITH GV (3), SADDLE TAP SLEEVE (PHASE 1) |
| 3 | PROPOSED 6" SDR-35 PVC SANITARY SEWER SERVICE LINE SLOPED @ 2.1% (PHASE 1) |
| 4 | CONNECT PROPOSED SANITARY SEWER SERVICE LINE TO EXISTING SEWER MH (PHASE 1) |
| 5 | PROPOSED ROOF DRAIN DAYLIGHT TO CURB |
| 6 | PROPOSED ROOF DRAIN DAYLIGHT TO LANDSCAPE |
| 7 | PROPOSED 1" TYPE K CU WATER LINE, CORP STOP, CURB VALVE, WATER METER (PHASE 2) |
| 8 | PROPOSED 4" DIP FIRE WATER SUPPLY LINE WITH GV (3), SADDLE TAP SLEEVE (PHASE 2) |
| 9 | PROPOSED 6" SDR-35 PVC SANITARY SEWER SERVICE LINE SLOPED @ 2.1% (PHASE 2) |
| 10 | PROPOSED SANITARY SEWER CONNECTION TO SEWER MAIN, TAP PER CITY REGS (PHASE 2) |
| 11 | EXISTING WATER MAIN TO REMAIN |
| 12 | EXISTING ELECTRIC LINE TO REMAIN |
| 13 | EXISTING ELECTRICAL TRANSFORMER TO REMAIN |
| 14 | EXISTING CONDUIT EXITS GROUND |
| 15 | EXISTING SANITARY SEWER MAIN TO REMAIN |
| 16 | EXISTING SANITARY SEWER MANHOLE TO REMAIN |
| 17 | EXISTING FIRE HYDRANT TO REMAIN |
| 18 | EXISTING TELEPHONE PEDESTAL TO REMAIN |
| 19 | EXISTING LIGHT POLE TO REMAIN |
| 20 | EXISTING FIBER OPTIC LINE TO REMAIN |
| 21 | EXISTING STORM SEWER LINE TO REMAIN |



2 UTILITY PLAN

SCALE: 1" = 20'

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CONSTRUCTORS



REVISIONS		
REVISION	DESCRIPTION	DATE
1	ADMINISTRATIVE SITE PLAN SUBMITTAL	12/15/21

HOPE GRAYSON
SITE DEVELOPMENT PLAN

LUI 6 - VINCENT S EASI ADDITION 3RD FILING SECOND AMENDED SUBDIVISION,
CITY OF FT. LUPTON, COLORADO

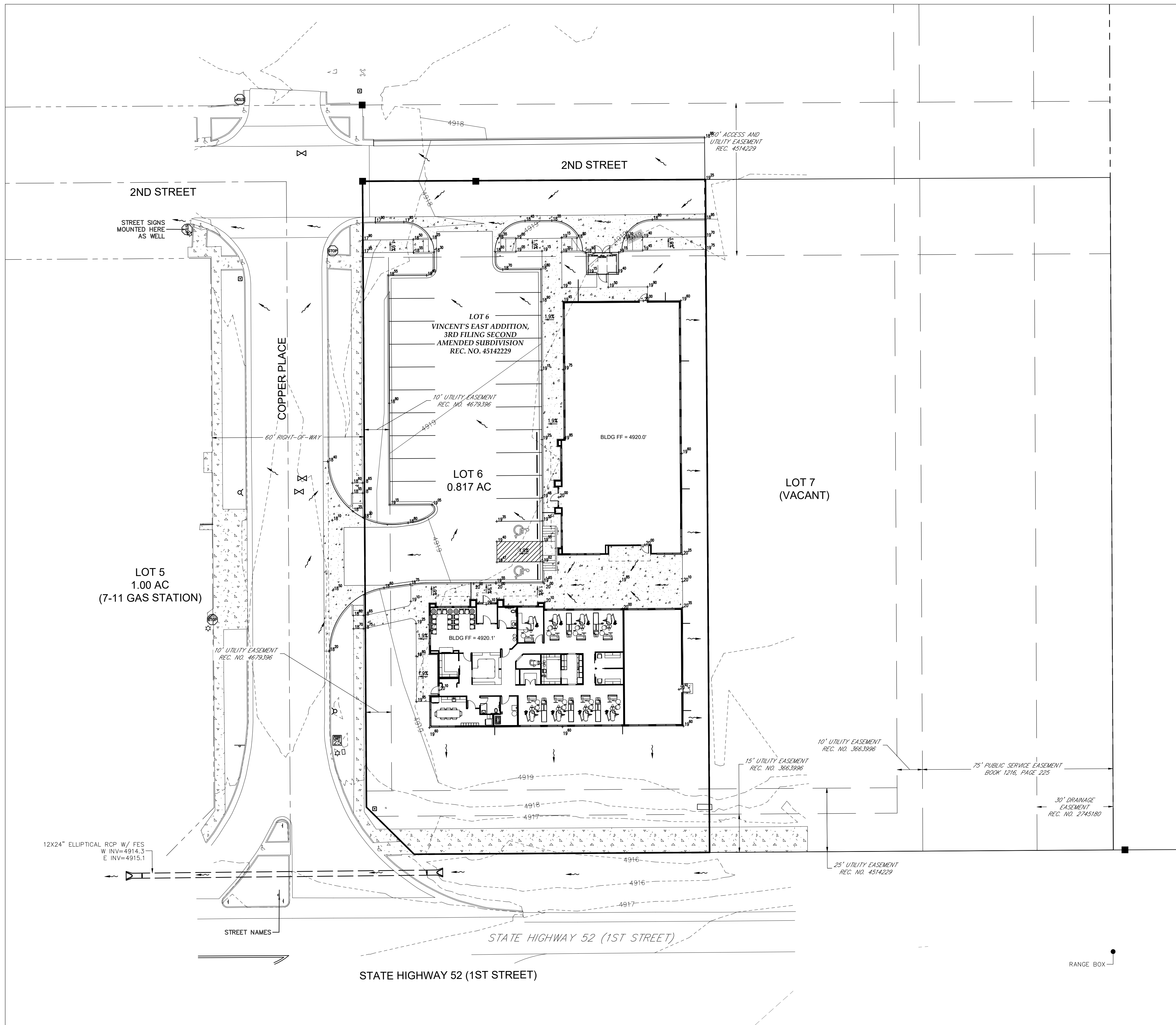
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SCALE	H:	1"=20'
	V:	N/A

OB No. CLE1104

GRADING PLAN

C4.0



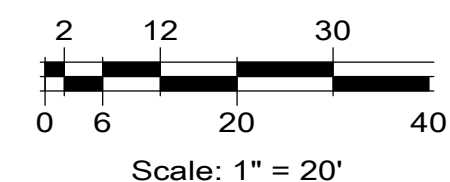
	ELECTRICAL LINE
	FIBER-OPTIC LINE
	GAS LINE
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	COMMUNICATIONS PEDESTAL
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	FIRE HYDRANT
	GAS METER
	IRRIGATION VALVE
	LIGHT POLE (DIRECTIONAL)
	MANHOLE
	SIGN
	STREET LIGHT
	WATER METER
	WATER VALVE

GRADING PLAN NOTES:

1. ALL SITE AND UTILITY WORK SHALL BE DONE IN CONFORMANCE WITH THE REQUIREMENTS OF THE LOCAL, STATE AND FEDERAL AUTHORITY HAVING JURISDICTION.
2. THE CONTRACTOR SHALL HAVE COPIES OF THE APPROVED PLANS ON THE JOBSITE AT ALL TIMES.
3. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION AND DEPTH OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
4. THE UTILITY NOTIFICATION CENTER SHALL REPORT TO CONSTRUCTION.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING ALL INSPECTIONS WITH THE APPROPRIATE AGENCIES.
6. THE CONTRACTOR SHALL ADJUST ALL MANHOLES, CLEANOUTS AND VALVE BOXES TO FINISHED GRADE.
7. THE CONTRACTOR SHALL REFER TO THE BUILDING AND FOUNDATION PLANS FOR EXACT DIMENSIONS OF ALL BUILDINGS AND LOCATIONS OF UTILITY CONNECTIONS.
8. ALL SIDEWALKS AND HANDICAP RAMPS ALONG ACCESSIBLE ROUTES SHALL BE CONSTRUCTED TO MEET APPLICABLE ADA AND FHA STANDARDS. MAXIMUM CROSS SLOPE SHALL NOT EXCEED 1:50. THE MAXIMUM SLOPE OF A RAMP SHALL NOT EXCEED 1:12. ALL RAMPS SHALL BE PROVIDED WITH HANDRAILS (IF REQUIRED) AND LANDINGS IN ACCORDANCE WITH ADA AND FHA STANDARDS.
9. HANDICAP DESIGNATED PARKING SPACES SHALL COMPLY WITH THE ADA STANDARDS. SURFACE SLOPES IN HANDICAP DESIGNATED PARKING SPACES SHALL NOT EXCEED 1:50 IN ALL DIRECTIONS.
10. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH UTILITY, EITHER THROUGH POT-HOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.
11. SURVEY INFORMATION AND TOPOGRAPHIC CONTOURS WERE PROVIDED BY OTHERS. CALIBRE ENGINEERING, INC. CANNOT BE HELD LIABLE FOR ANY INACCURACY IN THE SURVEY INFORMATION. THIS DESIGN IS BASED ON A SOIL AND FOUNDATION INVESTIGATION REPORT. ALL CONCRETE, ASPHALT AND SUBGRADE SHALL BE PREPARED AND CONSTRUCTED ACCORDING TO THE RECOMMENDATIONS CONTAINED WITHIN THE GEOTECHNICAL REPORT PREPARED FOR THIS SITE.
12. THE CONTRACTOR SHALL USE THE GEOTECHNICAL REPORT FOR SPECIFICATIONS AND DETAILS FOR PLACEMENT OF PRECAST CONCRETE SLAB BASES AND SHALL FOLLOW ANY OTHER GEOTECHNICAL RELATED ITEMS. ANY DISCREPANCY SHOULD BE REPORTED TO THE ENGINEER IMMEDIATELY.
13. THE CONTRACTOR SHALL INFORM THE ARCHITECT/ENGINEER OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY FOR SUCH DEVIATION BY THE ARCHITECT/ENGINEER'S APPROVAL OF SHOP DRAWINGS, PRODUCT DATA, ETC., UNLESS HE HAS SPECIFICALLY INFORMED THE ARCHITECT/ENGINEER OF SUCH DEVIATION AT THE TIME OF SUBMISSION, AND THE ARCHITECT/ENGINEER HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION.
14. ALL THINGS WHICH, IN THE OPINION OF THE CONTRACTOR, APPEAR TO BE DEFICIENCIES, OMISSIONS, CONTRADICTIONS, SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. PLANS AND/OR SPECIFICATIONS WILL BE CORRECTED, OR WRITTEN INTERPRETATION OF THE ALLEGED DEFICIENCY, OMISSION, CONTRADICTION OR AMBIGUITY WILL BE MADE BY THE ENGINEER BEFORE THE AFFECTED WORK PROCEEDS.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ERRORS OR DETAILING; FABRICATION AND CONSTRUCTION. THE CONTRACTOR SHALL MAKE ALL MEASUREMENTS IN THE FIELD NECESSARY TO VERIFY OR SUPPLEMENT DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS AND HE SHALL VERIFY THAT ALL DIMENSIONS SHOWN ON THE SHOP DRAWINGS ARE COORDINATED WITH THE DIMENSIONS AND REQUIREMENTS OF THE CONTRACT DRAWINGS. REVIEW OF THE SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OR RESPONSIBILITY FOR COMPLETING THE WORK SUCCESSFULLY IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS.

3 GRADING PLAN

SCALE: 1" = 20'





MATERIAL SCHEDULE - NORTH ELEVATION



MATERIAL SCHEDULE - WEST ELEVATION



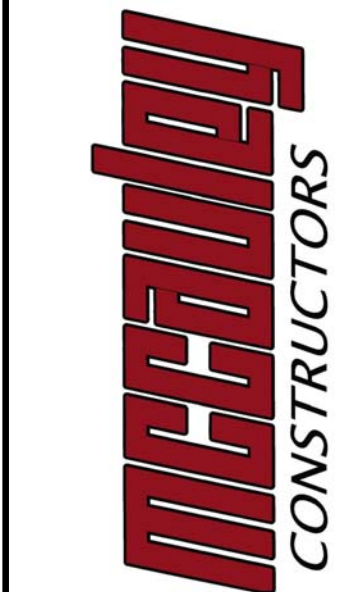
EXTERIOR ELEVATION - SOUTH FACING
1/4" = 1'-0"

MATERIAL SCHEDULE - SOUTH ELEVATION		
MATERIAL DESCRIPTION	AREA	%
ALUMINUM STOREFRONT - COLOR: BRONZE	355 SF	100 %



EXTERIOR ELEVATION - EAST FACING
1/4" = 1'-0"

MATERIAL SCHEDULE - EAST ELEVATION		
MATERIAL DESCRIPTION	AREA	%
SYNTHETIC STONE VENEER - BORAL, CULTURED STONE OR EQUAL COLOR: BROWNS	207 SF	19%
STUCCO - EIFS - COLOR: BEIGE	893 SF	81%



HAUSER

ARCHITECTS

3780 East 15th Street, Suite 201 • Loveland, Colorado 80538
E-mail: info@hauserarchitectspc.com

HOPE GRAYSON
DENTAL CLINIC

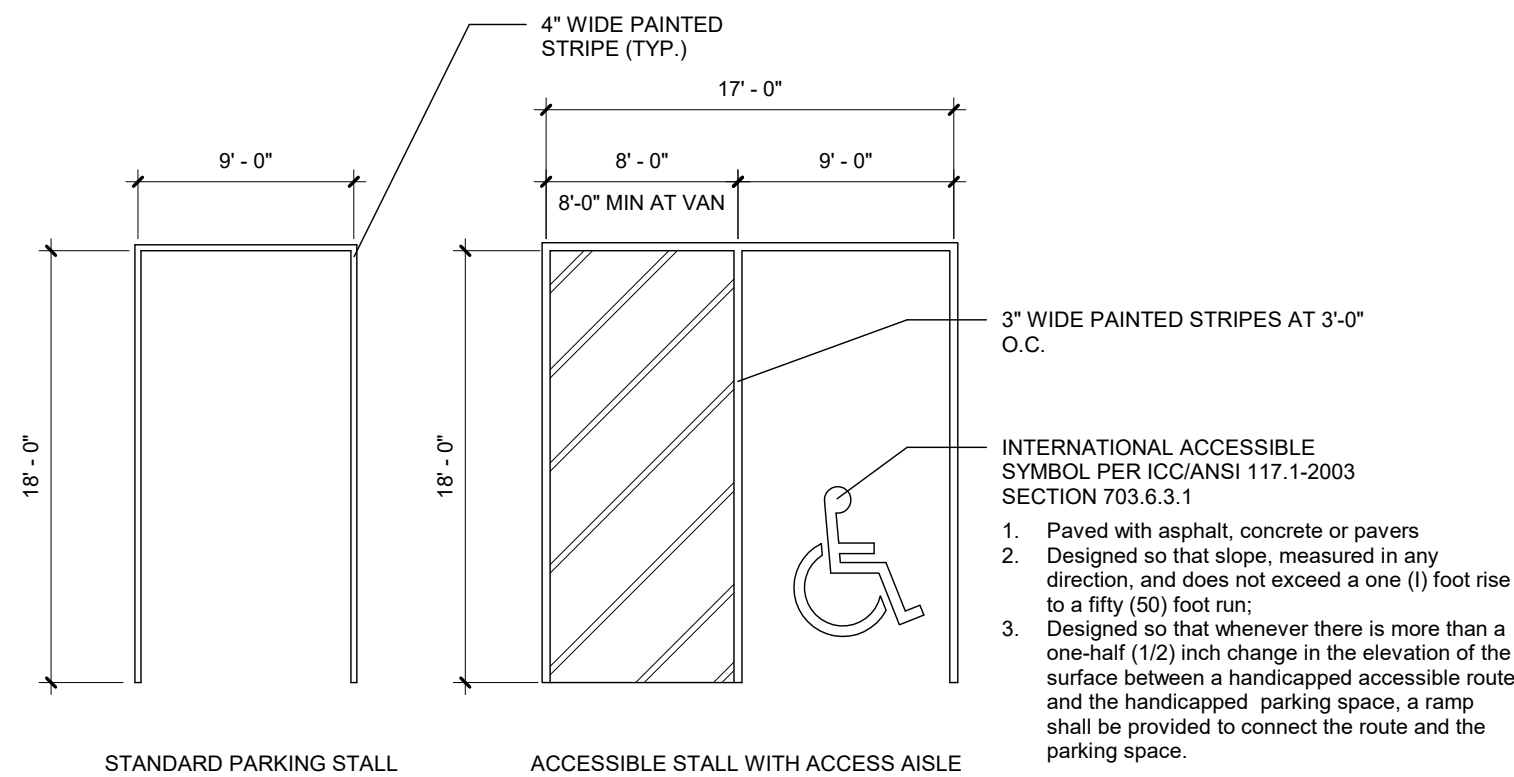
110 COPPER PLACE, FORT LUPTON, CO, 80621

EXTERIOR ELEVATIONS

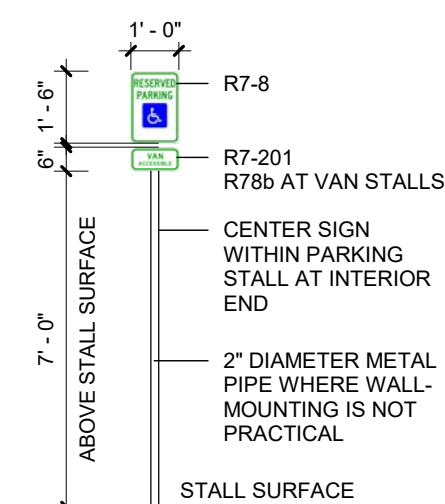
REVISIONS	
1	SITE DEVELOPMENT SUBMITTAL 12.15.21

SHEET

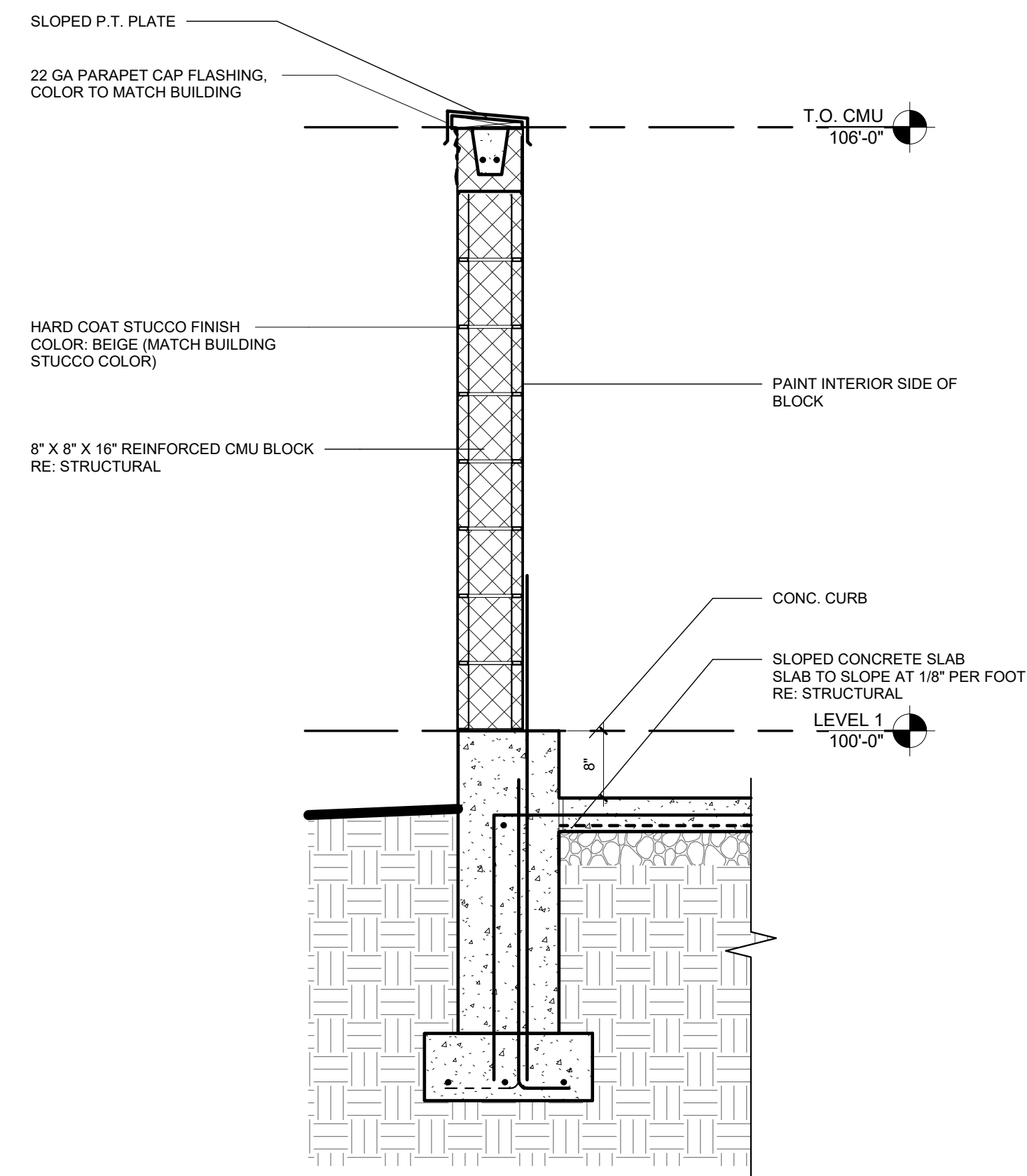
A2



PARKING STALL STRIPING

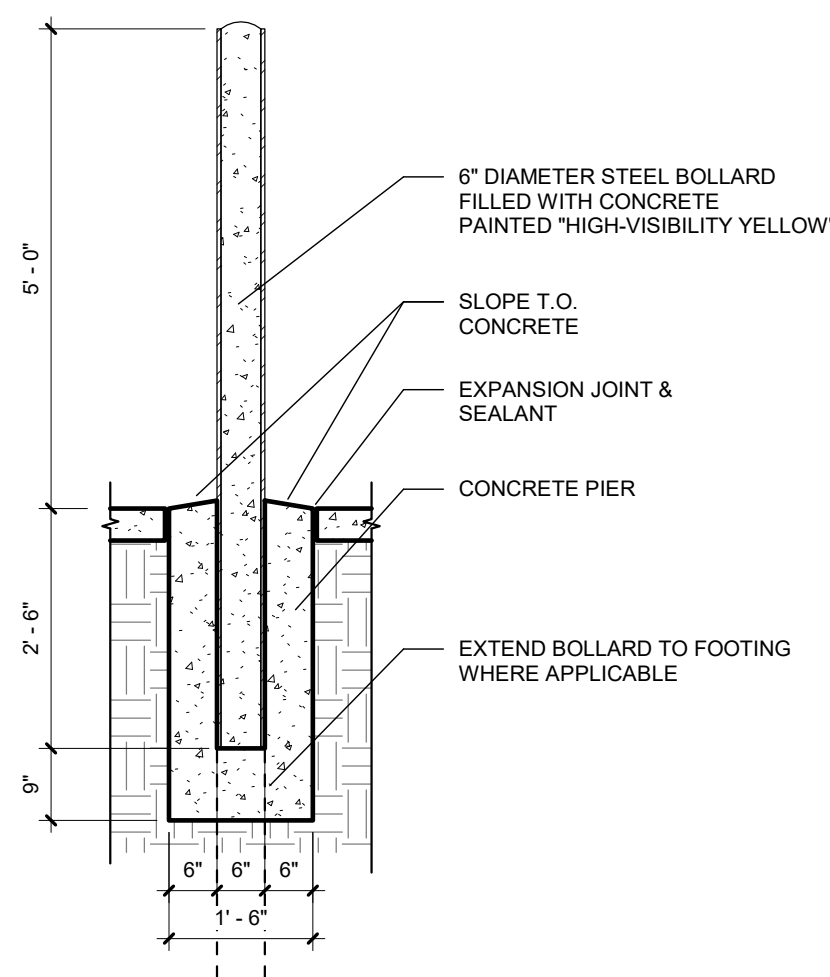
$$1/8'' = 1'-0'$$


ACCESSIBLE PARKING SIGNAGE

$$1/4'' = 1'-0''$$


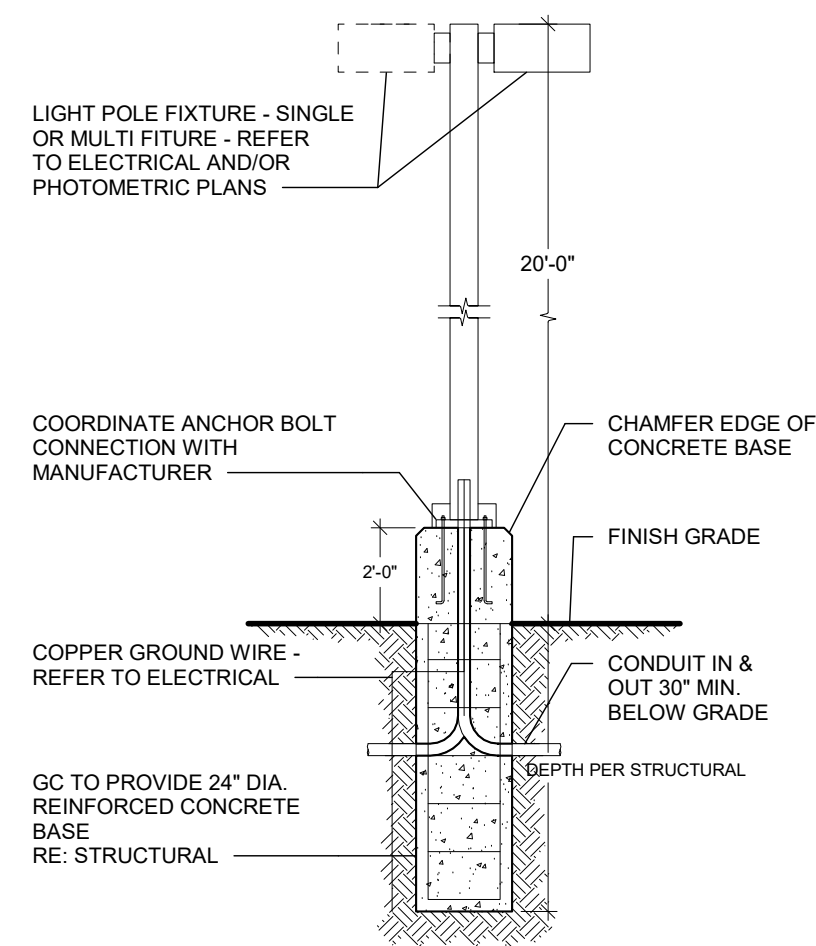
Δ Δ TRASH ENCLOSURE SECTION

3/4" = 1'-0"



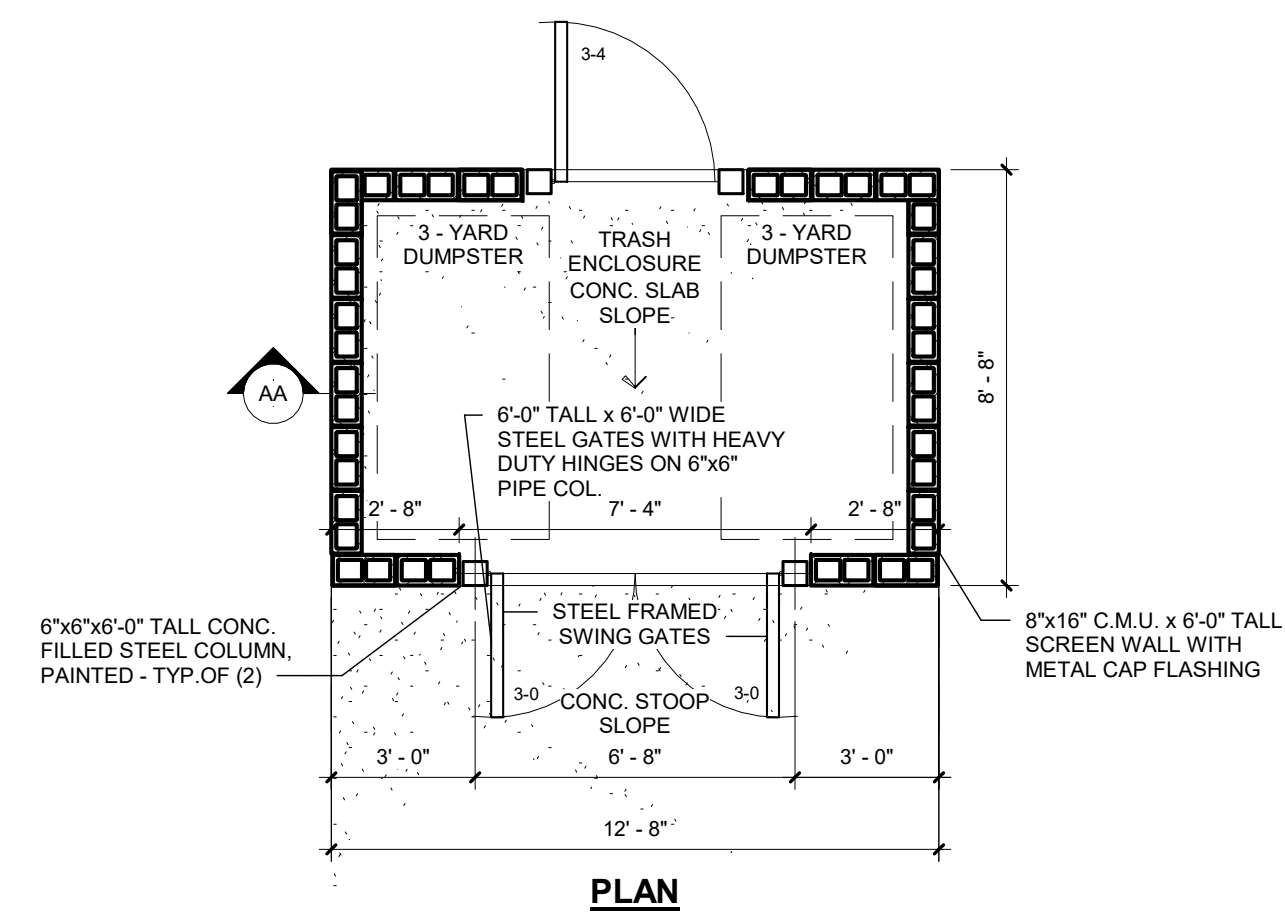
PIPE BOLLARD DETAIL

1/2" = 1'-0'

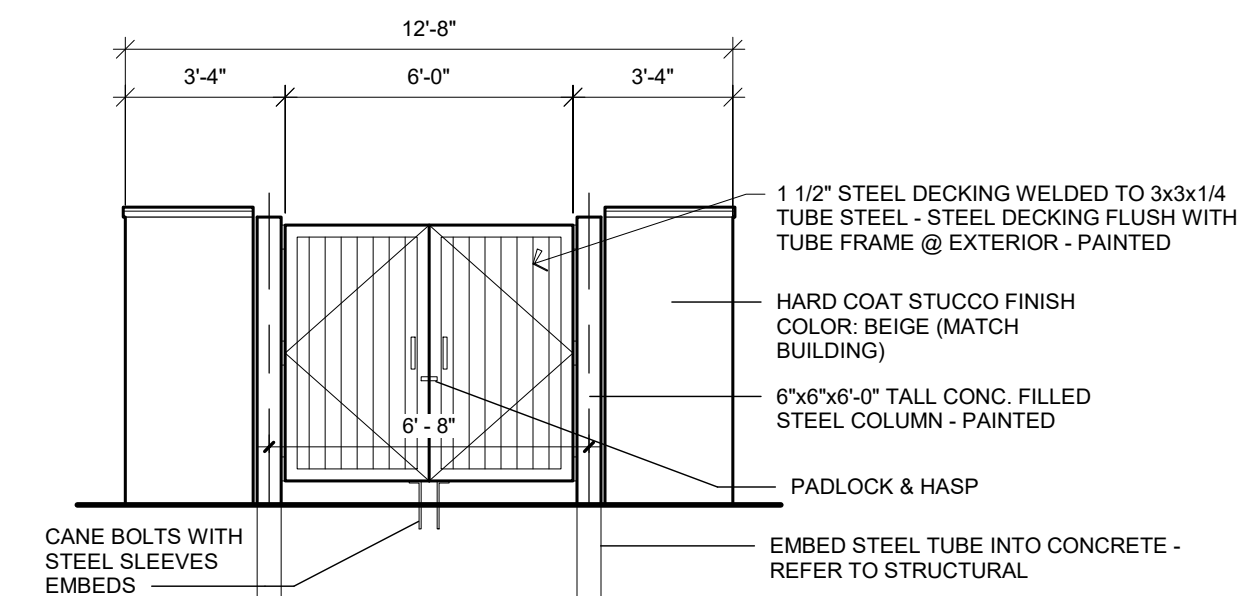


PARKING LOT LIGHT DETAIL

1/4" = 1'-0"

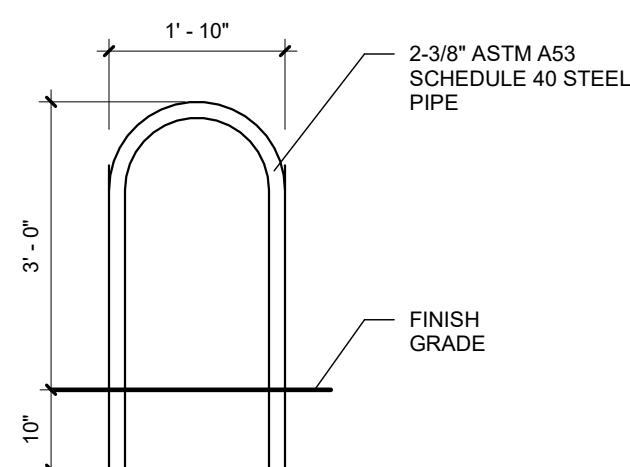


PLAN



FRONT ELEVATION

TRASH ENCLOSURE PLAN AND ELEVATION

$$1/4'' = 1'-0''$$


BIKE RACK DETAIL

$$1/2'' = 1'-0''$$
[illegible]

SHEET

A3

HOPE GRAYSON
DENTAL CLINIC

1110 COPPER PLACE, FORT LUPTON, CO, 80621

SITE DETAILS

 **HAUSER**
ARCHITECTS

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ТЕПЛОТЕХНИКА
CONSTRUCTORS



MATERIAL SCHEDULE - WEST - ELEVATION



MATERIAL SCHEDULE - SOUTH - ELEVATION



EXTERIOR ELEVATION - EAST FACING
1/4" = 1'-0"

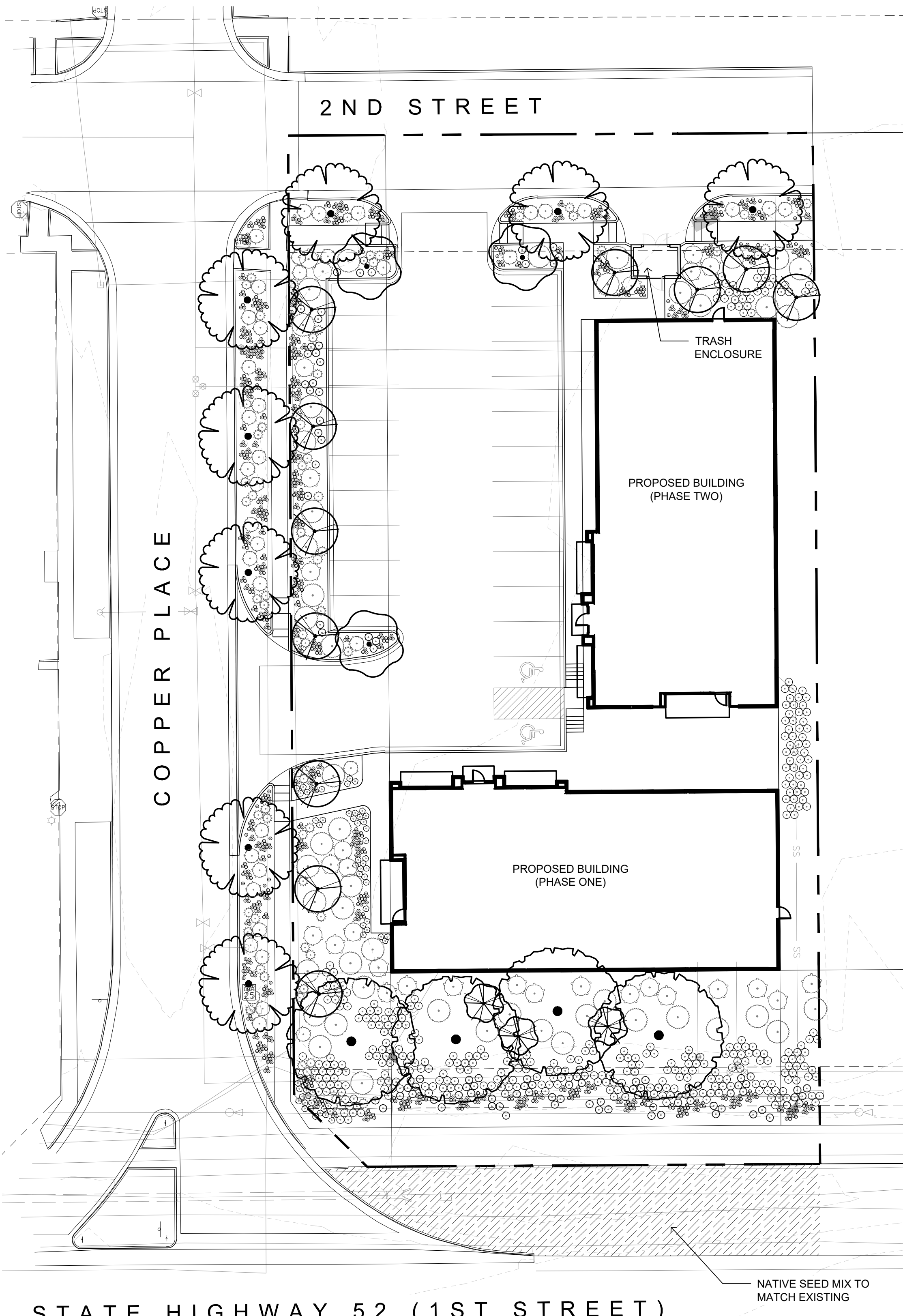
MATERIAL SCHEDULE - EAST - ELEVATION		
MATERIAL DESCRIPTION	AREA	%
ALUMINUM STOREFRONT - COLOR: BRONZE	355 SF	100 %



EXTERIOR ELEVATION - NORTH FACING
1/4" = 1'-0"

MATERIAL SCHEDULE - NORTH - ELEVATION		
MATERIAL DESCRIPTION	AREA	%
SYNTHETIC STONE VENEER - BORAL, CULTURED STONE OR EQUAL COLOR: BROWNS	207 SF	19%
STUCCO - EIFS - COLOR: BEIGE	893 SF	81%

REVISIONS	DATE	DESCRIPTION
1	12.15.21	SITE DEVELOPMENT SUBMITTAL



PLANT SCHEDULE

Large Trees	Quantity	Diversity	Botanical	Common	Size	Container	Water Use Range
	3	20%	Acer gradidentatum 'Highland Park'	Highland Park Bigtooth Maple	2" Cal.	B&B	Low
	8	53%	Gleditsia triacanthos inermis 'Skycole'	Skyline Thornless Honey Locust	2" Cal.	B&B	Low
	4	27%	Quercus macrocarpa	Bur Oak	2" Cal.	B&B	Low
	15	100%					
Small Trees	Quantity	Diversity	Botanical	Common	Size	Container	Water Use Range
	11	79%	Amelanchier laevis 'Spring Flurry'	Spring Flurry Serviceberry	6' Ht.	B&B	Low
	3	21%	Malus x 'David'	David Crabapple	6' Ht.	B&B	Low
	14	100%					
Shrubs	Quantity	Diversity	Botanical	Common	Size	Container	Water Use Range
	29	16%	Rhus typhina 'Tiger Eyes'	Tiger Eyes Sumac	5 gal	Pot	Low
	41	22%	Arctostaphylos x coloradoensis 'Chieftain'	Chieftain Manzanita	5 gal	Pot	Low
	48	26%	Pinus sylvestris 'Hillside Creeper'	Hillside Creeper Scotch Pine	5 gal	Pot	Low
	69	37%	Yucca glauca	Soapweed Yucca	5 gal	Pot	Very Low
	187	100%					
Ornamental Grasses & Perennials	Quantity	Diversity	Botanical	Common	Size	Container	Water Use Range
	351		Bouteloua gracilis 'Blonde Ambition'	Blonde Ambition Grama Grass	1 gal	Pot	Low
	1,060		Festuca glauca 'Boulder Blue'	Boulder Blue Fescue	1 gal	Pot	Low
	103		Salvia pachyphylla	Mojave Sage	1 gal	Pot	Low
	59		Veronica liwanensis	Turkish Veronica	1 gal	Pot	Low
	1573						
Seed & Sod	Quantity	Diversity	Botanical	Common	Size	Container	Water Use Range
	2,549		Native Seed Mix (To Match Existing)		Seed	SF	Low
	2,549						

SITE LANDSCAPE COMPLIANCE

STREET TREES

Specifications	Required	Provided
Frontage (LF)	535	
Large Trees*	16	8
*Deficiencies due to utility and driveway conflicts.		

PARKING LOT

Specifications	Required	Provided
Parking Lot Islands	3	
Parking Spaces	23	
Parking Lot Perimeter	193	
Large Trees*	1	8
Shrubs	1	65
*Deficiencies due to utility and driveway conflicts.		

NORTH BOUNDARY

Specifications	Required	Provided
Lot Frontage (LF)	135	
Building Frontage (LF)	100	
Large Trees	0	0
Small Trees	1	4
Evergreens	0	0
Shrubs	1	20

WEST BOUNDARY

Specifications	Required	Provided
Lot Frontage (LF)	265	
Building Frontage (LF)	150	
Large Trees	0	0
Small Trees	1	7
Evergreens	0	0
Shrubs	1	30

SOUTH BOUNDARY

Specifications	Required	Provided
Lot Frontage (LF)	135	
Building Frontage (LF)	100	
Large Trees	1	4
Small Trees*	1	4
Evergreens	0	0
Shrubs	1	20

*Deficiencies due to utility and driveway conflicts.

SITE LANDSCAPE CALCULATIONS

Specifications	Required	Provided	Total Deficiency
Large Trees	28	15	(13)
Small Trees	15	14	(1)
Evergreens	0	0	-
Shrubs	135	135	-

*Additional shrubs, ornamental grasses and perennials have been included throughout the site to count towards tree deficiencies.



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OWNER:

HOPE GRAYSON
LOT 6, VINCENT'S EAST ADDITION 3RD FILING SECOND
AMENDED SUBDIVISION
SITE DEVELOPMENT PLAN

110 COPPER PLACE
FORT LUPTON, COLORADO 80621
WELD COUNTY COUNTY

PROJECT INFORMATION:
PROJECT NUMBER: 279-2102FL
DATE: 2021.12.13
PHASE: SDP

REVISIONS:

SHEET TITLE:
LANDSCAPE PLAN

SHEET NUMBER:

L1.1

SHEET 1 OF 3



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GENERAL LANDSCAPE NOTES

1. PLANT QUALITY: ALL PLANT MATERIAL SHALL BE A-GRADE OR NO. 1 GRADE - FREE OF ANY DEFECTS, OF NORMAL HEALTH, HEIGHT, LEAF DENSITY AND SPREAD APPROPRIATE TO THE SPECIES AS DEFINED BY THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN) STANDARDS. ALL TREES SHALL BE BALL AND BURLAP OR EQUIVALENT. TO ACHIEVE A MORE NATURAL LANDSCAPE CHARACTER, ALL TREES & LARGE SHRUBS OF THE SAME VARIETY SHALL BE INSTALLED IN A RANGE OF SIZES, WHILE STILL MEETING THE MINIMUM SIZE REQUIREMENTS OUTLINED IN THE PLANT SCHEDULE.
2. ALL PLANTING BED EDGES ADJACENT TO TURF AREAS SHALL BE EDGED WITH STEEL EDGING PER INCLUDED SPECIFICATIONS.
3. IRRIGATION: ALL LANDSCAPE AREAS WITHIN THE SITE INCLUDING TURF, SHRUB BEDS AND TREE AREAS SHALL BE IRRIGATED WITH AN AUTOMATIC IRRIGATION SYSTEM. THE IRRIGATION PLAN MUST BE REVIEWED AND APPROVED BY THE CITY OF FORT LUPTON WATER UTILITIES DEPARTMENT PRIOR TO THE ISSUANCE OF A BUILDING PERMIT. ALL TURF AREAS SHALL BE IRRIGATED WITH AN AUTOMATIC POP-UP IRRIGATION SYSTEM. ALL SHRUB BEDS AND TREES, INCLUDING IN NATIVE SEED AREAS, SHALL BE IRRIGATED WITH AN AUTOMATIC DRIP (TRICKLE) IRRIGATION SYSTEM, OR WITH AN ACCEPTABLE ALTERNATIVE APPROVED BY THE TOWN WITH THE IRRIGATION PLANS. THE IRRIGATION SYSTEM SHALL BE ADJUSTED TO MEET THE WATER REQUIREMENTS OF THE INDIVIDUAL PLANT MATERIAL AND INCLUDE AN AUTOMATIC RAIN SENSOR.
4. TOPSOIL: TO THE MAXIMUM EXTENT FEASIBLE, TOPSOIL THAT IS REMOVED DURING CONSTRUCTION ACTIVITY SHALL BE CONSERVED FOR LATER USE ON AREAS REQUIRING REVEGETATION AND LANDSCAPING.
5. SOIL AMENDMENTS: SOIL AMENDMENTS SHALL BE PROVIDED AND DOCUMENTED IN ACCORDANCE WITH CITY OF FORT LUPTON STANDARDS. THE SOIL IN ALL LANDSCAPE AREAS, INCLUDING PARKWAYS AND MEDIANS, SHALL BE THOROUGHLY LOOSENED TO A DEPTH OF NOT LESS THAN EIGHT(8) INCHES AND SOIL AMENDMENT SHALL BE THOROUGHLY INCORPORATED INTO THE SOIL OF ALL LANDSCAPE AREAS TO A DEPTH OF AT LEAST SIX(6) INCHES BY TILLING, DISCING OR OTHER SUITABLE METHOD, AT A RATE OF AT LEAST THREE (3) CUBIC YARDS OF SOIL AMENDMENT PER ONE THOUSAND (1,000) SQUARE FEET OF LANDSCAPE AREA. PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, A WRITTEN CERTIFICATION MUST BE SUBMITTED TO THE CITY THAT ALL PLANTED AREAS, OR AREAS TO BE PLANTED, HAVE BEEN THOROUGHLY LOOSENED AND THE SOIL AMENDED, CONSISTENT WITH THE REQUIREMENTS SET FORTH IN CITY OF FORT LUPTON MUNICIPAL CODE.
6. INSTALLATION AND GUARANTEE: ALL LANDSCAPING SHALL BE INSTALLED ACCORDING TO SOUND HORTICULTURAL PRACTICES IN A MANNER DESIGNED TO ENCOURAGE QUICK ESTABLISHMENT AND HEALTHY GROWTH. ALL LANDSCAPING FOR EACH PHASE MUST BE EITHER INSTALLED OR THE INSTALLATION MUST BE SECURED WITH AN IRREVOCABLE LETTER OF CREDIT, PERFORMANCE BOND, OR ESCROW ACCOUNT FOR 125% OF THE VALUATION OF THE MATERIALS AND LABOR PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY FOR ANY BUILDING IN SUCH PHASE.
7. MAINTENANCE: TREES AND VEGETATION, IRRIGATION SYSTEMS, FENCES, WALLS AND OTHER LANDSCAPE ELEMENTS WITH THESE FINAL PLANS SHALL BE CONSIDERED AS ELEMENTS OF THE PROJECT IN THE SAME MANNER AS PARKING, BUILDING MATERIALS AND OTHER SITE DETAILS. THE APPLICANT, LANDOWNER OR SUCCESSORS IN INTEREST SHALL BE JOINTLY AND SEVERALLY RESPONSIBLE FOR THE REGULAR MAINTENANCE OF ALL LANDSCAPING ELEMENTS IN GOOD CONDITION. ALL LANDSCAPING SHALL BE MAINTAINED FREE FROM DISEASE, PESTS, WEEDS AND LITTER, AND ALL LANDSCAPE STRUCTURES SUCH AS FENCES AND WALLS SHALL BE REPAIRED AND REPLACED PERIODICALLY TO MAINTAIN A STRUCTURALLY SOUND CONDITION.
8. REPLACEMENT: ANY LANDSCAPE ELEMENT THAT DIES, OR IS OTHERWISE REMOVED, SHALL BE PROMPTLY REPLACED IN ACCORDANCE WITH THE REQUIREMENTS OF THESE PLANS.
9. THE FOLLOWING SEPARATIONS SHALL BE PROVIDED BETWEEN TREES/SHRUBS AND UTILITIES:

10 FEET BETWEEN TREES AND PUBLIC WATER AND SANITARY SEWER MAIN LINES

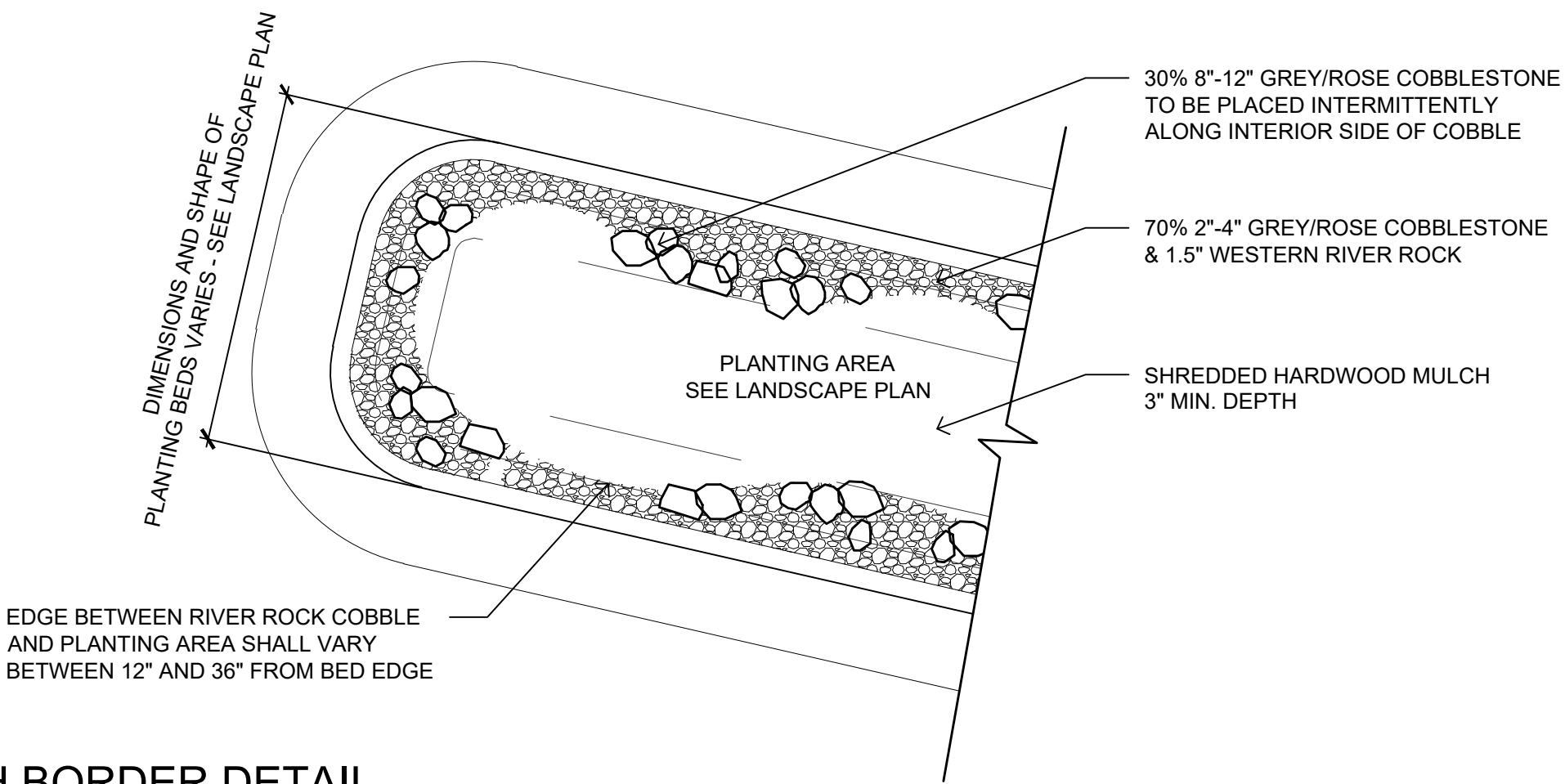
5 FEET BETWEEN TREES AND PUBLIC WATER AND SANITARY SEWER SERVICE LINES.

4 FEET BETWEEN SHRUBS AND PUBLIC WATER AND SANITARY SEWER LINES

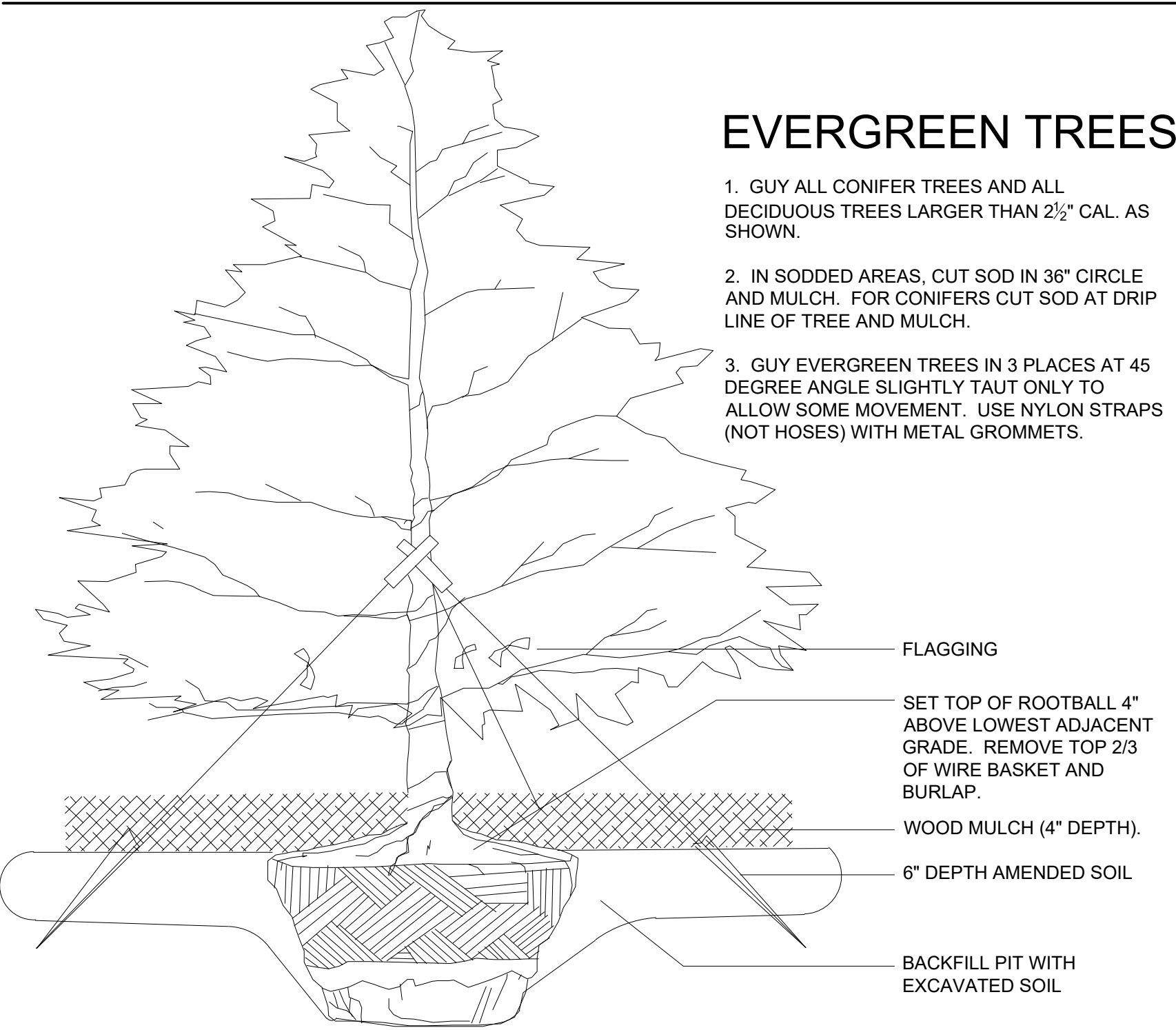
4 FEET BETWEEN TREES AND GAS LINES
10. ALL STREET TREES SHALL BE PLACED A MINIMUM TEN (10) FEET AWAY FROM THE EDGES OF DRIVEWAYS, SIDEWALKS AND ALLEYS.
11. PLACEMENT OF ALL LANDSCAPING SHALL BE IN ACCORDANCE WITH THE SIGHT DISTANCE CRITERIA AS SPECIFIED BY THE CITY OF FORT LUPTON. NO STRUCTURES OR LANDSCAPE ELEMENTS GREATER THAN 24" SHALL BE ALLOWED WITHIN THE SIGHT DISTANCE TRIANGLE OR EASEMENTS WITH THE EXCEPTION OF DECIDUOUS TREES PROVIDED THAT THE LOWEST BRANCH IS AT LEAST 6' FROM GRADE. ANY FENCES WITHIN THE SIGHT DISTANCE TRIANGLE OR EASEMENT MUST BE NOT MORE THAN 42" IN HEIGHT AND OF AN OPEN DESIGN.
12. THE FINAL LANDSCAPE PLAN SHALL BE COORDINATED WITH ALL OTHER FINAL PLAN ELEMENTS SO THAT THE PROPOSED GRADING, STORM DRAINAGE, AND OTHER DEVELOPMENT IMPROVEMENTS DO NOT CONFLICT WITH NOR PRECLUDE INSTALLATION AND MAINTENANCE OF LANDSCAPE ELEMENTS ON THIS PLAN.
13. MINOR CHANGES IN SPECIES AND PLANT LOCATIONS MAY BE MADE DURING CONSTRUCTION -- AS REQUIRED BY SITE CONDITIONS OR PLANT AVAILABILITY. OVERALL QUANTITY, QUALITY, AND DESIGN CONCEPT MUST BE CONSISTENT WITH THE APPROVED PLANS. IN THE EVENT OF CONFLICT WITH THE QUANTITIES INCLUDED IN THE PLANT LIST, SPECIES AND QUANTITIES ILLUSTRATED SHALL BE PROVIDED. ALL CHANGES OF PLANT SPECIES AND LOCATION MUST HAVE WRITTEN APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
14. ALL PLANTING BEDS SHALL BE MULCHED TO A MINIMUM DEPTH OF THREE INCHES WITH WASHED RIVER COBBLE AND SHREDDED MULCH (SEE ADJACENT DETAIL) WITH A WEED BARRIER UNDERLAY.
15. TREE CANOPIES SHALL NOT CONFLICT WITH STREET LIGHTS.

COBBLE MULCH BORDER DETAIL

SCALE: NTS

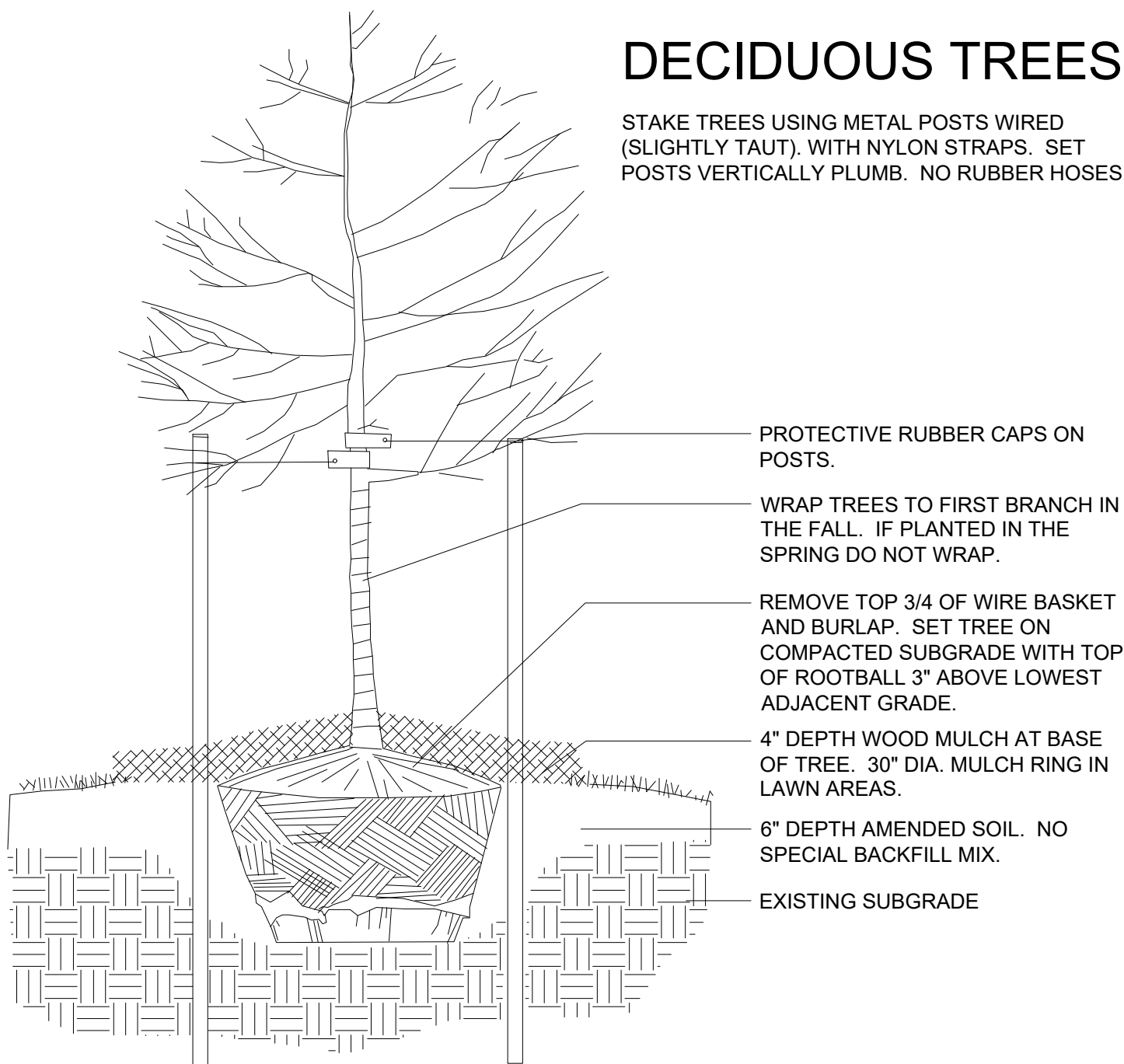


TREE AND SHRUB INSTALLATION



EVERGREEN TREES

1. GUY ALL CONIFER TREES AND ALL DECIDUOUS TREES LARGER THAN 2½" CAL. AS SHOWN.
2. IN SODDED AREAS, CUT SOD IN 36" CIRCLE AND MULCH. FOR CONIFERS CUT SOD AT DRIP LINE OF TREE AND MULCH.
3. GUY EVERGREEN TREES IN 3 PLACES AT 45 DEGREE ANGLE SLIGHTLY TAUT ONLY TO ALLOW SOME MOVEMENT. USE NYLON STRAPS (NOT HOSES) WITH METAL GROMMETS.



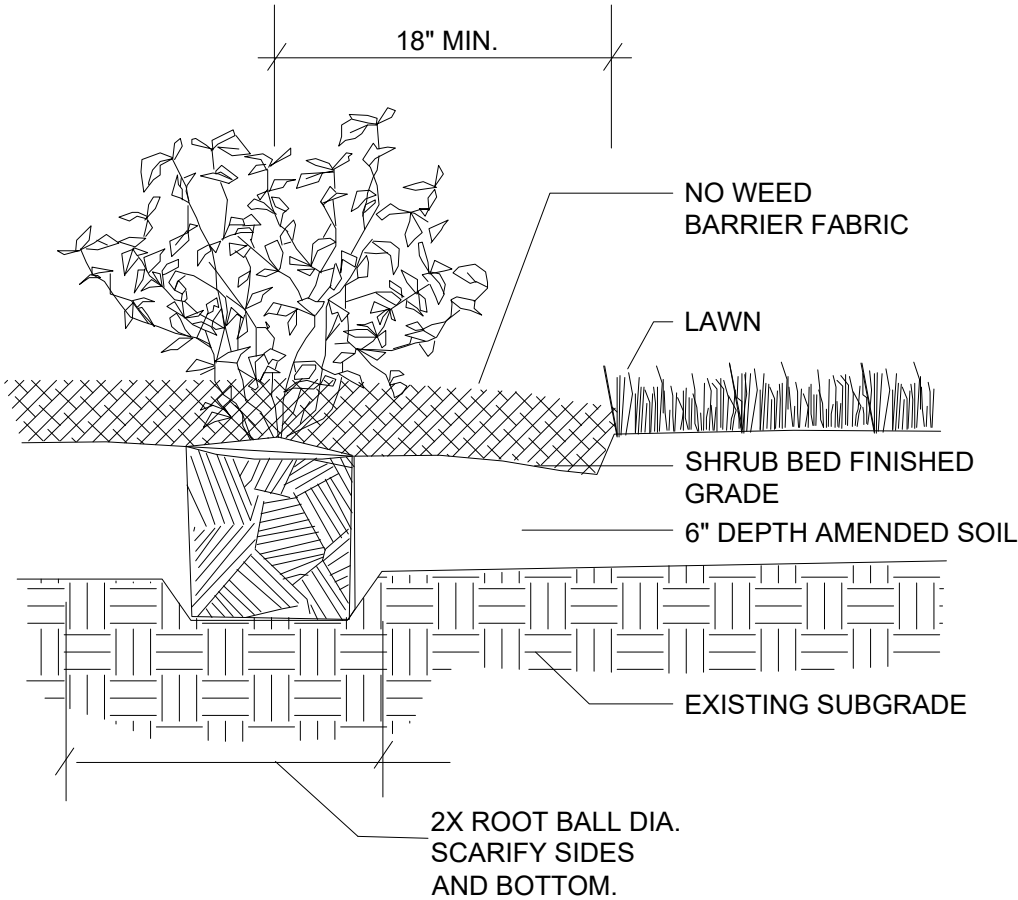
DECIDUOUS TREES

STAKE TREES USING METAL POSTS WIRED (SLIGHTLY TAUT), WITH NYLON STRAPS. SET POSTS VERTICALLY PLUMB. NO RUBBER HOSES.

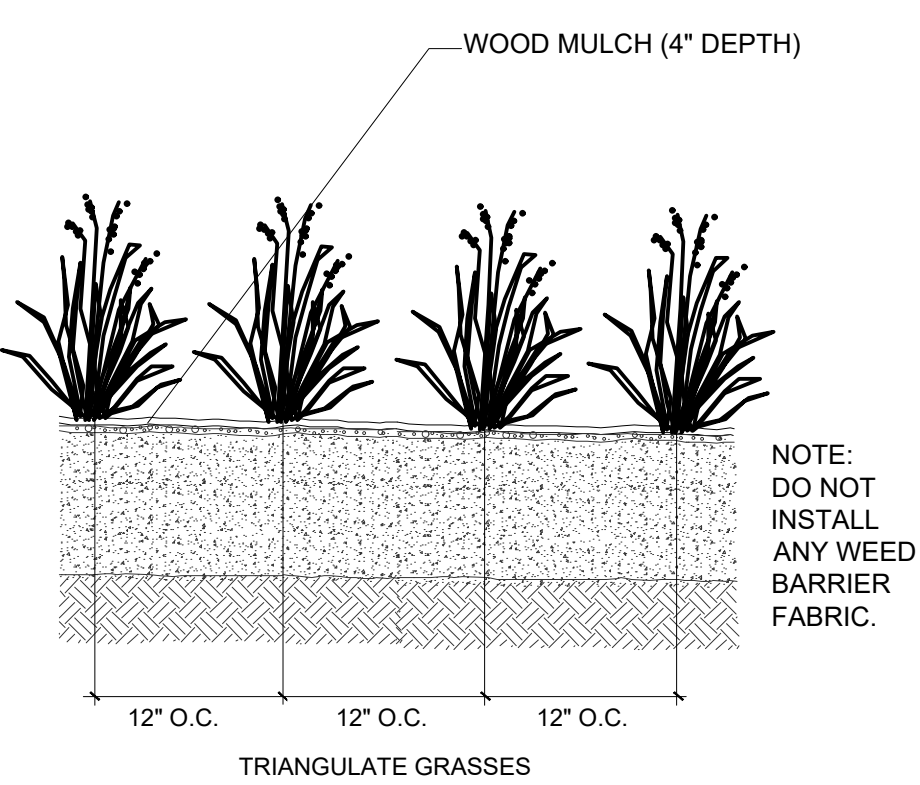
SHRUBS

PLACE SHRUBS A MINIMUM OF 18" FROM PLANTING BED EDGE (STEEL HEADER, CURBS, WALKS, WALLS, ETC.) FOR 1 GALLON SHRUBS, 3' MINIMUM FOR 5 GALLON DECIDUOUS SHRUBS, 4' FOR CONIFER SHRUB.

FOR 5 GALLON AND LARGER PLANT MATERIAL CONSTRUCT A 2" HIGH WATERING RING AROUND SHRUB AT EDGE OF PLANTING PIT. FOR 1 GALLON MATERIAL, CONSTRUCT A 2" X 18" DIA. WATER RING AND MULCH WITH WOOD BARK INSIDE OF THE WATER RING.



ORNAMENTAL GRASSES



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OWNER: _____

HOPE GRAYSON
LOT 6, VINCENT'S EAST ADDITION 3RD FILING SECOND
AMENDED SUBDIVISION
SITE DEVELOPMENT PLAN
110 COPPER PLACE
FORT LUPTON, COLORADO 80621
WELD COUNTY COUNTY

PROJECT INFORMATION:
PROJECT NUMBER: 279-2102FL
DATE: 2021.12.13
PHASE: SDP

REVISIONS:

SHEET TITLE:
LANDSCAPE NOTES &
DETAILS

SHEET NUMBER:

L1.2

SHEET 2 OF 3



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LANDSCAPE SPECIFICATIONS

MATERIALS:

1. WEED BARRIER: WEED BARRIER MAY BE TYPAR 3341 OR APPROVED EQUAL. PLACE WEED BARRIER BENEATH COBBLE MULCH AREAS.
2. COBBLE MULCH: SEE DETAIL SHEET L1.2. SUBMIT SAMPLE.
3. EDGING: ALL BEDS ADJACENT TO TURF AREAS TO BE EDGED WITH STEEL EDGING: STEEL HEADER 1/8" MIN. THICKNESS X 4" DEPTH, FABRICATED IN SECTIONS OF STANDARD LENGTHS, WITH LOOPS STAMPED FROM OR WELDED TO FACE OF SECTIONS TO RECEIVE STAKES. 1" X 24" SIZE STRAP STEEL STAKES OR EQUAL. SUBMIT SAMPLE.
4. WOOD MULCH: DOUBLE SHREDDED WOOD MULCH; POLE PEELINGS FROM CEDAR TREES ONLY. MULCH SHALL BE DARK BROWN IN COLOR AND FINELY SHREDDED. MULCH SHALL BE FREE FROM NOXIOUS WEED SEED AND FOREIGN MATERIAL HARMFUL TO PLANT LIFE. CHIPPER CHIPS, PINE POLE PEELINGS OR OTHER ANGULAR BARK CHIPS ARE NOT ACCEPTABLE. SUBMIT SAMPLE.
5. TREE STAKES: 8-FOOT LONG, 2-INCH DIAMETER PRESSURE TREATED LODGE POLE PINE STAKES (OR METAL "T" POSTS AS ALLOWED BY LANDSCAPE ARCHITECT. APPROVAL REQUIRED PRIOR TO INSTALLATION.)
6. GUY ANCHORS: 24-INCH LONG METAL "T" POSTS.
7. GUYING AND STAKING WIRE: GALVANIZED IRON OR STEEL 12-GUAGE WIRE.
8. WEBBING: 2-INCH NYLON WEBBING OR RUBBERIZED CLOTH.
9. TREE WRAP: 4-INCH MINIMUM WIDTH COMMERCIAL TREE WRAP.
10. SAFETY CAPS: INDUSTRY STANDARD (FOR METAL "T" POST ONLY)

11. COMPOST: A TOTALLY ORGANIC PRODUCT THAT HAS BEEN AEROBICALLY AND NATURALLY PROCESSED WITHOUT THE ADDITION OF COARSE WOOD CHIPS, IN SUCH A MANNER AS TO MAINTAIN A CONSISTENT TEMPERATURE OF 140 DEGREES FAHRENHEIT OR GREATER FOR A PERIOD OF TIME SUFFICIENT TO CREATE THE FOLLOWING CHARACTERISTICS MEASURED BY DRY WEIGHT: MAXIMUM ALLOWABLE ORGANIC MATTER: 60% ORGANIC MATTER TO NITROGEN RATIO: 25:1 TO 30:1; PH: 7 TO 8 PHSALTS: 2.0 TO 3.0 MMHOS; LESS THAN 25% INORGANIC MATTER; LESS THEN 1% SOIL, DIRT OR SAND; MAXIMUM PARTICLE SIZE OF ½ INCH DIAMETER. ERADICATION OF ALL HARMFUL WEED SEEDS, PATHOGENS AND BACTERIA; A NON-OFFENSIVE EARTHLY SMELL.

12. FERTILIZER: FERTILIZER FOR TURF SHALL BE COMMERCIAL TYPE, OF UNIFORM COMPOSITION, FREE FLOWING, AND CONFORMING TO APPLICABLE STATE AND FEDERAL LAWS. SUBMIT MANUFACTURER'S GUARANTEED ANALYSIS. FORMULATED FERTILIZER ANALYSIS SHALL BE SUBMITTED TO OWNER'S REPRESENTATIVE FOR REVIEW AND SHALL BE BASED UPON RECOMMENDATIONS MADE BY SOIL LAB. CONTRACTOR SHALL SUBMIT SOIL SAMPLE TO SOIL LAB FOR ANALYSIS AND FERTILIZER RECOMMENDATIONS.

IF SOIL TYPES ARE SIMILAR IN STRUCTURE, THE CONTRACTOR MAY USE A CONSISTENT FORMULATED FERTILIZER FOR THE ENTIRE SITE AREA. HOWEVER, IF SOIL STRUCTURES ARE VASTLY DIFFERENT, A FORMULATED FERTILIZER FOR EACH SPECIFIC SITE AREA WILL BE REQUIRED.

FERTILIZER FOR TREE AND SHRUB, BACKFILL MIX, AND GROUND COVER AREAS SHALL BE OSMOCOTE SIERRABLEN, 9 MONTH SLOW-RELEASE FERTILIZER.

13. BLUEGRASS SOD: BLUEGRASS SOD SHALL CONTAIN THE FOLLOWING SEED MIX OR ALTERNATIVE AS APPROVED BY THE CITY OF FORT LUPTON:

Turfgrass sod shall be the BTF-Texas Mix from Bittersweet Turf Farms

- 33% SPF30 Texas/Kentucky Hybrid Bluegrass
34% Solar Green Texas/Kentucky Hybrid Bluegrass
33% Bandera Texas/Kentucky Hybrid Bluegrass

SOD SHALL BE A MINIMUM OF ¼ INCH THICK, HARVESTED IN ROLLS FERTILIZED TWO TO THREE WEEKS BEFORE CUTTING, AND SHALL BE CUT NOT MORE THAN ONE DAY PRIOR TO PLANTING. SOD SHALL BE ONE YEAR OLD, MINIMUM, GROWN UNDER INTENSIVE CARE AND CULTIVATION TO PRODUCE A THICK, EVEN STAND OF GRASS. NATIVE SEED MIX A: ALL SEEDING SHALL BE COMPLETED BETWEEN APRIL 15 AND MAY 31, OR BETWEEN SEPTEMBER 1 AND OCTOBER 15.

14. NATIVE SEEDED AREAS SHALL BE SEEDED WITH THE FOLLOWING BLEND OR ALTERNATIVE AS APPROVED BY THE CITY OF FORT LUPTON:

NATIVE SEED AREA SHALL BE SEEDED WITH SHORTGRASS PRAIRIE NATIVE SEED MIXTURE. BE SURE TO OVERSEED ANY SWALES OR MOIST AREAS WITHIN THIS SEEDING TYPE WITH THE MOIST SWALE SEED MIXTURE:

SHORTGRASS PRAIRIE NATIVE SEED MIX: SEEDING RATE: Irrigated 30.75 lbs/acre				
COMMON NAME	SCIENTIFIC NAME	VARIETY	SEED RATE (PLS LBS/ACRE)	
Buffalo grass	Buchloe dactyloides	Native, Bison or Texoka	14	
Blue grama	Chondrosium gracile	Lovington, Alma, Native or Hachita	12	
Sand dropseed	Sporobolus cryptandrus	Common	4	
Fringed sage	Artemisia frigida	Common	0.0625	
Purple prairie clover	Dalea purpurea	Common	0.25	
Gayfeather	Liatriis punctata	Common	0.25	
Tansy aster	Machaeranthera tanacetifolia	Common	0.1875	

15. NATIVE SEED MIX B: ALL SEEDING SHALL BE COMPLETED BETWEEN APRIL 15 AND MAY 31, OR BETWEEN SEPTEMBER 1 AND OCTOBER 15. NATIVE SEEDED AREAS SHALL BE SEEDED WITH THE FOLLOWING BLEND OR ALTERNATIVE AS APPROVED BY THE CITY OF FORT LUPTON:

Native seed area shall be seeded with MOIST SWALE SEED MIXTURE:

MOIST SWALE SEED MIX: SEEDING RATE: Irrigated 15.35 lbs/acre				
COMMON NAME	SCIENTIFIC NAME	VARIETY	SEED RATE (PLS LBS/ACRE)	
Woolly sedge	Carex lanuginosa	Native	0.5	
Nebraska sedge	Carex nebrascensis	Native	0.1	
Blue grama	Chondrosium gracile	Lovington, Alma, Native or Hachita	1.5	
Buffalo grass	Buchloe dactyloides	Native, Bison or Texoka	0.5	
Inland saltgrass	Distichlis stricta	Native	0.5	
Baltic rush	Juncus balticus	Native	0.1	
Prairie cordgrass	Spartina pectinata	Native	1	
Alkali sacaton	Sporobolus airoides	Native	3	
Switchgrass	Panicum virgatum	Blackwell	3	
Western wheatgrass	Pascopyrum smithii	Ariba or Rosana	5	
Aster	Aster laevis		0.05	
Yarrow	Achillea millefolium	Western	0.05	
Prairie coneflower	Ratibida columnifera		0.05	

16. TREES, SHRUBS, AND GROUND COVERS: PLANT MATERIALS SHALL BE A FIRST-CLASS REPRESENTATIVE OF ITS SPECIES; HEALTHY, WELL BRANCHED AND WELL PROPORTIONED IN RESPECT TO HEIGHT AN WIDTH RELATIONSHIPS; FREE FROM DISEASE, INJURY, INSECTS, AND WEED ROOTS; AND CONFORMING TO THE REQUIREMENTS OF THE COLORADO NURSERY ACT. (SEE LANDSCAPE CONTRACTORS OF COLORADO STANDARD SPECIFICATIONS FOR APPROPRIATE SECTIONS OF THE NURSERY ACT). ALL PLANTS SHALL BE NURSERY STOCK FROM GROWERS LOCATED IN USDA HARDINESS ZONES 1, 2, 3 OR 4. BOTANIC AND COMMON NAMES: PLANT NAMES GIVEN IN THE PLANT LIST ARE IN CONFORMANCE WITH STANDARD HORTICULTURAL PRACTICE IN THIS AREA. PLANTS ARE TO BE DELIVERED TO THE SITE WITH TAGS BEARING THE BOTANIC NAME AS INDICATED BY THE PLANT LIST.

INSTALLATION:

CLEARING. PRIOR TO ANY SOIL PREPARATION, EXISTING VEGETATION TO REMAIN AND WHICH MIGHT INTERFERE WIT THE SPECIFIED SOIL PREPARATION SHALL BE MOVED, GRUBBED, RAKED, AND THE DEBRIS REMOVED FROM THE SITE. PRIOR TO OR DURING GRADING OR TILLAGE OPERATION, THE GROUND SURFACE SHALL BE CLEARED OF MATERIALS THAT MIGHT HINDER FINAL OPERATIONS.

PREPARE ALL AREAS TO BE PLANTED AS FOLLOWS:
RIP ALL AREAS TO BE PLANTED, SEEDED AND/OR SODDED TO A MINIMUM OF 8 INCHES IN TWO DIRECTIONS USING AN AGRICULTURAL RIPPER WITH TINES SPACED AT NO GREATER THAN 18 INCHES. AREAS ADJACENT TO WALKS, STRUCTURES CURBS, ETC, WHERE THE USE OF LARGE MECHANICAL EQUIPMENT IS DIFFICULT, SHALL BE WORKED WITH SMALLER EQUIPMENT OR BY HAND.

SOIL PREPARATION: SPREAD 3 CY/1000 SF OF COMPOST AND SUFFICIENT FERTILIZER TO MEET REQUIREMENTS OF SOIL ANALYSIS OVER ALL AREAS TO BE SEEDED, SODDED, AND/OR PLANTED W/TREES, SHRUB BED AND GROUND COVER. INCORPORATE COMPOST BY DISKING OR ROTOTILLING INTO THE TOP 6 INCHES OF SOIL. OBTAIN A UNIFORM MIXTURE WITH NO POCKETS OF SOIL OR AMENDMENTS REMAINING.

TREE AND SHRUB PLANTING:

1. SUBSTITUTIONS. ANY PLAN SUBSTITUTIONS ARE TO BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
2. ESTABLISHED LOCATION: STAKE TREES AND FLAG OR SET OUR ALL SHRUBS IN LOCATIONS SHOWN ON THE PLANS PRIOR TO INSTALLATION FOR REVIEW BY OWNER. THE FOLLOWING ARE MINIMUM DISTANCES THAT PLANT MATERIALS CAN BE PLACED FROM ADJACENT WALLS, FENCES OR PAVED AREAS:
LARGE SHRUBS: 4 FEET
MEDIUM SHRUBS: 2-1/2 FEET
PERENNIALS, GRASSES AND GROUND COVERS: 18 INCHES
3. PLANTING PITS:
DIG PLANTING PITS A MINIMUM OF 2 TIMES AS WIDE AS DIAMETER OF ROOT BALL OR CONTAINER, AND A DEPTH SUFFICIENT TO ALLOW TOP OF ROOT BALL AT TRUNK TO SIT A MINIMUM OF 3" ABOVE SURROUNDING GRADE FOR SHRUBS.

INCORPORATE COMPOST BY DISKING OR ROTOTILLING INTO THE TOP 4 TO 6 INCHES OF SOIL. OBTAIN A UNIFORM MIXTURE WITH NO POCKETS OF SOIL OR AMENDMENTS REMAINING.

RESTORE THE FINE GRADE OF ALL AREAS TO BE PLANTED, SEEDED AND/OR SODDED WITH FLOAT DRAG TO REMOVE IRREGULARITIES RESULTING FROM TILLING OPERATIONS. FLOAT DRAG TWO DIRECTIONS. REMOVE ANY ADDITIONAL STONES OVER 1-1/2 INCHES THAT HAVE COME TO THE SURFACE. UPON COMPLETION OF FINISH GRADING OPERATIONS, THE CONTRACTOR MUST PROVIDE A FINISH LANDSCAPE GRADE THAT SHALL CONFORM TO THE GRADES AND ELEVATIONS SHOWN ON THE ENGINEERING DRAWINGS. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE IN ALL LANDSCAPE AREAS.
SHRUBS. ROUGHEN SIDES OF THE PIT TO REMOVE ANY COMPACTING OR GLAZING. LOOSEN SOIL AT BOTTOM OF PIT TO A MINIMUM DEPTH OF SIX INCHES. MIX LOOSENED SOIL WITH SPECIFIED BACKFILL.

4. BACKFILL MATERIAL: TREE AND SHRUB PLANTING PITS SHALL BE BACKFILLED WITH THE FOLLOWING MIX:
75% TOPSOIL BY VOLUME (SOIL EXCAVATED FROM PLANTING PITS).
25% COMPOST BY VOLUME.
THE SPECIFIED BACKFILL MATERIALS SHALL BE PRE-MIXED USING INDUSTRY ACCEPTED TECHNIQUE IN ORDER TO OBTAIN A UNIFORM, EVENLY BLENDED CONSISTENCY. FREE FROM POCKETS OF UNBLENDED MATERIAL AND CLODS OR STONES GREATER THAN TWO INCHES IN DIAMETER. BACKFILL MIX SHALL BE DELIVERED TO EACH PLANTING PIT AFTER MIXING HAS OCCURRED.

PLANTING:
1. REMOVE STOCK FROM CONTAINER. DO NOT BREAK THE ROOT BALL. A SPADE SHALL NOT BE USED. SCARIFY SIDES AND BOTTOM OF ROOT BALL.

2. PLACE BACKFILL MIX INTO PLANTING PIT TO A DEPTH SUCH THAT THE PLANT, WHEN PLANTED, WILL BE THREE INCHES ABOVE FINISH GRADE FOR DECIDUOUS TREES, FOUR TO SIX INCHES FOR CONIFEROUS TREES, AND TWO INCHES ABOVE FINISH GRADE FOR ALL SHRUBS.

3. UNTIE AND REMOVE BURLAP FROM TOP THIRD OF ROOT BALL ON BALLED AND BURLAPPED MATERIAL. REMOVE WIRE BASKETS FROM TOP AND MINIMUM OF 2/3 OF ALL SIDE OF ROOT BALL.

4. BACKFILL ONE-HALF OF PIT WITH BACKFILL MIXTURE AND WATER IN THOROUGHLY BEFORE PLACING ANY MORE BACKFILL. DO NOT WORK WET SOIL.

5. BACKFILL THE REST OF THE PLANTING PIT WITH BACKFILL MIXTURE AND TAMP TO COMPACT. WATER IN THOROUGHLY. DO NOT WORK WET SOIL. APPLY SLOW RELEASE FERTILIZER, PER MANUFACTURER'S DIRECTION OF SIZE OF PLANT MATERIAL, BY SPREADING EVENLY OVER THE TOP OF THE ENTIRE PLANTING PIT.

6. STAKE OR GUY ALL TREES IN A TRUE VERTICAL POSITION. WRAP DECIDUOUS TREES BOTTOM TO TOP. STAPLE OR TACK IN PLACE AT TOP. WRAP APPROXIMATELY NOVEMBER 15 AND REMOVE APPROXIMATELY MAY 15.

7. IF TREES ARE PLANTED IN A SPADE DUG HOLE, THEY SHALL BE DEEP WATERED WITH A WATERING NEEDLE ANGLING FROM THE INSIDE OF THE BALL OUT THROUGH THE PERIMETER OF THE SOIL.

WEED BARRIER INSTALLATION

1. WEED BARRIER SHALL BE PLACED IN ALL SHRUB BED AREAS WHERE 5-GALLON SHRUB MATERIAL IS USED OR WHERE NOTED IN PLAN AND DETAILS. AT ALL EDGES OF CURBS, WALLS, STRUCTURES, PAVEMENTS, AND HEADERS, WEED BARRIER SHALL BE SECURED WITH 11-GAUGE, 6-INCH LONG STAPLES AT 18 INCHES O.C. AT ALL EDGES.

2. NO WEED BARRIER SHALL BE PLACED IN AREAS RECEIVING ONE GALLON AND SMALLER PLANT MATERIAL.

3. NO WEED BARRIER SHALL BE PLACED IN SOIL PLANTING RINGS OF DECIDUOUS AND CONIFEROUS TREES PLANTED IN SODDED OR SEEDED AREAS.

STEEL HEADER CONSTRUCTION

1. LAYOUT STEEL HEADER IN LOCATIONS SHOWN ON PLANS AND RECEIVE REVIEW OF OWNER PRIOR TO INSTALLATION. LOCATE BY SCALING OFF OF PLAN. INSTALL PLUMB WITH GRADES MAINTAINING A MINIMUM CONSTANT HEIGHT FLUSH WITH ADJACENT TURF AREAS.
INSTALL USING STRAIGHT LINES AND SMOOTH CURVES. STAKE STEEL HEADER USING PINS OF TWO FEET O.C. PROVIDE DRAINAGE SLITS OR HOLES AT SUFFICIENT INTERVALS TO ALLOW EXCESS WATER TO DRAIN AWAY.

LAYING SOD

1. AFTER SOIL PREPARATION, ROLL THE AREA TO AN EVENLY COMPACTED, FIRM SOIL BED.
2. REPLACE HARD AND SOFT AREAS.
3. SCARIFY SURFACE TO A DEPTH OF 3/8 INCH.
4. KEEP SOIL BED MOIST DURING LYING OF SOD.
5. LAY SOD SMOOTHLY; EDGE TO EDGE, AND WITH STAGGERED JOINTS. BUTT EDGES TIGHTLY.
6. WATER SOD LIGHTLY AS LAYING PROGRESSES TO PREVENT DRYING OF SOD.
7. ROLL SOD DIAGONALLY WITH A LIGHT ROLLER, LEVELING IRREGULARITIES AND SEALING JOINTS.
8. IN ORDER TO FACILITATE DRAINAGE, PLACE SOD FLUSH WITH PAVEMENT ON THE UPHILL SIDE OF PAVEMENT. ON THE DOWNHILL SIDE OF PAVEMENT, PLACE SOD SLIGHTLY BELOW PAVEMENT SURFACE.
9. HOLD SOD BACK FROM TREE TRUNKS AS SHOWN IN DETAILS.

SEEDING

1. TIME OF SEEDING: UNLESS OTHERWISE APPROVED, ALL TURF SEEDING SHALL BE COMPLETED BETWEEN APRIL 15 AND MAY 31, OR BETWEEN SEPTEMBER 1 AND OCTOBER 15.
2. PRIOR TO SEEDING, SOIL SHALL BE TESTED AND BE AMENDED PER THE SOIL TEST RESULT'S RECOMMENDATIONS.
3. DRILL SEEDING: DRILL SEED USING A DRILL IMPLEMENT EQUIPPED WITH THE FOLLOWING PREFERABLE FEATURES:
DEPTH BANDS - TO ALLOW SEEDING AT THE PROPER DEPTH
SEED BOX AGITATOR - TO PROMOTE SEED MIXING
SEED BOX BAFFLES - TO AID IN EVEN SEED DISTRIBUTION AMONG ROWS
SEED-METERING DEVICE - TO PROMOTE EVEN SEED DISTRIBUTION WITHIN ROWS
FURROW OPENERS - TO PERMIT PROPER SEED PLACEMENT FROM SEED SPOUTS, AND
DRAG CHAINS - TO AID IN SEED COVERAGE

THE DRILL WILL BE ADJUSTED TO PLANT SEED TO THE PROPER DEPTH. THE DEPTH OF SEEDING WILL BE APPROXIMATELY 0.25 TO 0.50 INCH. DRILL ROW SPACING WILL BE SET AT APPROXIMATELY 6 TO 8 INCHES. THE DRILL WILL THEN BE TOWED ACROSS THE SEEDBED TO COMPLETE THE PLANTING OPERATION. DRILL SEEDING WILL TAKE PLACE IMMEDIATELY FOLLOWING THE COMPLETION OF FINAL SEED BED PREPARATION TECHNIQUES.

4. BROADCAST SEEDING: BROADCAST SEEDING SHALL ONLY OCCUR IN AREAS INACCESSIBLE TO A DRILL SEEDER. BROADCAST SEED ONLY AFTER ALL TREES AND SHRUBS HAVE BEEN PLANTED IN THESE AREAS. BROADCAST SEEDING WILL BE ACCOMPLISHED USING HAND-OPERATION "CYCLONE-TYPE" SEEDERS OR ROTARY BROADCAST EQUIPMENT ATTACHED TO CONSTRUCTION OR RE-VEGETATION MACHINERY. ALL MACHINERY WILL BE EQUIPPED WITH METERING DEVICES. BROADCASTING BY HAND WILL BE ACCEPTABLE ON SMALL, ISOLATED SITES. WHEN BROADCAST SEEDING, PASSES WILL BE MADE OVER EACH SITE TO BE SEEDED IN A MANNER TO ENSURE AN EVEN DISTRIBUTION OF SEED. WHEN USING HOPPER TYPE EQUIPMENT, SEED SHOULD BE FREQUENTLY MIXED WITHIN THE HOPPER TO DISCOURAGE SEED SETTLING AND UNEVEN PLANTING DISTRIBUTION OF SPECIES.

5. BROADCAST SEEDING WILL TAKE PLACE IMMEDIATELY FOLLOWING THE COMPLETION OF FINAL SEEDBED PREPARATION TECHNIQUES. BROADCAST SEEDING SHOULD NOT BE CONDUCTED WHEN WIND VELOCITIES WOULD PROHIBIT EVEN SEED DISTRIBUTION. THE BROADCAST SEEDING RATE WILL BE TWICE THE RATE OF DRILL SEEDING.

6. HYDROSEEDING: MIX SPECIFIED SEED, FERTILIZER, AND FIBER MULCH (CONWED FIBERS HYDRO MULCH 2000 OR EQUAL) IN WATER, USING EQUIPMENT SPECIFICALLY DESIGNED FOR HYDROSEED APPLICATION. CONTINUE MIXING UNTIL UNIFORMLY BLENDED INTO HOMOGENEOUS SLURRY SUITABLE FOR HYDRAULIC APPLICATION.

APPLY SLURRY UNIFORMLY TO ALL AREAS TO BE SEEDED IN A ONE-STEP PROCESS. APPLY SLURRY AT A RATE SO THAT MULCH COMPONENT IS DEPOSITED AT NOT LESS THAN 2,000 LB/ACRE DRY WEIGHT, AND SEED COMPONENT IS DEPOSITED AT NOT LESS THAN THE SPECIFIED SEED-SOWING RATE.

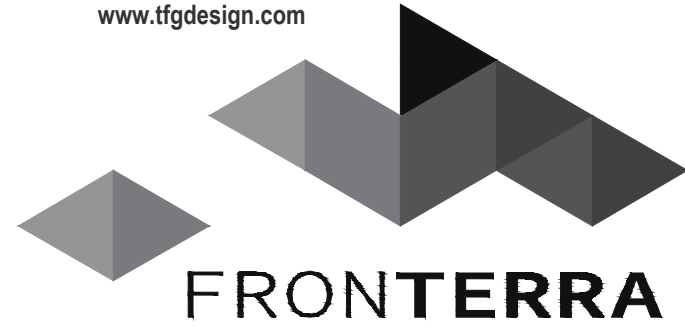
MULCHING

MULCH FOLLOWING ALL SOIL PREPARATION AND PLANTING.

1. SHRUB BEDS: MULCH SHRUB BED PLANTING AREA WITH 4" LAYER OF WOOD MULCH.

2. PERENNIAL & ANNUAL BEDS: MULCH ALL ANNUAL, PERENNIAL AND GROUND COVER PLANTING AREAS WITH A 4" LAYER OF WOOD MULCH.

3. TREE PLANTING RINGS IN IRRIGATED TURF AREAS: MULCH ALL SOIL PLANTING RINGS OF DECIDUOUS AND CONIFEROUS TREES WITH A 4" LAYER OF WOOD MULCH EXCEPT THOSE TREES LOCATED WITHIN TURF AREAS. TREES LOCATED WITHIN TURF AREAS SHALL HAVE TURF ABUTTING THE ROOT CROWN.



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LOT 6, VINCENT'S EAST ADDITION 3RD FILING SECOND
AMENDED SUBDIVISION
SITE DEVELOPMENT PLAN

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FORT LUPTON, COLORADO 80621
WELD COUNTY COUNTY

PROJECT INFORMATION:
PROJECT NUMBER: 279-2102FL
DATE: 2021.12.13
PHASE: SDP

REVISIONS:

SHEET TITLE:
LANDSCAPE
SPECIFICATIONS

SHEET NUMBER:

L1.3

SHEET 3 OF 3



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August 11, 2021

Mccauley Construction Company
Town Hall
650 Innovation Circle
Windsor, CO 80505

Subject: Vincent Village Traffic Conformance Letter (Draft)

Introduction

Matrix Design Group is submitting this Traffic Conformance Letter on behalf of Mccauley Construction Company for the proposed Dental Office within the Vincent Village development in the town of Fort Lupton, Colorado. This letter is based on the *Vincent Village Traffic Study dated October 2013* (VVTs). The site is bounded by development on the north, State Highway (SH) 52 on the south, Rollie Avenue on the west, and Coyoted Creek golf course on the east.

Site Access to and from the exterior roadway network is through three intersections which have been added or improved as presented in the VVTs. They include:

- SH 52 at $\frac{3}{4}$ Movement Roadway intersection
- SH 52 at RI/RO Movement intersection
- Rollie Ave at the East/West internal roadway intersection

Vincent Village Traffic Study Land Use

The original land use and trip generation associated with the full build out of development is discussed and presented in the VVTs and shown in Table 1 below.

Table 1 - Trip Generation VVTs

Land Use	Size	Daily	AM			PM		
			Total	In	Out	Total	In	Out
Hotel*	95 rooms	478	51	30	21	57	30	27
Apartment*	100 units	730	53	11	42	73	48	25
Fast Food Restaurant*	3,500 sf	1,737	159	82	77	115	60	55
Drugstore w/drive*	15,000 sf	1,323	40	23	17	130	64	66
Restaurant - sit-down*	6,000 sf	763	65	36	29	60	36	24
Total		5,031	368	182	186	435	145	197

Source: Vincent Village Traffic Study and ITE Trip Generation Manual

*Hotel (ITE Code 310)

*Apartment (ITE Code 220)

- *Fast-Food Restaurant with Drive Through (ITE Code 934)
- *Pharmacy/Drugstore with Drive-Through Window (ITE Code 881)
- *High Turnover (Sit-Down) Restaurant (ITE Code 932)

Purpose of Letter

This conformance letter compares the traffic condition of original VVTS to that of the proposed traffic condition, which includes the existing development plus the Dental Office.

Dental Office Land Use and Trip Generation

The land use and trip generation associated with the Dental Office is presented in the in Table 2. This table includes the dental office in addition to the currently in place and entitled properties. The trip generation is established based on ITE Trip Generation Manual, 10th Edition and OTISS Pro software. Trip reduction due to internal capture or pass by trips are not considered and severs as a conservative assessment of the proposed site trips.

Table 2: Trip Generation Dental Office and Associated Properties

Land Use	Size	Daily	AM			PM		
			Total	In	Out	Total	In	Out
Dental Office*	3,000 sf	28	14	11	3	17	5	17
Auto Parts Sales*	6,800 sf	360	18	10	8	7	8	15
Convenient Store*	4,200 sf	2,622	18	9	9	34	17	17
Drugstore w/drive*	8,000 sf	874	30	16	14	32	16	16
Restaurant - sit-down*	4,800 sf	538	47	26	21	14	9	5
Coffee Shop w/drive*	2,000 sf	1,640	178	91	87	86	43	43
Total		6,342	305	163	142	190	98	108

Source: ITE Edition 10 via OTISS Pro v2.1

- *Medical-Dental Office Building (ITE Code 720)
- *Automobile Parts Sales (ITE Code 843)
- *Convenient Market with Gasoline Pumps (ITE Code 853)
- *Pharmacy/Drugstore with Drive-Through Window (ITE Code 881)
- *High Turnover (Sit-Down) Restaurant (ITE Code 932)
- *Coffee/Donut Shop with Drive-Through Window (ITE Code 937)

Background Traffic Growth

The VVTS used a 2012 ADT volume of 9,700 and background traffic growth factor of 4.4% per year of based on CDOT count data. This resource now shows a 2019 ADT volume of 13,000 and background traffic growth rate of 3.6% per year. This indicates that the SH 52 corridor is experience traffic volume growth slower than that presented in the VVTS.

Conformance Letter Comparison Results

The proposed Dental Office and adjacent development traffic generation is less than the site traffic volumes analyzed in the VVTS. Specifically, in the total AM peak hour site traffic is approximately 17% less, and in the total PM peak hour site traffic is approximately 32% less than in the VVTS.

CDOT traffic data indicates that between the study years of 2012 to 2019 the background traffic growth is approximately 25% less than that forecasted in the VVTS. In addition, the VVTS results indicated that the site access intersections operate at an acceptable LOS in the long-term condition.

Conclusions

The conformance letter results indicate that, the Dental Office development is in general compliance with the *Vincent Village Traffic Study, October, 2013* based on the following:

- The proposed site traffic is less than that in the VVTS.
- The background corridor traffic is less than that forecasted in the VVTS.
- The site access intersection operations in the VVTS operate at acceptable LOS.



David Kline, PE, PTOE
Matrix Design Group, Inc.

Attachments:

- Vincent Village Traffic Study, October, 2013

Vincent Village Traffic Study

VINCENT VILLAGE FORT LUPTON, COLORADO FINAL TRAFFIC IMPACT STUDY

October 2013



Prepared for:

B & B FT. LUPTON, LLC.



Prepared by:



VINCENT VILLAGE FORT LUPTON, COLORADO FINAL TRAFFIC IMPACT STUDY

October 2013

Prepared For:

B & B FT. Lupton, LLC.

Wilson and Company, Johnson Braund, Inc.

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TABLE OF CONTENTS

I. Introduction	2
a. Project Overview	2
b. Purpose of Study.....	3
c. Study Area	3
II. Existing Conditions	5
a. Existing Traffic Volumes.....	5
b. Existing Roadway System	5
c. Traffic Operations.....	6
d. Existing Study Area Intersection Analysis	6
III. Proposed Site (Phase 1)	8
a. Site Trip Generation.....	8
b. Directional Distribution.....	8
c. Trip Assignment	8
IV. Background Traffic Condition	10
a. Background Traffic.....	10
b. 2015 Background Traffic Operational Analysis.....	11
c. 2033 Background Traffic Operational Analysis	11
V. Project Impact/Total Traffic Condition	12
a. 2015 Total Traffic Operational Analysis	12
b. 2033 Total Traffic Operational Analysis.....	14
VI. Proposed Site (Phase 2).....	14
a. Site Trip Generation (Phase 2).....	14
b. Directional Distribution (Phase 2).....	16
c. Trip Assignment (Phase 2)	16
d. 2015 Background Traffic Operational Analysis (Phase 2).....	18
e. 2033 Background Traffic Operational Analysis (Phase 2).....	18
f. 2015 Total Traffic Operational Analysis (Phase 2)	20
g. 2033 Total Traffic Operational Analysis (Phase 2).....	21
VII. Recommendation/Conclusion	22

LIST OF TABLES

1. Trip Generation Summary (Phase 1)

2. Trip Generation Summary (Phase 2)

LIST OF FIGURES

1. Vicinity Map
2. Site Map (Phase 1)
3. Existing Traffic Condition
4. Directional Distribution
5. Site Trip Assignment (Phase 1)
6. 2015 Background Traffic Condition
7. 2015 Total Traffic Condition (Phase 1)
8. Site Map (Phase 2)
9. Site Trip Assignment (Phase 2)
10. 2033 Background Traffic Condition
11. 2015 Total Traffic Condition (Phase 2)
12. 2033 Total Traffic Condition

**APPENDIX “A” – EXISTING (2013) TRAFFIC TURNING MOVEMENT COUNTS
APPENDIX “B” – EXISTING LEVEL OF SERVICE WORKSHEETS APPENDIX “C” –
2015 BACKGROUND LEVEL OF SERVICE WORKSHEETS APPENDIX “D” – PHASE
1 - 2015 TOTAL LEVEL OF SERVICE WORKSHEETS APPENDIX “E” – 2033
BACKGROUND LEVEL OF SERVICE WORKSHEETS APPENDIX “F” – PHASE 2 -
2015 TOTAL LEVEL OF SERVICE WORKSHEETS APPENDIX “G” – 2033 TOTAL
LEVEL OF SERVICE WORKSHEETS APPENDIX “H” – CDOT SIGNAL TIMING**

I. INTRODUCTION

a. Project Overview

The Vincent Village development is proposed on an infield parcel at the eastern edge of Fort Lupton, Colorado. The site will be developed in two phases. Phase 1, a 95 room hotel with associated parking is scheduled for opening within the next year. Phase 2, a 100 unit apartment complex and three commercial parcels will be stage over the next 2-5 years. Phase 1, the Hotel, is

located at the eastern edge of the development and will be served by a north/south local roadway that connects with State Highway (SH) 52 at a $\frac{3}{4}$ movement intersection. Phase 2, the apartment complex, is located on the northern edge of the site and will be served by a proposed east/west internal roadway that intersects to the east with the proposed hotel roadway and to the west with existing Rollie Ave. Phase 2, the commercial parcels, front SH 52 and access is proposed off the internal roadway and a proposed Right In/Right Out (RI/RO) entrance drive off SH 52. Due to an existing golf course, Coyote Creek, access is unavailable east of the site. The SH 52/Rollie Ave. intersection, in the southwest corner of the site and is controlled by an existing traffic signal. (See the Vicinity Map, Figure 1 and the Site Map Figure 2)

b. Purpose of Study

The purpose of this Traffic Impact Study (TIS) is to identify the impacts the proposed Vincent Village development will have on the existing roadway system. It examines the traffic operations of existing conditions, 2015 near term traffic operations with proposed Phase 1 site traffic, 2015 near term traffic operations with proposed Phase 2 site traffic, and proposed 2033 long range conditions with proposed Phase 2 site traffic.

c. Study Area

The Colorado Department of Transportation (CDOT) recommends that the TIS investigate the Weekday AM and PM peak hour traffic conditions for Phase 1 and Phase 2. The key study area intersections are listed below.

- SH 52 at Rollie Ave. intersection (Existing)
- SH 52 at $\frac{3}{4}$ Movement Access intersection (Existing)
- SH 52 at $\frac{3}{4}$ Movement Roadway intersection (Proposed – Phase 1)
- SH 52 at RI/RO Movement intersection (Proposed – Phase 2)

VICINITY MAP



FIGURE 1

SITE MAP (PHASE 1)

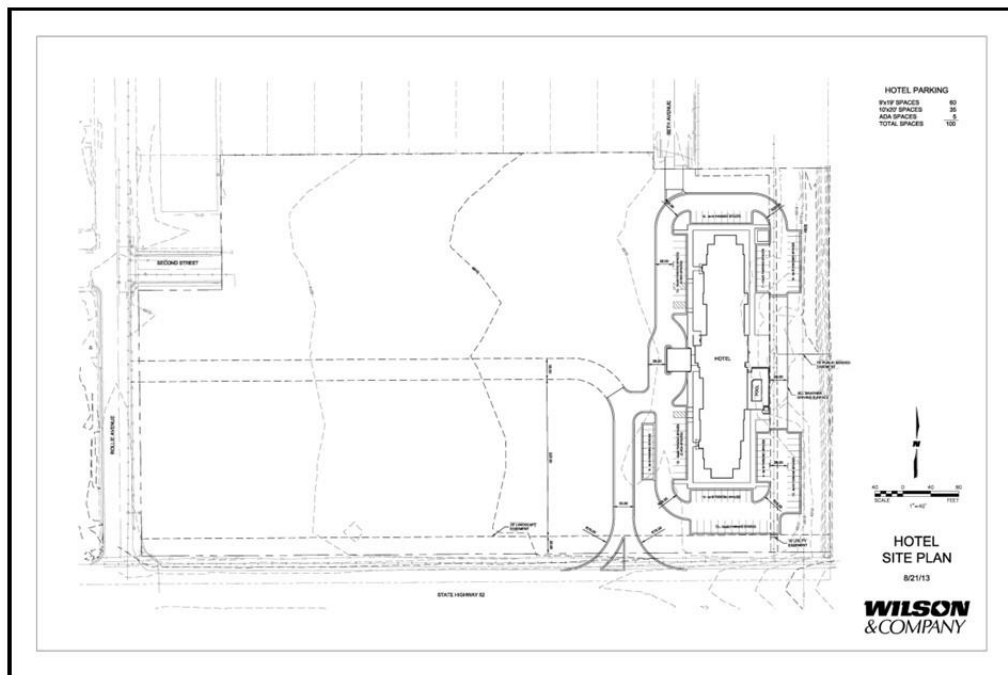


FIGURE 2

II. EXISTING CONDITIONS

a. Existing Traffic Volumes

Weekday AM and PM peak hour turning movement counts were collected at the SH 50 at Rollie Ave intersection on Wednesday July 31, 2013. The existing volumes are presented in Figure 3a, 3b and the traffic data is found in Appendix A.

b. Existing Roadway System

- State Highway 52 (1st Street) - Is an east/west regional roadway that intersects with US 85 approximately 1 mile west and I-76 approximately 8 miles east of the site. SH 52 Functional Classification is Non-Rural Arterial (NR-B) with a westbound posted speed of 35 mph and eastbound posted speed of 45 mph. In the vicinity of the site, SH 52 consists of two through lanes and center striped median used for left turn lanes. West of the SH 52/Rollie Ave signalized intersection it consists of 1) one exclusive eastbound (EB) left turn lane, 2) one EB through lane, and 3) one EB right turn lane. East of the SH 52/Rollie Ave signalized intersection it consists of 1) one westbound (WB) exclusive left turn lane, 2) one WB shared through lane/right turn lane. A striped median separates the EB and WB through traffic.

North Front Range Metropolitan Planning Organization (NFRMPO) and Denver Regional Council of Governments (DRCOG) planning documents indicate that in the future SH 52 will be a four lane arterial roadway. Currently SH 52 west Rollie Ave has been widened to accommodate the ultimate section, however is currently striped as described above. SH 52 east of Rollie Ave has not been widened for the ultimate section, and is as described above.

- Rollie Avenue- Is a north/south local roadway that connects existing residential north of SH 52 and existing retail and residential south of SH 52. The north leg to the Rollie Ave/SH 52 intersection includes 1) one southbound exclusive right turn lane and, 2) one shared through/left turn lane. The south leg of Rollie Ave/SH 52 intersection includes 1) one northbound exclusive left turn lane, and 2) one shared through/right turn lane. The south leg of the intersection has been constructed with extra width for additional turn lanes, however is striped as described.

- Existing $\frac{3}{4}$ Movement Access – Located east of Rollie Ave approximately 750 feet is a north/south access drive that serves the retail center south of SH 52. It consists of 1) one exclusive WB left turn lane and, 2) one NB right turn lane.

Since the existing Access Drive volumes are low, existing traffic volumes were not taken. Assumed volumes are presented in the analysis.

c. Traffic Operations

Peak hour capacity analyses were performed using *Synchro 8* software for existing 2013 conditions utilizing the methodologies contained in the *Highway Capacity Manual 2010*, Transportation Research Board, National Research Council. The analyses result in a qualitative measure of the operational characteristics of the intersection described by a letter designation ranging from “A” to “F” known as “Level of Service” (LOS). LOS “A” represents ideal free-flow operating conditions, whereas LOS “F” represents excessive congestion and delay. Unsignalized intersection capacity analyses result in a LOS designation for each impeded intersection movement. LOS “D” is considered the minimum desirable standard of operation.

d. Existing Study Area Intersections Analysis

The existing CDOT signal timing plan is used in this analysis. The signalized intersection of SH 52 at Rollie Ave operates at LOS B during the Weekday AM peak hour and at LOS B during the Weekday PM peak hour.

All approach movements at the Existing $\frac{3}{4}$ Movement Access intersection, which is stop controlled on the access drive, operate at LOS A during the Weekday AM peak hour and at LOS B during the Weekday PM peak hour. See Figure 3a and 3b, the existing traffic analysis worksheets are in Appendix B.

EXISTING TRAFFIC CONDITION
AM Peak Hour



FIGURE 3a

EXISTING TRAFFIC CONDITION
PM Peak Hour



FIGURE 3b

III. PROPOSED SITE (PHASE 1)

Phase 1, a 95 room Hotel with associated parking, is scheduled within the next year. Hotel access in Phase 1 is proposed off an internal north/south roadway with connection to SH 52 at a proposed $\frac{3}{4}$ movement intersection.

a. Site Trip Generation

The number of vehicle-trips generated by the proposed Hotel was estimated using the trip generation rates documented in Trip Generation, Ninth Edition by the Institute of Transportation Engineers (ITE). The ITE Code 310 – Hotel estimates trips by rooms and is presented in Table 1 showing the daily and peak hour vehicle-trips generated by the site.

Table 1 – Trip Generation Summary (Phase 1)

Land Use & Rooms	ITE Land Use	Site Generated Trip - Weekday						
		Daily Trips (vpd)	AM Peak Hour (vph)			PM Peak Hour (vph)		
			Total	In	Out	Total	In	Out
Hotel (95 Rooms)	310	478	51	30	21	57	30	27

Estimated Trip Generation per the ITE 9th Edition Manual

b. Directional Distribution

The site trip distribution assumptions are presented in Figure 4. The distribution was developed with consideration of land use and surrounding existing and proposed roadway network. Since, in Phase 1 the proposed $\frac{3}{4}$ movement intersection at SH 52 is the only access to the Hotel all trips enter and exit at this location. Recognizing the proximity of the Hotel to Fort Lupton and US 85, the trip distribution allocates 60% to/from the west. Due to the distance I-76 and lower population base 30% of the trip distribution is assigned to/from the east. The remaining 10% of trip are assumed to be associated with north and south travel on Rollie Ave.

c. Trip Assignment

Site generated traffic is assigned to street network based on the Directional Distribution and are presented in Figures 5a and 5b.

DIRECTIONAL DISTRIBUTION



FIGURE 4

SITE TRIP ASSIGNMENT (PHASE 1) AM Peak Hour



FIGURE 5a

SITE TRIP ASSIGNMENT (PHASE 1)
PM Peak Hour



FIGURE 5b

IV. BACKGROUND TRAFFIC CONDITION

a. Background Traffic

Background traffic volumes represent the component of roadway volumes unrelated to the proposed site that are projected to utilize the adjacent roadway system. Background traffic volumes used in this analysis reflect the near term year of 2015 and future year 2033.

Background traffic volumes are determined based on a future traffic growth factor developed by Colorado Department of Transportation (CDOT). SH 52 west of the site has 2012 ADT traffic counts of 9,700 (MP 20.67-25.462) and forecasted 2033 ADT volumes of 24,061 (Data Collection Station #102464). The existing and forecasted volumes equate to a growth factor of 2.48 which is used to establish SH 52, 2033 background traffic. This growth factor represents an annual growth rate of 4.42% per year and is used to establish the near term 2015 forecasted background traffic. The high growth rate reflects the long range need of SH 52 as an arterial roadway corridor which is identified in the NFRMPO and DRCOG planning documents.

Since the SH 52 background traffic growth rate represents the regional growth and not local growth a different growth rate is used on all side street traffic. Fort Lupton is anticipated to experience a moderate grow rate of 2% per year and is assumed for all side street traffic.

b. 2015 Background Traffic Operational Analysis

Using the existing CDOT signal timing plan the signalized intersection of SH 52 at Rollie Ave. operates at LOS B during the Weekday AM peak hour and at LOS B during the Weekday PM peak hour.

All approach movements at the Existing $\frac{3}{4}$ Movement Access intersection, which is stop controlled on the access drive, operate at LOS A during the Weekday AM peak hour and at LOS B during the Weekday PM peak hour. See Figures 6a and 6b, the 2015 background traffic analysis worksheets are in Appendix C.

c. 2033 Background Traffic Operational Analysis

2033 Background Traffic Operation Analysis is performed with Phase 2 Trip Generation. Results are presented in the subsequent sections.

2015 BACKGROUND TRAFFIC CONDITION
AM Peak Hour



FIGURE 6a

2015 BACKGROUND TRAFFIC CONDITION
PM Peak Hour



FIGURE 6b

V. PROJECT IMPACT/TOTAL TRAFFIC CONDITION

a. 2015 Total Traffic Operational Analysis

The site-generated traffic volumes (Figures 5a and 5b) are added to the 2015 background traffic volumes (Figures 6a and 6b) and a level of service analysis is conducted to find the 2015 total traffic conditions. The signalized intersection of SH 52 at Rollie Ave. operates at LOS B during the Weekday AM peak hour and at LOS B during the Weekday PM peak hour.

All approach movements at the **Existing** $\frac{3}{4}$ Movement Access intersection, which is stop controlled on the access drive, operate at LOS A during the Weekday AM peak hour and at LOS B or better during the Weekday PM peak hour.

All approach movements at the **Proposed** $\frac{3}{4}$ Movement Roadway intersection, which is stop controlled on the side roadway, operate at LOS A during the Weekday AM peak hour and at LOS B or better during the Weekday PM peak hour. See Figures 7a and 7b, the 2015 total traffic analysis worksheets are in Appendix D.

2015 TOTAL TRAFFIC CONDITION (PHASE 1)
AM Peak Hour



FIGURE 7a

2015 TOTAL TRAFFIC CONDITION (PHASE 1)
PM Peak Hour



FIGURE 7b

b. 2033 Total Traffic Operational Analysis

2033 Background Traffic Operation Analysis is performed with Phase 2 Trip Generation, which includes the Hotel (Phase 1) and the Apartment Complex and the three Commercial parcels. Results are presented in the subsequent sections.

VI. PROPOSED SITE (PHASE 2)

The site will be developed in two phases, which consists of, Phase 1, a 95 room Hotel with associated parking and Phase 2 includes a 100 unit apartment complex and three commercial parcels. (See Figure 8, Site Map (Phase 2))

SITE MAP (PHASE 2)

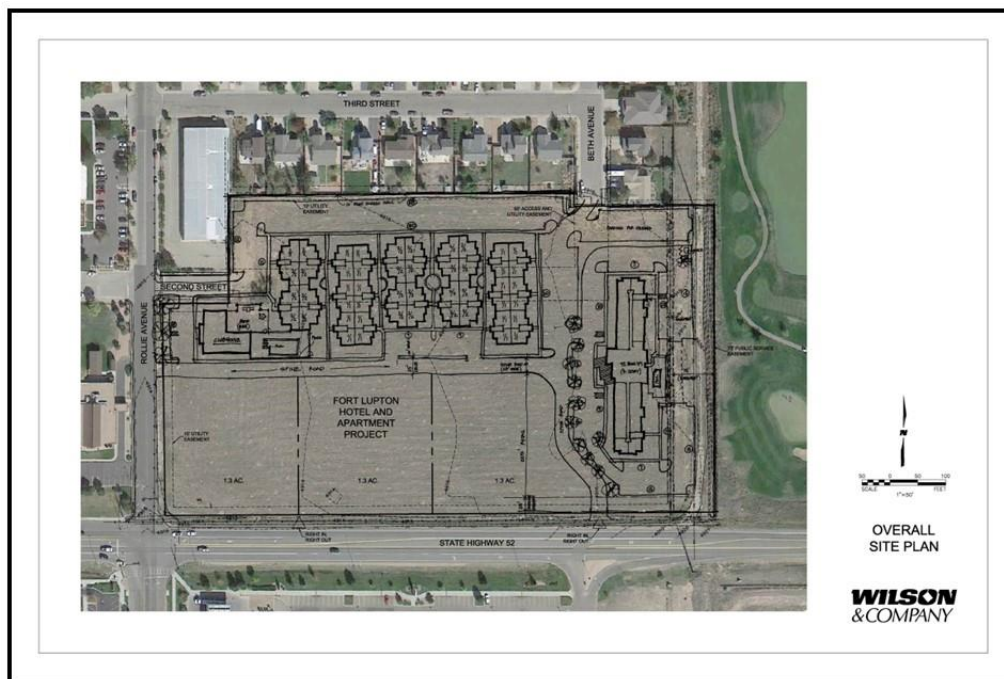


FIGURE 8

a. Site Trip Generation (Phase 2)

The number of vehicle-trips generated by the proposed Phase 2 was estimated using the trip generation rates documented in Trip Generation, Ninth Edition by the Institute of Transportation

Engineers (ITE). The ITE Code 220 - Apartment, *ITE Code 310 – Hotel*, ITE Code 881 Pharmacy/Drugstore with Drive Through (15,000 sf.), ITE Code 932 High-Turnover (Sit-Down)

Restaurant (6,000 sf.), and ITE Code 934 Fast-Food Restaurant with Drive Through (3,500 sf.) are presented in Table 2 showing the daily and peak hour vehicle-trips generated.

Table 2 – Trip Generation Summary (Phase 2)

Land Use & Variable	ITE Land Use	Site Generated Trip - Weekday						
		Daily Trips (vpd)	AM Peak Hour (vph)			PM Peak Hour (vph)		
			Total	In	Out	Total	In	Out
Hotel – (95 Rooms)(Phase 1)	310	478	51	30	21	57	30	27
Apartment – (100 Dwelling Units)	220	730	53	11	42	73	48	25
Fast-Food Restaurant. w/Drive Thru (3,500 Square Feet)	934	1,737	159	82	77	115	60	55
Pharmacy/Drugstore w/Drive Thru (15,000 Square Feet)	881	1,323	40	23	17	130	64	66
High-Turnover (Sit-Down) Restaurant (6,000 Square Feet)	932	763	65	36	29	60	36	24
Total		5,031	368	182	186	435	238	197

Estimated Trip Generation per the ITE 9th Edition Manual

b. Directional Distribution (Phase 2)

The site trip distribution assumptions are discussed in Phase 1 and presented in Figure 4. The distribution was developed with consideration of land uses, existing and proposed intersections and the general distribution assumption identified in Phase 1. Phase 2 includes improvements to the existing transportation system listed below.

- SH 52 at ¾ Movement Roadway intersection (Proposed – Phase 1)
- SH 52 at RI/RO Movement intersection (Proposed – Phase 2)
- East/West Internal Roadway that intersects with Rollie Ave on the west and the Hotel Roadway on the east.

c. Trip Assignment (Phase 2)

Site generated traffic are assigned to roadway network based on the Directional Distribution and are presented in Figures 9a and 9b.

SITE TRIP ASSIGNMENT (PHASE 2)

AM Peak Hour

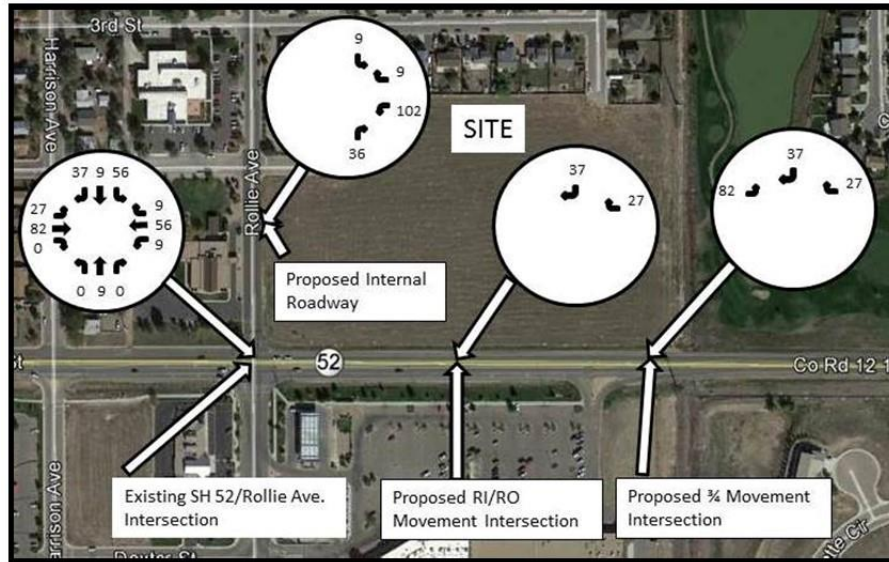


FIGURE 9a

SITE TRIP ASSIGNMENT (PHASE 2)

PM Peak Hour

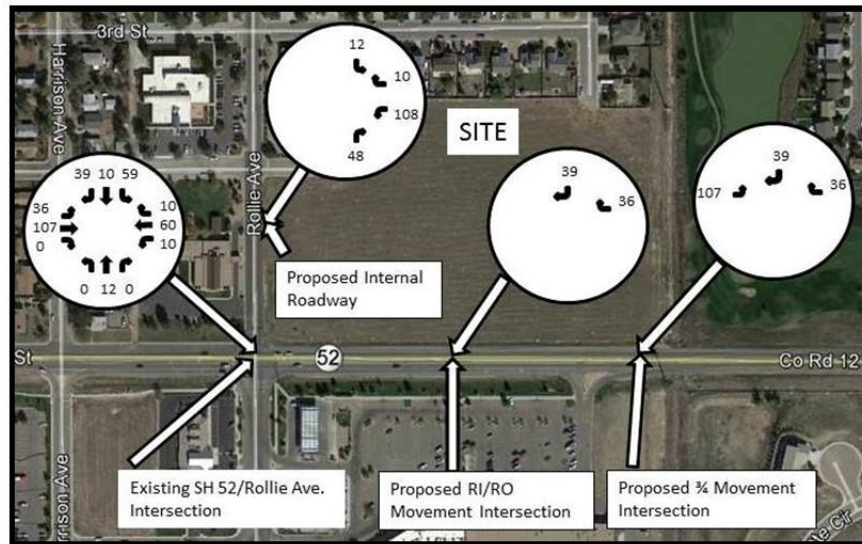


FIGURE 9b

d. 2015 Background Traffic Operational Analysis (Phase 2)

The 2015 Background Traffic Operational Analysis is presented in Phase 1. See Figures 6a and 6b, the existing traffic analysis worksheets are in Appendix C.

e. 2033 Background Traffic Operational Analysis (Phase 2)

NFRMPO and DRCOG planning documents indicate that SH 52 will be a four lane arterial roadway. In recognition of the long range plan the roadway lane geometry for the 2033 Background Traffic Operational Analysis is modified to include four through lanes to match the long range plan.

The existing CDOT signal timing plan is used in this analysis. The signalized intersection of SH 52 at Rollie Ave. intersection operates at LOS B during the Weekday AM peak hour and at LOS B during the Weekday PM peak hour.

All approach movements at the Existing $\frac{3}{4}$ Movement Access intersection, which is stop controlled on the access drive, operate at LOS B or better during the Weekday AM peak hour and at LOS B or better during the Weekday PM peak hour. See Figures 10a and 10b, the 2033 background traffic analysis worksheets are in Appendix E.

2033 BACKGROUND TRAFFIC CONDITION
AM Peak Hour



FIGURE 10a

2033 BACKGROUND TRAFFIC CONDITION
PM Peak Hour



FIGURE 10b

f. 2015 Total Traffic Operational Analysis (Phase 2)

The Phase 2 site-generated traffic volumes (Figures 9a and 9b) are added to the 2015 background traffic volumes (Figures 6a and 6b) and a level of service analysis conducted to find the 2015 total traffic conditions with Phase 2 site generated traffic. To better serve the site generated traffic volumes the signal timing at the SH 52 at Rollie Ave. intersection is optimized using Syncho 8. The signalized intersection of SH 52 at Rollie Ave. intersection operates at LOS B during the Weekday AM peak hour and at LOS C during the Weekday PM peak hour.

All approach movements at the **Existing** $\frac{3}{4}$ Movement Access intersection, which is stop controlled on the access drive, operate at LOS B or better during the Weekday AM peak hour and at LOS B or better during the Weekday PM peak hour.

All approach movements at the **Proposed** $\frac{3}{4}$ Movement Roadway intersection, which is stop controlled on side roadway, operate at LOS B or better during the Weekday AM peak hour and at LOS B during the Weekday PM peak hour.

All approach movements at the **Proposed** RI/RO Movement Roadway intersection, which is stop controlled on side roadway, operate at LOS A during the Weekday AM peak hour and at LOS B or better during the Weekday PM peak hour. See Figures 11a and 11b, the existing traffic analysis worksheets are in Appendix F.

2015 TOTAL TRAFFIC CONDITION (PHASE 2)
AM Peak Hour



FIGURE 11a

2015 TOTAL TRAFFIC CONDITION (PHASE 2)
PM Peak Hour



FIGURE 11b

g. 2033 Total Traffic Operational Analysis (Phase 2)

The site-generated traffic volumes (Figures 9a and 9b) are added to the 2033 background traffic volumes (Figures 10a and 10b) and a level of service analysis conducted to find the 2033 total traffic conditions. The corridor is reconfigured to meet the four lane arterial roadway recognized in NFRMPO and DRCOG planning documents. The signalized intersection of SH 52 at Rollie Ave. intersection operates at LOS B during the Weekday AM peak hour and at LOS B during the Weekday PM peak hour.

All approach movements at the **Existing** $\frac{3}{4}$ Movement Access intersection, which is stop controlled on the access drive, operate at LOS B or better during the Weekday AM peak hour and at LOS B or better during the Weekday PM peak hour.

All approach movements at the **Proposed** $\frac{3}{4}$ Movement Roadway intersection, which is stop controlled on side roadway, operate at LOS B or better during the Weekday AM peak hour and at LOS B or better during the Weekday PM peak hour.

All approach movements at the **Proposed** RI/RO Movement Roadway intersection, which is stop controlled on side roadway, operate at LOS B or better during the Weekday AM peak hour and at LOS B during the Weekday PM peak hour. See Figure 12 and the existing traffic analysis worksheets are in Appendix G.

2033 TOTAL TRAFFIC CONDITION AM Peak Hour



FIGURE 12a

2033 TOTAL TRAFFIC CONDITION
PM Peak Hour



FIGURE 12b

VII. RECOMMENDATIONS/CONCLUSION

The proposed Vincent Village development is located on the eastern edge of Fort Lupton, Colorado at the northeast corner of the SH 52/Rollie Ave. intersection. It will be developed in two phases. Phase 1, a 95 room hotel with associated parking, is scheduled to open within the next year. Phase 2, a 100 unit apartment complex and three commercial parcels will be stage over the next 2-5 years.

Access to the proposed development will be provided by two intersections with SH 52 and a local street network that connects to the SH 52/Rollie Ave. signalized intersection. The intersection identification are listed below:

- SH 52 at Rollie Ave. intersection
- SH 52 at a New $\frac{3}{4}$ Movement Roadway intersection
- SH 52 at a New RI/RO Movement intersection

The following is a summary of the findings and recommendations addressing the traffic impacts of the Vincent Village development.

2015 Phase 1 Development

In Phase 1 the project will generate approximately 478 trips per day, with 51 of these trips occurring during the AM peak hour and 57 occurring during the PM peak hour. Based on the analysis results, the roadways in the vicinity of the site will accommodate the increase in traffic, with the following recommended improvements.

- Re-stripe SH 52 center median with an eastbound left turn deceleration lane (CDOT Access Code Design Standards for NR-B> 45mph: 435ft total length including a 162 ft. 13.5:1 taper). A new $\frac{3}{4}$ movement intersection will need to be constructed with a physical triangular island prohibiting exiting left turns.

2015 Phase 2 Development

In Phase 2 the project will generate approximately 5,031 trips per day, with 368 of these trips occurring during the AM peak hour and 435 occurring during the PM peak hour. Based on the analysis results, the roadways in the vicinity of the site will accommodate the increase in traffic, with the following recommended improvements.



- Re-stripe SH 52 center median with an eastbound left turn deceleration lane (CDOT Access Code Design Standards for NR-B> 45mph: 435ft total length including a 162 ft. 13.5:1 taper). A new $\frac{3}{4}$ movement intersection will need to be constructed with a physical triangular island prohibiting exiting left turns.
- Optimize the signal timing at the SH 52 at Rollie Ave. intersection to accommodate the additional turning movements associated with Phase 2 development. The turning volumes are predominately associated with the commercial parcels. The signal timing modification presented in the Synchro report will not be necessary until parcel development.

2033 Phase 2 Development

As discussed in 2015 Phase 2 Development section the existing roadway network with the improvement discussed will accommodate the traffic associated with the Vincent Village development until a point where background traffic growth brings SH 52 corridor to over capacity. CDOT traffic forecasts indicate that existing SH 52 volume will increase by 250 percent in the next 20 years. Corridor improvements identified by NFRMPO and DRCOG planning documents, which calls for a four lane arterial roadway will meet the long range travel demand.

October 2013

APPENDIX "A"
**EXISTING (2013) TRAFFIC TURNING
MOVEMENT COUNTS**

COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO 80206
303-333-7409

N/S STREET: ROLLIE AVE
E/W STREET: SH-52 (1ST STREET)
CITY: FORT LUPTON
COUNTY: WELD

File Name : ROLLSH52
Site Code : 00000011
Start Date : 7/31/2013
Page No : 1

Groups Printed- VEHICLES

	ROLLIE AVE Southbound			SH-52 (1ST STREET) Westbound			ROLLIE AVE Northbound			SH-52 (1ST STREET) Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	5	3	19	1	52	0	14	4	1	7	55	3	164
06:45 AM	4	2	13	2	43	1	11	1	0	4	54	9	144
Total	9	5	32	3	95	1	25	5	1	11	109	12	308
07:00 AM	1	2	20	4	34	1	15	4	1	5	51	17	155
07:15 AM	2	10	12	3	48	2	19	1	1	2	35	11	146
07:30 AM	1	4	15	6	45	3	23	6	4	6	61	24	198
07:45 AM	2	16	19	2	50	2	32	5	2	11	60	21	222
Total	6	32	66	15	177	8	89	16	8	24	207	73	721
08:00 AM	2	9	12	6	61	2	31	4	3	7	49	34	220
08:15 AM	3	8	10	7	44	1	32	5	1	8	58	14	191
Total	5	17	22	13	105	3	63	9	4	15	107	48	411
04:00 PM	4	12	8	4	59	1	45	19	6	14	64	42	278
04:15 PM	0	15	10	5	60	6	42	17	6	21	76	45	303
04:30 PM	4	15	19	8	34	1	50	19	9	23	69	48	299
04:45 PM	1	19	22	6	66	1	54	23	8	15	67	57	339
Total	9	61	59	23	219	9	191	78	29	73	276	192	1219
05:00 PM	4	18	28	3	65	5	62	24	9	21	80	41	360
05:15 PM	6	18	12	10	47	4	66	22	10	25	71	55	346
05:30 PM	3	12	12	6	56	4	49	12	7	29	53	40	283
05:45 PM	4	26	24	9	65	5	61	21	4	23	55	44	341
Total	17	74	76	28	233	18	238	79	30	98	259	180	1330
Grand Total	46	189	255	82	829	39	606	187	72	221	958	505	3989
Apprch %	9.4	38.6	52.0	8.6	87.3	4.1	70.1	21.6	8.3	13.1	56.9	30.0	
Total %	1.2	4.7	6.4	2.1	20.8	1.0	15.2	4.7	1.8	5.5	24.0	12.7	

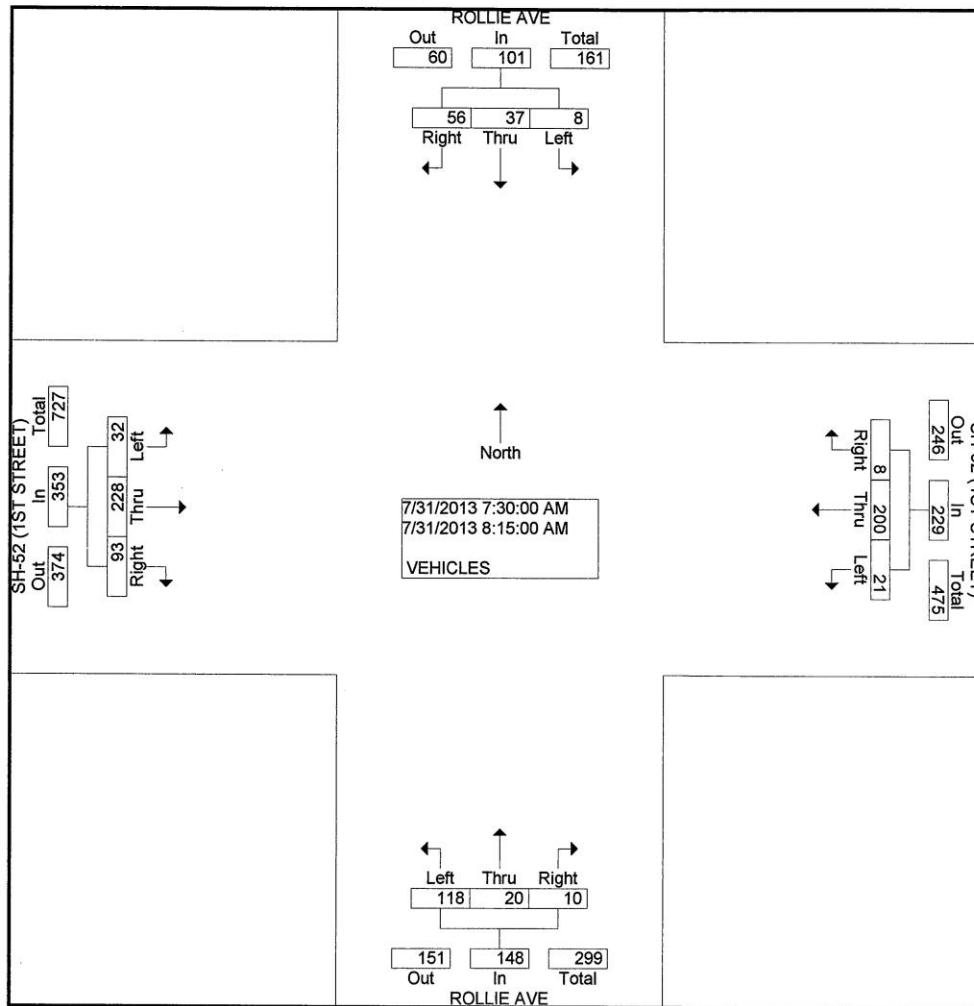
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO 80206
303-333-7409

N/S STREET: ROLLIE AVE
E/W STREET: SH-52 (1ST STREET)
CITY: FORT LUPTON
COUNTY: WELD

File Name : ROLLSH52
Site Code : 00000011
Start Date : 7/31/2013
Page No : 2

	ROLLIE AVE Southbound				SH-52 (1ST STREET) Westbound				ROLLIE AVE Northbound				SH-52 (1ST STREET) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:30 AM - Peak 1 of 1																	
Intersection	07:30 AM																
Volume	8	37	56	101	21	200	8	229	118	20	10	148	32	228	93	353	831
Percent	7.9	36.6	55.4		9.2	87.3	3.5		79.7	13.5	6.8		9.1	64.6	26.3		
07:45																	
Volume	2	16	19	37	2	50	2	54	32	5	2	39	11	60	21	92	222
Peak Factor																	0.936
High Int.	07:45 AM				08:00 AM				07:45 AM				07:45 AM				
Volume	2	16	19	37	6	61	2	69	32	5	2	39	11	60	21	92	
Peak Factor	0.682				0.830				0.949				0.959				



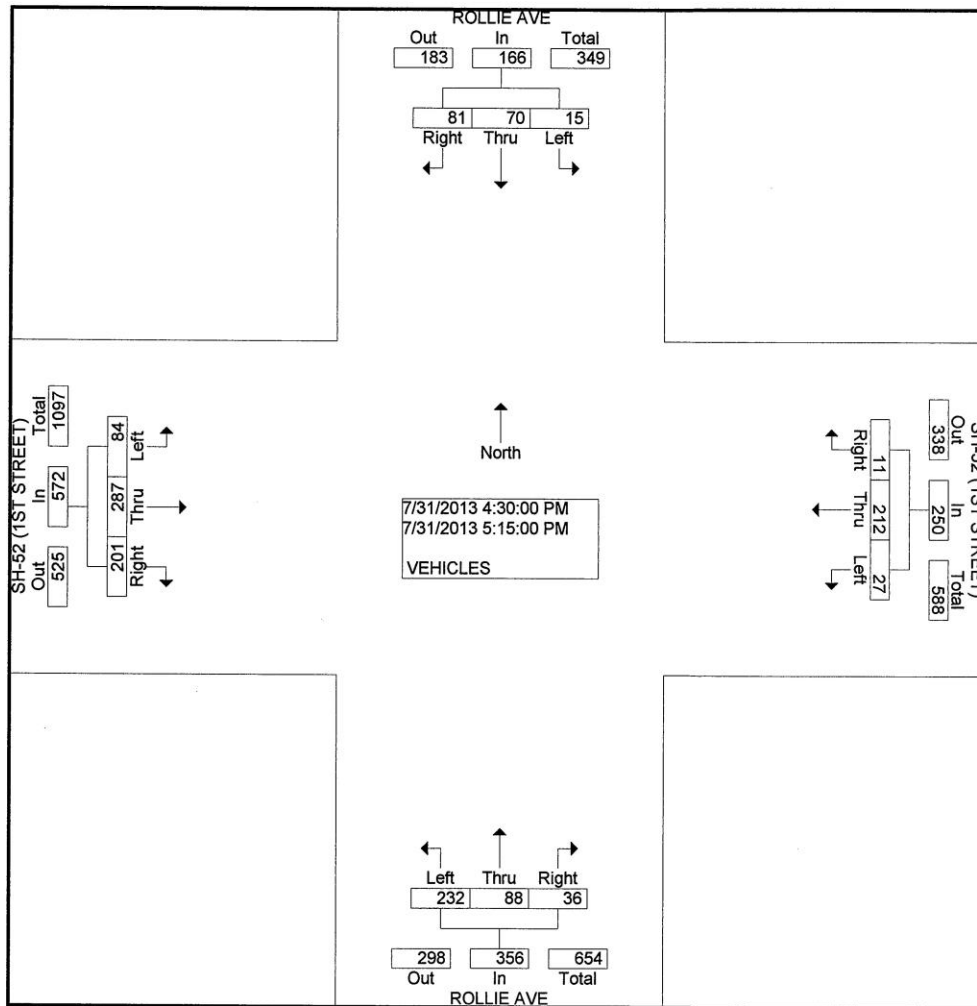
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO 80206
303-333-7409

N/S STREET: ROLLIE AVE
E/W STREET: SH-52 (1ST STREET)
CITY: FORT LUPTON
COUNTY: WELD

File Name : ROLLISH52
Site Code : 00000011
Start Date : 7/31/2013
Page No : 2

	ROLLIE AVE Southbound				SH-52 (1ST STREET) Westbound				ROLLIE AVE Northbound				SH-52 (1ST STREET) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection 04:30 PM																	
Volume	15	70	81	166	27	212	11	250	232	88	36	356	84	287	201	572	1344
Percent	9.0	42.2	48.8		10.8	84.8	4.4		65.2	24.7	10.1		14.7	50.2	35.1		
05:00																	
Volume	4	18	28	50	3	65	5	73	62	24	9	95	21	80	41	142	360
Peak Factor																	0.933
High Int. 05:00 PM					04:45 PM				05:15 PM				05:15 PM				
Volume	4	18	28	50	6	66	1	73	66	22	10	98	25	71	55	151	
Peak Factor				0.830				0.856				0.908				0.947	



October 2013

**APPENDIX "B" EXISTING
LEVEL OF SERVICE
WORKSHEETS**

Lanes and Geometrics
3: Rollie & SH 52

Existing 2013
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	16	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	180		250	210		0	100		0	0		100
Storage Lanes	1		1	1		0	1		0	0		1
Taper Length (ft)	150			220			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike												
Factor Frt			0.850		0.994			0.950				0.850
Flt Protected	0.950			0.950			0.950				0.991	
Satd. Flow (prot)	1770	1863	1583	1770	1852	0	1770	2006	0	0	1846	1583
Flt Permitted	0.577			0.533			0.607				0.969	
Satd. Flow (perm)	1075	1863	1583	993	1852	0	1131	2006	0	0	1805	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			101		3			11				97
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		434			782			308			376	
Travel Time (s)		9.9			17.8			7.0			8.5	
Intersection Summary												

Area Type: Other

HCM 2010 Signalized Intersection Summary

3: Rollie & SH 52

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	32	228	93	21	200	8	118	20	10	8	37	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	190.0	186.3	193.7	190.0	190.0	186.3	186.3
Lanes	1	1	1	1	1	0	1	1	0	0	1	1
Cap, veh/h	257	413	351	234	413	0	840	1156	0	159	648	653
Arrive On Green	0.22	0.22	0.00	0.22	0.22	0.00	0.10	0.60	0.00	0.41	0.41	0.00
Sat Flow, veh/h	1160	1863	1583	1127	1863	0	1774	1937	0	216	1572	1583
Grp Volume(v), veh/h	35	248	0	23	217	0	128	22	0	49	0	0
Grp Sat Flow(s),veh/h/ln	1160	1863	1583	1127	1863	0	1774	1937	0	1788	0	1583
Q Serve(g_s), s	1.7	7.2	0.0	1.1	6.2	0.0	2.1	0.3	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.9	7.2	0.0	8.4	6.2	0.0	2.1	0.3	0.0	1.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	0.18		1.00
Lane Grp Cap(c), veh/h	257	413	351	234	413	0	840	1156	0	807	0	653
V/C Ratio(X)	0.14	0.60	0.00	0.10	0.53	0.00	0.15	0.02	0.00	0.06	0.00	0.00
Avail Cap(c_a), veh/h	745	1198	1018	709	1198	0	951	1156	0	807	0	653
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.3	21.2	0.0	24.9	20.8	0.0	6.8	5.0	0.0	10.8	0.0	0.0
Incr Delay (d2), s/veh	0.2	1.4	0.0	0.2	1.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (95%), veh/ln	0.9	6.1	0.0	0.6	5.2	0.0	1.4	0.2	0.0	0.8	0.0	0.0
Lane Grp Delay (d), s/veh	24.5	22.6	0.0	25.1	21.8	0.0	6.9	5.0	0.0	10.9	0.0	0.0
Lane Grp LOS	C	C		C	C		A	A		B		
Approach Vol, veh/h	283			240			150			49		
Approach Delay, s/veh	22.8			22.1			6.6			10.9		
Approach LOS	C			C			A			B		
Timer												
Assigned Phs	4			8			5			2		

Phs Duration (G+Y+Rc), s	19.5	19.5	11.2	41.2	30.0
Change Period (Y+Rc), s	6.0	6.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	39.0	39.0	10.0	25.0	25.0
Max Q Clear Time (g_c+l1), s	9.9	10.4	4.1	2.3	3.0
Green Ext Time (p_c), s	3.1	3.1	0.1	0.3	0.3

Intersection Summary

HCM 2010 Ctrl Delay 18.4

HCM 2010 LOS B

Notes

HCM 2010 TWSC

3: Rollie & SH 52

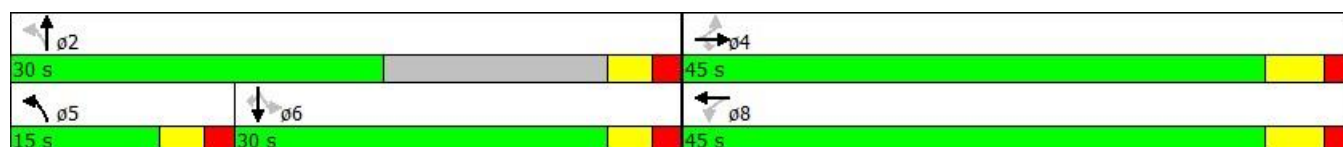
Two Way Analysis cannot be performed on Signalized Intersection.

Timing Report, Sorted By Phase

3: Rollie & SH 52



Phase Number	2	4	5	6	8
Movement	NBTL	EBTL	NBL	SBTL	WBTL
Lead/Lag			Lead	Lag	
Lead-Lag Optimize					
Recall Mode	Max	None	None	Max	None
Maximum Split (s)	30	45	15	30	45
Maximum Split (%)	33.3%	50.0%	16.7%	33.3%	50.0%
Minimum Split (s)	30	28	12	24	25
Yellow Time (s)	3	4	3	3	4
All-Red Time (s)	2	2	2	2	2
Minimum Initial (s)	7	10	7	7	10
Vehicle Extension (s)	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)	0	7		7	7
Flash Dont Walk (s)	0	12		12	12
Dual Entry	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	No	Yes
Start Time (s)	0	45	0	15	45
End Time (s)	45	0	15	45	0
Yield/Force Off (s)	40	84	10	40	84
Yield/Force Off 170(s)	40	72	10	28	72
Local Start Time (s)	75	30	75	0	30
Local Yield (s)	25	69	85	25	69



Existing 2013

AM Peak

Hour

Local Yield 170(s)	25	57	85	13	57
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Intersection Summary

Cycle Length	90
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Control Type	Actuated- Uncoordinated
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Natural Cycle	65
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Splits and Phases: 3: Rollie & SH 52

Lanes and Geometrics

Existing 2013

6: Access & SH 52

AM Peak Hour

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	16
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	185		0	0
Storage Lanes		1	1		0	1
Taper Length (ft)			120		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850			0.865	

Flt Protected 0.950

Satd. Flow (prot)	1863	1583	1770	1863	0	1826
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Flt Permitted 0.950

Satd. Flow (perm)	1863	1583	1770	1863	0	1826
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Link Speed (mph)	30			30	30	
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Link Distance (ft)	782			329	303	
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Travel Time (s)	17.8			7.5	6.9	
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Intersection Summary

Area Type: Other

Intersection

Intersection Delay, s/veh 0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	238	20	20	229	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	0	185	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	259	22	22	249	0	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	259	0	551	259
Stage 1	-	-	-	-	259	-

Stage 2	-	-	-	-	292	-
Follow-up Headway	-	-	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	-	1306	-	495	780
Stage 1	-	-	-	-	784	-
Stage 2	-	-	-	-	758	-
Time blocked-Platoon, %	-	-	-	-	-	-
Mov Capacity-1 Maneuver	-	-	1306	-	487	780
Mov Capacity-2 Maneuver	-	-	-	-	487	-
Stage 1	-	-	-	-	784	-
Stage 2	-	-	-	-	745	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	9.7
HCM LOS			A

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	780	-	-	1306	-
HCM Lane V/C Ratio	0.014	-	-	0.017	-
HCM Control Delay (s)	9.7	-	-	7.803	-
HCM Lane LOS	A			A	
HCM 95th %tile Q(veh)	0.042	-	-	0.051	-

Notes

Existing 2013

PM Peak

Hour

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation

Not Defined

Lanes and Geometrics

Existing 2013

3: Rollie & SH 52

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	16	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	180		200	210		0	100		0	0		100
Storage Lanes	1		1	1		0	1		0	0		1
Taper Length (ft)	150			220			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike												
Factor Frt			0.850		0.993			0.957				0.850
Flt Protected	0.950			0.950			0.950				0.991	
Satd. Flow (prot)	1770	1863	1583	1770	1850	0	1770	2020	0	0	1846	1583
Flt Permitted	0.543			0.420			0.582				0.951	
Satd. Flow (perm)	1011	1863	1583	782	1850	0	1084	2020	0	0	1771	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			218		4			29				97
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		434			782			308			376	
Travel Time (s)		9.9			17.8			7.0			8.5	

Intersection Summary

Area Type: Other

HCM 2010 Signalized Intersection Summary 3: Rollie & SH 52

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	84	287	201	27	212	11	232	88	36	15	70	81
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	190.0	186.3	193.7	190.0	190.0	186.3	186.3
Lanes	1	1	1	1	1	0	1	1	0	0	1	1
Cap, veh/h	293	492	418	233	492	0	767	1101	0	139	601	603
Arrive On Green	0.26	0.26	0.00	0.26	0.26	0.00	0.11	0.57	0.00	0.38	0.38	0.00
Sat Flow, veh/h	1146	1863	1583	1063	1863	0	1774	1937	0	197	1579	1583
Grp Volume(v), veh/h	91	312	0	29	230	0	252	96	0	92	0	0
Grp Sat Flow(s),veh/h/ln	1146	1863	1583	1063	1863	0	1774	1937	0	1776	0	1583
Q Serve(g_s), s	4.8	9.7	0.0	1.6	6.8	0.0	5.2	1.5	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	11.6	9.7	0.0	11.3	6.8	0.0	5.2	1.5	0.0	2.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	0.17		1.00
Lane Grp Cap(c), veh/h	293	492	418	233	492	0	767	1101	0	741	0	603
V/C Ratio(X)	0.31	0.63	0.00	0.12	0.47	0.00	0.33	0.09	0.00	0.12	0.00	0.00
Avail Cap(c_a), veh/h	672	1107	941	584	1107	0	840	1101	0	741	0	603
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	25.1	21.4	0.0	26.4	20.3	0.0	8.9	6.4	0.0	13.2	0.0	0.0
Incr Delay (d2), s/veh	0.6	1.4	0.0	0.2	0.7	0.0	0.2	0.2	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (95%), veh/ln	2.5	8.0	0.0	0.8	5.6	0.0	3.5	1.2	0.0	1.7	0.0	0.0
Lane Grp Delay (d), s/veh	25.7	22.7	0.0	26.6	21.0	0.0	9.1	6.6	0.0	13.6	0.0	0.0
Lane Grp LOS	C	C		C	C		A	A		B		
Approach Vol, veh/h	403			259			348			92		
Approach Delay, s/veh	23.4			21.6			8.4			13.6		
Approach LOS	C			C			A			B		

					Existing 2013
					PM Peak
					Hour
Timer					
Assigned Phs	4	8	5	2	6
Phs Duration (G+Y+Rc), s	23.3	23.3	12.3	42.3	30.0
Change Period (Y+Rc), s	6.0	6.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	39.0	39.0	10.0	25.0	25.0
Max Q Clear Time (g_c+l1), s	13.6	13.3	7.2	3.5	4.1
Green Ext Time (p_c), s	3.8	3.8	0.2	1.0	0.9
Intersection Summary					
HCM 2010 Ctrl Delay	17.4				
HCM 2010 LOS	B				
Notes					

HCM 2010 TWSC

3: Rollie & SH 52

Two Way Analysis cannot be performed on Signalized Intersection.

Timing Report, Sorted By Phase

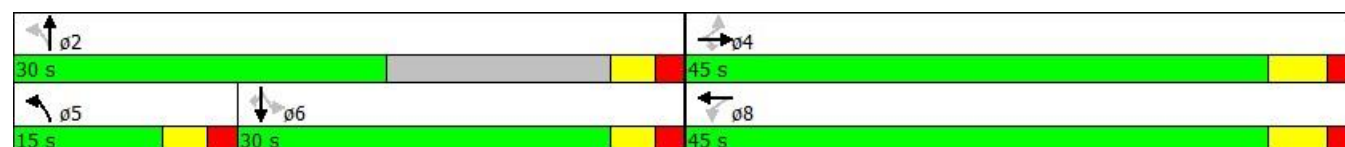
3: Rollie & SH 52



Phase Number	2	4	5	6	8
Movement	NBTL	EBTL	NBL	SBTL	WBTL
Lead/Lag			Lead	Lag	

Lead-Lag Optimize

Recall Mode	Max	None	None	Max	None
Maximum Split (s)	30	45	15	30	45
Maximum Split (%)	33.3%	50.0%	16.7%	33.3%	50.0%
Minimum Split (s)	30	28	12	24	25
Yellow Time (s)	3	4	3	3	4
All-Red Time (s)	2	2	2	2	2
Minimum Initial (s)	7	10	7	7	10
Vehicle Extension (s)	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
(s)					
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)	0	7		7	7
Flash Dont Walk (s)	0	12		12	12
Dual Entry	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	No	Yes
Start Time (s)	0	45	0	15	45
End Time (s)	45	0	15	45	0
Yield/Force Off (s)	40	84	10	40	84
Yield/Force Off 170(s)	40	72	10	28	72



Local Start Time (s)	75	30	75	0	30
Local Yield (s)	25	69	85	25	69
Local Yield 170(s)	25	57	85	13	57

Intersection Summary

Cycle Length 90

Control Type Actuated-
Uncoordinated

Natural Cycle 65

Splits and Phases: 3: Rollie & SH 52

Lanes and Geometrics

Existing 2013

6: Access & SH 52

PM Peak Hour

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	16
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	185		0	0
Storage Lanes		1	1		0	1
Taper Length (ft)			120		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850				0.865

Flt Protected 0.950

Satd. Flow (prot)	1863	1583	1770	1863	0	1826
-------------------	------	------	------	------	---	------

Flt Permitted 0.950

Satd. Flow (perm)	1863	1583	1770	1863	0	1826
-------------------	------	------	------	------	---	------

Link Speed (mph)	30			30	30	
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Link Distance (ft)	782			329	303	
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Travel Time (s)	17.8			7.5	6.9	
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Intersection Summary

Area Type: Other

Intersection

Intersection Delay, s/veh 0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	318	20	20	250	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	0	185	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	346	22	22	272	0	11

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	346	0	661	346
Stage 1	-	-	-	-	346	-
Stage 2	-	-	-	-	315	-
Follow-up Headway	-	-	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	-	1213	-	427	697
Stage 1	-	-	-	-	716	-
Stage 2	-	-	-	-	740	-
Time blocked-Platoon, %	-	-		-		
Mov Capacity-1 Maneuver	-	-	1213	-	419	697

Mov Capacity-2 Maneuver	-	-	-	-	419	-
Stage 1	-	-	-	-	716	-
Stage 2	-	-	-	-	727	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	10.2
HCM LOS	B		

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	697	-	-	1213	-
HCM Lane V/C Ratio	0.016	-	-	0.018	-
HCM Control Delay (s)	10.2	-	-	8.022	-
HCM Lane LOS	B	A			
HCM 95th %tile Q(veh)	0.047	-	-	0.055	-

Notes
~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

October 2013

APPENDIX "C"

2015 BACKGROUND LEVEL OF SERVICE WORKSHEETS

Lanes and Geometrics
3: Rollie & SH 52

Background 2015
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	16	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	180		250	210		0	100		0	0		100

Storage Lanes	1	1	1	0	1	0	0	1		
Taper Length (ft)	150		220		25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Ped Bike Factor F _{rt}		0.850		0.995		0.951		0.850		
Flt Protected	0.950		0.950		0.950		0.991			
Satd. Flow (prot) Flt Permitted	1770 0.539	1863	1583	1770 0.493	1853	0 0.606	1770 2008	0 0	1846 0.969	1583
Satd. Flow (perm) Right Turn on Red	1004	1863	1583 Yes	918	1853	0 Yes	1129 2008	0 Yes	0	1805 1583 Yes
Satd. Flow (RTOR)		105		3		11		97		
Link Speed (mph)	30		30		30		30		30	
Link Distance (ft)	434		782		308		376			
Travel Time (s)	9.9		17.8		7.0		8.5			

Intersection Summary

Area Type: Other

HCM 2010 Signalized Intersection Summary

3: Rollie & SH 52

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	33	248	97	22	218	8	123	21	10	8	38	58
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	190.0	186.3	193.7	190.0	190.0	186.3	186.3
Lanes	1	1	1	1	1	0	1	1	0	0	1	1
Cap, veh/h	258	440	374	234	440	0	824	1136	0	153	638	639
Arrive On Green	0.24	0.24	0.00	0.24	0.24	0.00	0.10	0.59	0.00	0.40	0.40	0.00
Sat Flow, veh/h	1139	1863	1583	1105	1863	0	1774	1937	0	210	1580	1583
Grp Volume(v), veh/h	36	270	0	24	237	0	134	23	0	50	0	0
Grp Sat Flow(s), veh/h/ln	1139	1863	1583	1105	1863	0	1774	1937	0	1790	0	1583
Q Serve(g_s), s	1.8	8.0	0.0	1.2	6.9	0.0	2.3	0.3	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.7	8.0	0.0	9.2	6.9	0.0	2.3	0.3	0.0	1.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	0.18		1.00
Lane Grp Cap(c), veh/h	258	440	374	234	440	0	824	1136	0	791	0	639
V/C Ratio(X)	0.14	0.61	0.00	0.10	0.54	0.00	0.16	0.02	0.00	0.06	0.00	0.00
Avail Cap(c_a), veh/h	707	1173	997	669	1173	0	930	1136	0	791	0	639
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.5	21.1	0.0	25.3	20.7	0.0	7.2	5.4	0.0	11.3	0.0	0.0
Incr Delay (d2), s/veh	0.2	1.4	0.0	0.2	1.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (95%), veh/ln	0.9	6.7	0.0	0.6	5.7	0.0	1.5	0.2	0.0	0.8	0.0	0.0
Lane Grp Delay (d), s/veh	24.7	22.5	0.0	25.5	21.7	0.0	7.3	5.4	0.0	11.5	0.0	0.0
Lane Grp LOS	C	C		C	C		A	A		B		
Approach Vol, veh/h	306			261			157			50		
Approach Delay, s/veh	22.8			22.1			7.0			11.5		
Approach LOS	C			C			A			B		

Timer

Assigned Phs	4	8	5	2	6
Phs Duration (G+Y+Rc), s	20.6	20.6	11.3	41.3	30.0
Change Period (Y+Rc), s	6.0	6.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	39.0	39.0	10.0	25.0	25.0
Max Q Clear Time (g_c+l1), s	10.7	11.2	4.3	2.3	3.0
Green Ext Time (p_c), s	3.4	3.4	0.1	0.3	0.3

Intersection Summary

HCM 2010 Ctrl Delay 18.6

HCM 2010 LOS B

Notes

HCM 2010 TWSC
3: Rollie & SH 52

Background 2015
AM Peak Hour

Two Way Analysis cannot be performed on Signalized Intersection.

Timing Report, Sorted By Phase

3: Rollie & SH 52

AM Peak Hour



 ø2						 ø4
30 s						45 s
 ø5	 ø6				 ø8	
15 s	30 s				45 s	
Phase Number	2	4	5	6	8	
Movement	NBTL	EBTL	NBL	SBTL	WBTL	
Lead/Lag			Lead	Lag		
Lead-Lag Optimize						
Recall Mode	Max	None	None	Max	None	
Maximum Split (s)	30	45	15	30	45	

Maximum Split (%)	33.3%	50.0%	16.7%	33.3%	50.0%
Minimum Split (s)	30	28	12	24	25
Yellow Time (s)	3	4	3	3	4
All-Red Time (s)	2	2	2	2	2
Minimum Initial (s)	7	10	7	7	10
Vehicle Extension (s)	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)	0	7		7	7
Flash Dont Walk (s)	0	12		12	12
Dual Entry	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	No	Yes
Start Time (s)	0	45	0	15	45
End Time (s)	45	0	15	45	0
Yield/Force Off (s)	40	84	10	40	84
Yield/Force Off 170(s)	40	72	10	28	72
Local Start Time (s)	75	30	75	0	30
Local Yield (s)	25	69	85	25	69
Local Yield 170(s)	25	57	85	13	57

Intersection Summary

Cycle Length 90

Control Type Actuated-
Uncoordinated

Natural Cycle 65

Splits and Phases: 3: Rollie & SH 52

Lanes and Geometrics

Background 2015

6: Access & SH 52

AM Peak Hour

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	16
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	185		0	0
Storage Lanes		1	1		0	1

Taper Length (ft)	120			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.850			0.865		
Flt Protected	0.950					
Satd. Flow (prot)	1863	1583	1770	1863	0	1826
Flt Permitted	0.950					
Satd. Flow (perm)	1863	1583	1770	1863	0	1826
Link Speed (mph)	30			30	30	
Link Distance (ft)	782			329	303	
Travel Time (s)	17.8			7.5	6.9	
Intersection Summary						

Intersection

Intersection Delay, s/veh 0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	246	20	20	248	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	0	185	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	267	22	22	270	0	11

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	267	0	580	267
Stage 1	-	-	-	-	267	-
Stage 2	-	-	-	-	313	-
Follow-up Headway	-	-	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	-	1297	-	477	772
Stage 1	-	-	-	-	778	-
Stage 2	-	-	-	-	741	-
Time blocked-Platoon, %	-	-		-		
Mov Capacity-1 Maneuver	-	-	1297	-	469	772

Mov Capacity-2 Maneuver	-	-	-	-	469	-
Stage 1	-	-	-	-	778	-
Stage 2	-	-	-	-	728	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	9.7
HCM LOS			A

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	772	-	-	1297	-
HCM Lane V/C Ratio	0.014	-	-	0.017	-
HCM Control Delay (s)	9.7	-	-	7.823	-
HCM Lane LOS	A			A	
HCM 95th %tile Q(veh)	0.043	-	-	0.051	-

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation
Not Defined

Lanes and Geometrics
3: Rollie & SH 52

Background 2015
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	16	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	180		200	210		0	100		0	0		100
Storage Lanes	1		1	1		0	1		0	0		1
Taper Length (ft)	150			220			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.850		0.993			0.957				0.850
Flt Protected	0.950			0.950			0.950				0.991	
Satd. Flow (prot)	1770	1863	1583	1770	1850	0	1770	2020	0	0	1846	1583
Flt Permitted	0.513			0.389			0.580				0.948	
Satd. Flow (perm)	956	1863	1583	725	1850	0	1080	2020	0	0	1766	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			227		3			29				97
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		434			782			308			376	
Travel Time (s)		9.9			17.8			7.0			8.5	
Intersection Summary												
Area Type:	Other											

HCM 2010 Signalized Intersection Summary
3: Rollie & SH 52

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	87	312	209	28	231	11	241	92	37	16	73	84
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	190.0	186.3	193.7	190.0	190.0	186.3	186.3
Lanes	1	1	1	1	1	0	1	1	0	0	1	1
Cap, veh/h	294	520	442	229	520	0	751	1082	0	137	580	584
Arrive On Green	0.28	0.28	0.00	0.28	0.28	0.00	0.12	0.56	0.00	0.37	0.37	0.00
Sat Flow, veh/h	1124	1863	1583	1037	1863	0	1774	1937	0	202	1571	1583
Grp Volume(v), veh/h	95	339	0	30	251	0	262	100	0	96	0	0
Grp Sat Flow(s),veh/h/ln	1124	1863	1583	1037	1863	0	1774	1937	0	1773	0	1583
Q Serve(g_s), s	5.2	10.9	0.0	1.8	7.6	0.0	5.7	1.6	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.8	10.9	0.0	12.6	7.6	0.0	5.7	1.6	0.0	2.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	0.18		1.00
Lane Grp Cap(c), veh/h	294	520	442	229	520	0	751	1082	0	717	0	584
V/C Ratio(X)	0.32	0.65	0.00	0.13	0.48	0.00	0.35	0.09	0.00	0.13	0.00	0.00
Avail Cap(c_a), veh/h	627	1073	912	537	1073	0	808	1082	0	717	0	584
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	25.7	21.5	0.0	27.1	20.3	0.0	9.6	7.0	0.0	14.2	0.0	0.0
Incr Delay (d2), s/veh	0.6	1.4	0.0	0.3	0.7	0.0	0.3	0.2	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.5	5.0	0.0	0.5	3.4	0.0	2.2	0.7	0.0	1.1	0.0	0.0
Lane Grp Delay (d), s/veh	26.3	22.9	0.0	27.3	21.0	0.0	9.8	7.1	0.0	14.6	0.0	0.0
Lane Grp LOS	C	C		C	C		A	A		B		
Approach Vol, veh/h	434			281			362			96		
Approach Delay, s/veh	23.6			21.7			9.1			14.6		
Approach LOS	C			C			A			B		

Timer					
Assigned Phs	4	8	5	2	6
Phs Duration (G+Y+Rc), s	24.9	24.9	12.8	42.8	30.0
Change Period (Y+Rc), s	6.0	6.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	39.0	39.0	10.0	25.0	25.0
Max Q Clear Time (g_c+I1), s	14.8	14.6	7.7	3.6	4.3
Green Ext Time (p_c), s	4.1	4.1	0.2	1.0	1.0

Intersection Summary

HCM 2010 Ctrl Delay 17.9

HCM 2010 LOS B

Notes

HCM 2010 TWSC
3: Rollie & SH 52

Two Way Analysis cannot be performed on Signalized Intersection.

Timing Report, Sorted By Phase

3: Rollie & SH 52



 ø2						 ø4
30 s						45 s
 ø5	 ø6				 ø8	
15 s	30 s				45 s	
Phase Number	2	4	5	6	8	
Movement	NBTL	EBTL	NBL	SBTL	WBTL	
Lead/Lag			Lead	Lag		
Lead-Lag Optimize						
Recall Mode	Max	None	None	Max	None	
Maximum Split (s)	30	45	15	30	45	

Maximum Split (%)	33.3%	50.0%	16.7%	33.3%	50.0%
Minimum Split (s)	30	28	12	24	25
Yellow Time (s)	3	4	3	3	4
All-Red Time (s)	2	2	2	2	2
Minimum Initial (s)	7	10	7	7	10
Vehicle Extension (s)	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)	0	7		7	7
Flash Dont Walk (s)	0	12		12	12
Dual Entry	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	No	Yes
Start Time (s)	0	45	0	15	45
End Time (s)	45	0	15	45	0
Yield/Force Off (s)	40	84	10	40	84
Yield/Force Off 170(s)	40	72	10	28	72
Local Start Time (s)	75	30	75	0	30
Local Yield (s)	25	69	85	25	69
Local Yield 170(s)	25	57	85	13	57

Intersection Summary

Cycle Length 90

Control Type Actuated-
Uncoordinated

Natural Cycle 65

Splits and Phases: 3: Rollie & SH 52

Lanes and Geometrics
6: Access & SH 52

Background 2015
PM Peak Hour

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	16
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	185		0	0
Storage Lanes		1	1		0	1
Taper Length (ft)			120		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850				0.865
Flt Protected			0.950			
Satd. Flow (prot)	1863	1583	1770	1863	0	1826
Flt Permitted			0.950			
Satd. Flow (perm)	1863	1583	1770	1863	0	1826
Link Speed (mph)	30			30	30	
Link Distance (ft)	782			329	303	
Travel Time (s)	17.8			7.5	6.9	
Intersection Summary						
Area Type:	Other					

Intersection

Intersection Delay, s/veh 0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	345	20	20	250	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	0	185	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	375	22	22	272	0	11

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	375	0	690	375
Stage 1	-	-	-	-	375	-
Stage 2	-	-	-	-	315	-
Follow-up Headway	-	-	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	-	1183	-	411	671
Stage 1	-	-	-	-	695	-
Stage 2	-	-	-	-	740	-
Time blocked-Platoon, %	-	-		-		
Mov Capacity-1 Maneuver	-	-	1183	-	403	671
Mov Capacity-2 Maneuver	-	-	-	-	403	-
Stage 1	-	-	-	-	695	-
Stage 2	-	-	-	-	726	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	10.5
HCM LOS	B		

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	671	-	-	1183	-
HCM Lane V/C Ratio	0.016	-	-	0.018	-
HCM Control Delay (s)	10.5	-	-	8.1	-
HCM Lane LOS	B	A			
HCM 95th %tile Q(veh)	0.049	-	-	0.056	-

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation
Not Defined

October 2013

APPENDIX "D" PHASE 1

2015 TOTAL LEVEL OF SERVICE WORKSHEETS

Lanes and Geometrics

3: Rollie & SH 52

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	16	12	12	12
Grade (%)		0%				0%			0%			0%
Storage Length (ft)	180		200		210		0	100		0	0	
Storage Lanes	1		1		1		0	1		0	0	
Taper Length (ft)	150				220			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.850			0.994			0.946				
Flt Protected	0.950				0.950			0.950				0.990
Satd. Flow (prot)	1770	1863	1583	0	1770	1852	0	1770	1997	0	0	1844
Flt Permitted	0.515				0.461			0.605				0.962
Satd. Flow (perm)	959	1863	1583	0	859	1852	0	1127	1997	0	0	1792
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)		105			3			13				
Link Speed (mph)		30			30			30				30
Link Distance (ft)		425			782			308				376
Travel Time (s)		9.7			17.8			7.0				8.5

Intersection Summary

Area Type: Other

Lane Group SBR

Lane Configurations

Ideal Flow (vphpl) 1900

Lane Width (ft)	12
Grade (%)	
Storage Length (ft)	100
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1583
Right Turn on Red	Yes
Satd. Flow (RTOR)	97
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	

Intersection Summary

HCM 2010 Signalized Intersection Summary 3: Rollie & SH 52

												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (veh/h)	33	266	97	7	23	230	9	123	21	12	10	38
Number	7	4	14		3	8	18	5	2	12	1	6
Initial Q (Qb), veh	0	0	0		0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00		1.00		1.00	1.00		1.00	1.00	

Total 2015
AM Peak Hour

Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	190.0	186.3	193.7	190.0	190.0	186.3
Lanes	1	1	1	1	1	0	1	1	0	0	1
Cap, veh/h	262	462	393	234	462	0	810	1118	0	174	599
Arrive On Green	0.25	0.25	0.00	0.25	0.25	0.00	0.10	0.58	0.00	0.40	0.40
Sat Flow, veh/h	1125	1863	1583	1086	1863	0	1774	1937	0	263	1508
Grp Volume(v), veh/h	36	289	0	25	250	0	134	23	0	52	0
Grp Sat Flow(s),veh/h/ln	1125	1863	1583	1086	1863	0	1774	1937	0	1771	0
Q Serve(g_s), s	1.8	8.7	0.0	1.3	7.3	0.0	2.4	0.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.1	8.7	0.0	10.0	7.3	0.0	2.4	0.3	0.0	1.1	0.0
Prop In Lane	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.21			
Lane Grp Cap(c), veh/h	262	462	393	234	462	0	810	1118	0	773	0
V/C Ratio(X)	0.14	0.63	0.00	0.11	0.54	0.00	0.17	0.02	0.00	0.07	0.00
Avail Cap(c_a), veh/h	681	1154	981	637	1154	0	913	1118	0	773	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	24.5	21.1	0.0	25.5	20.6	0.0	7.6	5.7	0.0	11.8	0.0
Incr Delay (d2), s/veh	0.2	1.4	0.0	0.2	1.0	0.0	0.1	0.0	0.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (95%), veh/ln	0.9	7.3	0.0	0.7	6.1	0.0	1.6	0.2	0.0	0.9	0.0
Lane Grp Delay (d), s/veh	24.8	22.5	0.0	25.7	21.5	0.0	7.7	5.7	0.0	11.9	0.0
Lane Grp LOS	C	C		C	C		A	A		B	
Approach Vol, veh/h	325			275			157				52
Approach Delay, s/veh	22.7			21.9			7.4				11.9
Approach LOS	C			C			A				B

Timer					
Assigned Phs	4	8	5	2	6
Phs Duration (G+Y+Rc), s	21.6	21.6	11.3	41.3	30.0
Change Period (Y+Rc), s	6.0	6.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	39.0	39.0	10.0	25.0	25.0
Max Q Clear Time (g_c+I1), s	11.1	12.0	4.4	2.3	3.1
Green Ext Time (p_c), s	3.6	3.6	0.1	0.3	0.3

Intersection Summary

HCM 2010 Ctrl Delay 18.8

HCM 2010 LOS B

Notes

HCM 2010 Signalized Intersection Summary 3: Rollie & SH 52

Movement	SBR
Lane Configurations	↑
Volume (veh/h)	58
Number	16
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus Adj	1.00
Adj Sat Flow veh/h/ln	186.3
Lanes	1
Cap, veh/h	629
Arrive On Green	0.00
Sat Flow, veh/h	1583
Grp Volume(v), veh/h	0
Grp Sat Flow(s),veh/h/ln	1583
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	629
V/C Ratio(X)	0.00

Avail Cap(c_a), veh/h	629
HCM Platoon Ratio	1.00
Upstream Filter(I)	0.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.0
Initial Q Delay(d3),s/veh	0.0
%ile Back of Q (95%), veh/ln	0.0
Lane Grp Delay (d), s/veh	0.0
Lane Grp LOS	

Approach Vol, veh/h

Approach Delay, s/veh

Approach LOS

Timer

Assigned Phs

Phs Duration (G+Y+Rc),
s

Change Period (Y+Rc),
s

Max Green Setting
(Gmax), s

Max Q Clear Time
(g_c+l1), s

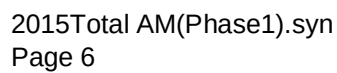
Green Ext Time (p_c), s

Intersection Summary

HCM 2010 TWSC

3: Rollie & SH 52

Two Way Analysis cannot be performed on Signalized
Intersection.



Minimum Split (s)	30	28	12	24	25
Yellow Time (s)	3	4	3	3	4
All-Red Time (s)	2	2	2	2	2
Minimum Initial (s)	7	10	7	7	10
Vehicle Extension (s)	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)	0	7		7	7
Flash Dont Walk (s)	0	12		12	12
Dual Entry	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	No	Yes
Start Time (s)	0	45	0	15	45
End Time (s)	45	0	15	45	0
Yield/Force Off (s)	40	84	10	40	84
Yield/Force Off 170(s)	40	72	10	28	72
Local Start Time (s)	75	30	75	0	30
Local Yield (s)	25	69	85	25	69
Local Yield 170(s)	25	57	85	13	57

Intersection Summary

Cycle Length 90

Control Type Actuated-
Uncoordinated

Natural Cycle 65

Splits and Phases: 3: Rollie & SH 52

Lanes and Geometrics

Total 2015

6: Existing/New 3/4 & SH 52

AM Peak
Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%				0%				0%		0%	
Storage Length (ft)	273		0	100		0	0		0	0		0
Storage Lanes	1		1	1		0	0		1	0		1
Taper Length (ft)	162			180			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor Frt			0.850		0.995				0.865			0.865
Flt Protected	0.950			0.950								
Satd. Flow (prot)	1770	1863	1583	1770	1853	0	0	0	1611	0	0	1611
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	1770	1863	1583	1770	1853	0	0	0	1611	0	0	1611
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		782			429			313			266	
Travel Time (s)		17.8			9.8			7.1			6.0	

Intersection Summary

Area Type: Other

Intersection

Intersection Delay, s/veh 0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	21	254	20	20	248	9	0	0	10	0	0	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Yield	Yield	Yield	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	Yield	-	-	Stop	-	-	Stop
Storage Length	273	-	0	100	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	276	22	22	270	10	0	0	11	0	0	23

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	270	0	0	276	0	0	635	635	270
Stage 1	-	-	-	-	-	-	313	313	-
Stage 2	-	-	-	-	-	-	322	322	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318
Pot Capacity-1 Maneuver	1293	-	-	1287	-	-	391	396	769
Stage 1	-	-	-	-	-	-	698	657	-
Stage 2	-	-	-	-	-	-	690	651	-
Time blocked-Platoon, %	-	-	-	-	-	-	-	-	-
Mov Capacity-1 Maneuver	1293	-	-	1287	-	-	381	382	769

Total 2015

PM Peak Hour

Mov Capacity-2 Maneuver	-	-	-	-	-	-	381	382	-
Stage 1	-	-	-	-	-	-	686	646	-
Stage 2	-	-	-	-	-	-	678	639	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0.6	9.8
HCM LOS			A

Minor Lane / Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1293	-	-	1287	-	-	769
HCM Lane V/C Ratio	0.018	-	-	0.017	-	-	0.03
HCM Control Delay (s)	7.834	-	-	7.845	-	-	9.8
HCM Lane LOS	A			A			A
HCM 95th %tile Q(veh)	0.054	-	-	0.052	-	-	0.092

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Lanes and Geometrics

3: Rollie & SH 52

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	16	12	12	12
Grade (%)		0%				0%			0%			0%
Storage Length (ft)	180		200		210		0	100		0	0	
Storage Lanes	1		1		1		0	1		0	0	

Lane Util. Factor
 2019 Total Fm (Phase 1) 1.00/2019 Total Fm (Phase 1) 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Page 12
 Incline Associates

Frt	0.850	0.992	0.956
-----	-------	-------	-------

Satd. Flow (perm)	933	1863	1583	0	682	1848	0	1080	2018	0	0	1758
2015 Total PM (Phase 1)	8,120	2015	2015	Total PM (Phase 1)						Synch	8 Light Report	
Page 18										Incline Associates		

Link Speed (mph)	30	30	30	30
Link Distance (ft)	425	782	308	376
Travel Time (s)	9.7	17.8	7.0	8.5

Intersection Summary

Area Type: Other

Lane Group SBR

Lane Configurations

Ideal Flow (vphpl) 1900

Lane Width (ft) 12

Grade (%)

Storage Length (ft) 100

Storage Lanes 1

Taper Length (ft)

Lane Util. Factor 1.00

Ped Bike Factor

Frt 0.850

Flt Protected

Satd. Flow (prot) 1583

Flt Permitted

Satd. Flow (perm) 1583

Right Turn on Red Yes

Satd. Flow (RTOR) 97

Link Speed (mph)

Link Distance (ft)

Travel Time (s)

Intersection Summary

HCM 2010 Signalized Intersection Summary
3: Rollie & SH 52

												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (veh/h)	87	330	209	8	28	238	13	241	92	39	17	73
Number	7	4	14		3	8	18	5	2	12	1	6
Initial Q (Qb), veh	0	0	0		0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00		1.00		1.00	1.00		1.00	1.00	
Parking Bus Adj	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3		186.3	186.3	190.0	186.3	193.7	190.0	190.0	186.3
Lanes	1	1	1		1	1	0	1	1	0	0	1
Cap, veh/h	298	536	456		225	536	0	742	1070	0	140	564
Arrive On Green	0.29	0.29	0.00		0.29	0.29	0.00	0.12	0.55	0.00	0.36	0.36
Sat Flow, veh/h	1116	1863	1583		1018	1863	0	1774	1937	0	216	1551
Grp Volume(v), veh/h	95	359	0		30	259	0	262	100	0	97	0
Grp Sat Flow(s),veh/h/ln	1116	1863	1583		1018	1863	0	1774	1937	0	1767	0
Q Serve(g_s), s	5.3	11.7	0.0		1.8	7.9	0.0	5.9	1.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.2	11.7	0.0		13.5	7.9	0.0	5.9	1.7	0.0	2.4	0.0
Prop In Lane	1.00		1.00		1.00		0.00	1.00		0.00	0.19	
Lane Grp Cap(c), veh/h	298	536	456		225	536	0	742	1070	0	704	0
V/C Ratio(X)	0.32	0.67	0.00		0.13	0.48	0.00	0.35	0.09	0.00	0.14	0.00
Avail Cap(c_a), veh/h	609	1056	898		509	1056	0	794	1070	0	704	0
HCM Platoon Ratio	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00		1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	25.7	21.6	0.0		27.6	20.3	0.0	9.9	7.3	0.0	14.7	0.0

Total 2015
PM Peak Hour

Incr Delay (d2), s/veh	0.6	1.5	0.0	0.3	0.7	0.0	0.3	0.2	0.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (95%), veh/ln	2.7	9.2	0.0	0.9	6.4	0.0	4.0	1.3	0.0	2.0	0.0
Lane Grp Delay (d), s/veh	26.3	23.1	0.0	27.8	20.9	0.0	10.2	7.4	0.0	15.1	0.0
Lane Grp LOS	C	C		C	C		B	A		B	

Approach Vol, veh/h	454			289			362			97	
Approach Delay, s/veh	23.7			21.6			9.4			15.1	
Approach LOS	C			C			A			B	

Timer											
Assigned Phs	4			8			5	2		6	
Phs Duration (G+Y+Rc), s	25.8			25.8			13.0	43.0		30.0	
Change Period (Y+Rc), s	6.0			6.0			5.0	5.0		5.0	
Max Green Setting (Gmax), s	39.0			39.0			10.0	25.0		25.0	
Max Q Clear Time (g_c+l1), s	15.2			15.5			7.9	3.7		4.4	
Green Ext Time (p_c), s	4.3			4.3			0.2	1.0		1.0	

Intersection Summary											
HCM 2010 Ctrl Delay	18.2										
HCM 2010 LOS	B										

Notes

HCM 2010 Signalized Intersection Summary
3: Rollie & SH 52

											
Movement	SBR										
Lane Configurations											

Volume (veh/h)	84
Number	16
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus Adj	1.00
Adj Sat Flow veh/h/ln	186.3
Lanes	1
Cap, veh/h	575
Arrive On Green	0.00
Sat Flow, veh/h	1583
Grp Volume(v), veh/h	0
Grp Sat Flow(s),veh/h/ln	1583
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	575
V/C Ratio(X)	0.00
Avail Cap(c_a), veh/h	575
HCM Platoon Ratio	1.00
Upstream Filter(l)	0.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.0
Initial Q Delay(d3),s/veh	0.0
%ile Back of Q (95%), veh/ln	0.0
Lane Grp Delay (d), s/veh	0.0
Lane Grp LOS	
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer	
Assigned Phs	
Phs Duration (G+Y+Rc), s	
Change Period (Y+Rc), s	

Max Green Setting

(Gmax), s

Max Q Clear Time

(g_c+I1), s

Green Ext Time (p_c), s

Intersection Summary

HCM 2010 TWSC

3: Rollie & SH 52

Two Way Analysis cannot be performed on Signalized
Intersection.

Timing Report, Sorted By Phase

3: Rollie & SH 52



 ø2						 ø4
30 s						45 s
 ø5	 ø6					 ø8
15 s	30 s					45 s
Phase Number	2	4	5	6	8	
Movement	NBTL	EBTL	NBL	SBTL	WBTL	
Lead/Lag			Lead	Lag		
Lead-Lag Optimize						
Recall Mode	Max	None	None	Max	None	
Maximum Split (s)	30	45	15	30	45	

Maximum Split (%)	33.3%	50.0%	16.7%	33.3%	50.0%
Minimum Split (s)	30	28	12	24	25
Yellow Time (s)	3	4	3	3	4
All-Red Time (s)	2	2	2	2	2
Minimum Initial (s)	7	10	7	7	10
Vehicle Extension (s)	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)	0	7		7	7
Flash Dont Walk (s)	0	12		12	12
Dual Entry	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	No	Yes
Start Time (s)	0	45	0	15	45
End Time (s)	45	0	15	45	0
Yield/Force Off (s)	40	84	10	40	84
Yield/Force Off 170(s)	40	72	10	28	72
Local Start Time (s)	75	30	75	0	30
Local Yield (s)	25	69	85	25	69
Local Yield 170(s)	25	57	85	13	57

Intersection Summary

Cycle Length 90

Control Type Actuated-
Uncoordinated

Natural Cycle 65

Splits and Phases: 3: Rollie & SH 52

Lanes and Geometrics

Total 2015

6: Existing/ New 3/4 & SH 52

PM Peak
Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	273		0	100		0	0		0	0		0
Storage Lanes	1		1	1		0	0		1	0		1
Taper Length (ft)	162			180			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor F _{rt}			0.850		0.995				0.865			0.865
Flt Protected	0.950			0.950								
Satd. Flow (prot)	1770	1863	1583	1770	1853	0	0	0	1611	0	0	1611
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	1770	1863	1583	1770	1853	0	0	0	1611	0	0	1611
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		782			429			313			266	
Travel Time (s)		17.8			9.8			7.1			6.0	

Intersection Summary

Area Type: Other

HCM 2010 TWSC

Total 2015

2015 Total PM (Phase 1) 8/13/2013 2015 Total PM (Phase 1)
Page 9

Synchro 8 Light Report
Incline Associates

Intersection

Intersection Delay,
s/veh

1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	20	346	20	20	260	9	0	0	10	0	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	Free	-	-	Stop	-	-	Stop
Storage Length	273	-	0	100	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	376	22	22	283	10	0	0	11	0	0	29

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	283	0	0	376	0	0	746	746	376	746	746	283
Stage 1	-	-	-	-	-	-	420	420	-	326	326	-
Stage 2	-	-	-	-	-	-	326	326	-	420	420	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Capacity-1 Maneuver	1279	-	-	1182	-	-	330	342	670	330	342	756
Stage 1	-	-	-	-	-	-	611	589	-	687	648	-
Stage 2	-	-	-	-	-	-	687	648	-	611	589	-
Time blocked- Platoon, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Capacity-1 Maneuver	1279	-	-	1182	-	-	309	330	670	316	330	756
Mov Capacity-2 Maneuver	-	-	-	-	-	-	309	330	-	316	330	-
Stage 1	-	-	-	-	-	-	600	579	-	675	636	-
Stage 2	-	-	-	-	-	-	648	636	-	591	579	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.6	10.5	10
HCM LOS			B	B

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	670	1279	-	-	1182	-	-	756
HCM Lane V/C Ratio	0.016	0.017	-	-	0.018	-	-	0.039
HCM Control Delay (s)	10.5	7.863	-	-	8.103	-	-	10
HCM Lane LOS	B	A			A			B
HCM 95th %tile Q(veh)	0.049	0.052	-	-	0.056	-	-	0.121

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

October 2013

APPENDIX "E"

2033 BACKGROUND LEVEL OF SERVICE WORKSHEETS

Lanes and Geometrics

3: Rollie & SH 52

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	16	12	12	12	12
Grade (%)	0%				0%			0%			0%	
Storage Length (ft)	180		250	210		0	100		0	0		100
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	150			220			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike												
Factor Frt		0.970			0.996			0.951				0.850
Flt Protected	0.950			0.950			0.950				0.991	
Satd. Flow (prot)	1770	3433	0	1770	3525	0	1770	2008	0	0	1846	1583
Flt Permitted	0.373			0.224			0.592				0.963	
Satd. Flow (perm)	695	3433	0	417	3525	0	1103	2008	0	0	1794	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			3			16				97
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		434			782			308			376	
Travel Time (s)		9.9			17.8			7.0			8.5	
Intersection Summary												

Area Type: Other

HCM 2010 Signalized Intersection Summary

3: Rollie & SH 52

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	49	566	141	32	496	12	179	30	15	12	56	85
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	193.7	190.0	190.0	186.3	186.3
Lanes	1	2	0	1	2	0	1	1	0	0	1	1
Cap, veh/h	285	1217	0	257	1217	0	706	1005	0	131	558	557
Arrive On Green	0.33	0.33	0.00	0.33	0.33	0.00	0.10	0.52	0.00	0.35	0.35	0.00
Sat Flow, veh/h	863	3725	0	804	3725	0	1774	1937	0	203	1587	1583
Grp Volume(v), veh/h	53	615	0	35	539	0	195	33	0	74	0	0
Grp Sat Flow(s), veh/h/ln	863	1863	0	804	1863	0	1774	1937	0	1790	0	1583
Q Serve(g_s), s	3.7	9.5	0.0	2.6	8.1	0.0	4.6	0.6	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	11.8	9.5	0.0	12.1	8.1	0.0	4.6	0.6	0.0	1.9	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	0.18		1.00
Lane Grp Cap(c), veh/h	285	1217	0	257	1217	0	706	1005	0	689	0	557
V/C Ratio(X)	0.19	0.51	0.00	0.14	0.44	0.00	0.28	0.03	0.00	0.11	0.00	0.00
Avail Cap(c_a), veh/h	477	2044	0	436	2044	0	785	1005	0	689	0	557
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	23.5	19.3	0.0	24.2	18.8	0.0	11.1	8.4	0.0	15.5	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.3	0.0	0.2	0.3	0.0	0.2	0.1	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (95%), veh/ln	1.4	7.6	0.0	1.0	6.4	0.0	3.3	0.5	0.0	1.6	0.0	0.0
Lane Grp Delay (d), s/veh	23.8	19.6	0.0	24.4	19.1	0.0	11.3	8.4	0.0	15.9	0.0	0.0
Lane Grp LOS	C	B		C	B		B	A		B		
Approach Vol, veh/h	668			574			228			74		
Approach Delay, s/veh	19.9			19.4			10.9			15.9		
Approach LOS	B			B			B			B		

Timer					
Assigned Phs	4	8	5	2	6
Phs Duration (G+Y+Rc), s	29.2	29.2	11.9	41.9	30.0
Change Period (Y+Rc), s	6.0	6.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	39.0	39.0	10.0	25.0	25.0
Max Q Clear Time (g_c+I1), s	13.8	14.1	6.6	2.6	3.9
Green Ext Time (p_c), s	9.2	9.1	0.2	0.5	0.5
Intersection Summary					
HCM 2010 Ctrl Delay	18.2				
HCM 2010 LOS	B				

Notes

HCM 2010 TWSC
3: Rollie & SH 52

Two Way Analysis cannot be performed on Signalized Intersection.

Timing Report, Sorted By Phase

3: Rollie & SH 52



 ø2						 ø4
30 s						45 s
 ø5	 ø6					 ø8
15 s	30 s					45 s
Phase Number	2	4	5	6	8	
Movement	NBTL	EBTL	NBL	SBTL	WBTL	
Lead/Lag			Lead	Lag		
Lead-Lag Optimize						
Recall Mode	Max	None	None	Max	None	
Maximum Split (s)	30	45	15	30	45	

Maximum Split (%)	33.3%	50.0%	16.7%	33.3%	50.0%
Minimum Split (s)	30	28	12	24	24
Yellow Time (s)	3	4	3	3	4
All-Red Time (s)	2	2	2	2	2
Minimum Initial (s)	7	10	7	7	10
Vehicle Extension (s)	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)	0	7		7	7
Flash Dont Walk (s)	0	12		12	12
Dual Entry	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	No	Yes
Start Time (s)	0	45	0	15	45
End Time (s)	45	0	15	45	0
Yield/Force Off (s)	40	84	10	40	84
Yield/Force Off 170(s)	40	72	10	28	72
Local Start Time (s)	75	30	75	0	30
Local Yield (s)	25	69	85	25	69
Local Yield 170(s)	25	57	85	13	57

Intersection Summary

Cycle Length 90

Control Type Actuated-Uncoordinated

Natural Cycle 65

Splits and Phases: 3: Rollie & SH 52

Lanes and Geometrics

6: Access & SH 52



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑		↵
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	16
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	185		0	0
Storage Lanes		0	1		0	1

Taper Length (ft)	120			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.995			0.865		
Flt Protected	0.950					
Satd. Flow (prot)	3522	0	1770	3539	0	1826
Flt Permitted	0.950					
Satd. Flow (perm)	3522	0	1770	3539	0	1826
Link Speed (mph)	30			30	30	
Link Distance (ft)	782			329	303	
Travel Time (s)	17.8			7.5	6.9	

Intersection Summary

Area Type: Other

HCM 2010 TWSC 6: Access & SH 52

Intersection

Intersection Delay, s/veh 0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	573	20	20	540	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	Stop
Storage Length	-	-	185	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	623	22	22	587	0	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	623	0	960	311
Stage 1	-	-	-	-	623	-
Stage 2	-	-	-	-	337	-
Follow-up Headway	-	-	2.22	-	3.52	3.32
Pot Capacity-1 Maneuver	-	-	954	-	254	685
Stage 1	-	-	-	-	497	-
Stage 2	-	-	-	-	695	-
Time blocked-Platoon, %	-	-	-	-	-	-
Mov Capacity-1 Maneuver	-	-	954	-	248	685

Mov Capacity-2 Maneuver	-	-	-	-	248	-
Stage 1	-	-	-	-	497	-
Stage 2	-	-	-	-	679	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	10.3
HCM LOS	B		

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	685	-	-	954	-
HCM Lane V/C Ratio	0.016	-	-	0.023	-
HCM Control Delay (s)	10.3	-	-	8.862	-
HCM Lane LOS	B			A	
HCM 95th %tile Q(veh)	0.048	-	-	0.07	-

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation
Not Defined

Lanes and Geometrics

3: Rollie & SH 52

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	16	12	12	12	12
Grade (%)	0%				0%			0%			0%	
Storage Length (ft)	180		200	210		0	100		0	0		100
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	150			220			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike												
Factor Frt		0.955			0.995			0.956				0.850
Flt Protected	0.950			0.950			0.950				0.991	
Satd. Flow (prot)	1770	3380	0	1770	3522	0	1770	2018	0	0	1846	1583
Flt Permitted	0.370			0.118			0.556				0.926	
Satd. Flow (perm)	689	3380	0	220	3522	0	1036	2018	0	0	1725	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		94			4			30				134
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		434			782			308			376	
Travel Time (s)		9.9			17.8			7.0			8.5	
Intersection Summary												

Area Type: Other

HCM 2010 Signalized Intersection Summary

3: Rollie & SH 52

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	127	712	305	41	526	17	352	133	55	23	106	123
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	193.7	190.0	190.0	186.3	186.3
Lanes	1	2	0	1	2	0	1	1	0	0	1	1
Cap, veh/h	316	1435	0	242	1435	0	612	934	0	112	470	477
Arrive On Green	0.39	0.39	0.00	0.39	0.39	0.00	0.12	0.48	0.00	0.30	0.30	0.00
Sat Flow, veh/h	837	3725	0	694	3725	0	1774	1937	0	202	1558	1583
Grp Volume(v), veh/h	138	774	0	45	572	0	383	145	0	140	0	0
Grp Sat Flow(s), veh/h/ln	837	1863	0	694	1863	0	1774	1937	0	1761	0	1583
Q Serve(g_s), s	11.9	13.4	0.0	4.5	9.3	0.0	10.0	3.5	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	21.1	13.4	0.0	17.8	9.3	0.0	10.0	3.5	0.0	4.7	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	0.18		1.00
Lane Grp Cap(c), veh/h	316	1435	0	242	1435	0	612	934	0	582	0	477
V/C Ratio(X)	0.44	0.54	0.00	0.19	0.40	0.00	0.63	0.16	0.00	0.24	0.00	0.00
Avail Cap(c_a), veh/h	387	1751	0	301	1751	0	612	934	0	582	0	477
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.2	19.8	0.0	26.7	18.5	0.0	17.8	12.0	0.0	21.9	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.3	0.0	0.4	0.2	0.0	2.0	0.4	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (95%), veh/ln	4.6	10.0	0.0	1.4	7.4	0.0	3.2	2.9	0.0	4.1	0.0	0.0
Lane Grp Delay (d), s/veh	27.2	20.1	0.0	27.1	18.7	0.0	19.8	12.4	0.0	22.9	0.0	0.0
Lane Grp LOS	C	C		C	B		B	B		C		
Approach Vol, veh/h	912			617			528			140		
Approach Delay, s/veh	21.2			19.3			17.8			22.9		
Approach LOS	C			B			B			C		

Timer					
Assigned Phs	4	8	5	2	6
Phs Duration (G+Y+Rc), s	38.0	38.0	15.0	45.0	30.0
Change Period (Y+Rc), s	6.0	6.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	39.0	39.0	10.0	25.0	25.0
Max Q Clear Time (g_c+I1), s	23.1	19.8	12.0	5.5	6.7
Green Ext Time (p_c), s	8.8	9.9	0.0	1.5	1.5

Intersection Summary

HCM 2010 Ctrl Delay 19.9

HCM 2010 LOS B

Notes

HCM 2010 TWSC
3: Rollie & SH 52

Two Way Analysis cannot be performed on Signalized Intersection.

Timing Report, Sorted By Phase

3: Rollie & SH 52



 ø2						 ø4
30 s						45 s
 ø5	 ø6					 ø8
15 s	30 s					45 s
Phase Number	2	4	5	6	8	
Movement	NBTL	EBTL	NBL	SBTL	WBTL	
Lead/Lag			Lead	Lag		
Lead-Lag Optimize						
Recall Mode	Max	None	None	Max	None	
Maximum Split (s)	30	45	15	30	45	

Maximum Split (%)	33.3%	50.0%	16.7%	33.3%	50.0%
Minimum Split (s)	30	28	12	24	24
Yellow Time (s)	3	4	3	3	4
All-Red Time (s)	2	2	2	2	2
Minimum Initial (s)	7	10	7	7	10
Vehicle Extension (s)	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)	0	7		7	7
Flash Dont Walk (s)	0	12		12	12
Dual Entry	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	No	Yes
Start Time (s)	0	45	0	15	45
End Time (s)	45	0	15	45	0
Yield/Force Off (s)	40	84	10	40	84
Yield/Force Off 170(s)	40	72	10	28	72
Local Start Time (s)	75	30	75	0	30
Local Yield (s)	25	69	85	25	69
Local Yield 170(s)	25	57	85	13	57

Intersection Summary

Cycle Length 90

Control Type Actuated-Uncoordinated

Natural Cycle 65

Splits and Phases: 3: Rollie & SH 52

Lanes and Geometrics

6: Access & SH 52



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑		↵
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	16
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	185		0	0
Storage Lanes		0	1		0	1

Taper Length (ft)	120			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.996			0.865		
Flt Protected	0.950					
Satd. Flow (prot)	3525	0	1770	3539	0	1826
Flt Permitted	0.950					
Satd. Flow (perm)	3525	0	1770	3539	0	1826
Link Speed (mph)	30		30		30	
Link Distance (ft)	782		329		303	
Travel Time (s)	17.8		7.5		6.9	

Intersection Summary

Area Type: Other

Intersection

Intersection Delay, s/veh 0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	770	20	20	584	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yeild	-	Yeild	-	Stop
Storage Length	-	-	185	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	837	22	22	635	0	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	837	0	1198	418
Stage 1	-	-	-	-	837	-
Stage 2	-	-	-	-	361	-
Follow-up Headway	-	-	2.22	-	3.52	3.32
Pot Capacity-1 Maneuver	-	-	793	-	178	584
Stage 1	-	-	-	-	385	-
Stage 2	-	-	-	-	676	-
Time blocked-Platoon, %	-	-	-	-	-	-
Mov Capacity-1 Maneuver	-	-	793	-	173	584

Mov Capacity-2 Maneuver	-	-	-	-	173	-
Stage 1	-	-	-	-	385	-
Stage 2	-	-	-	-	657	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	11.3
HCM LOS	B		

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	584	-	-	793	-
HCM Lane V/C Ratio	0.019	-	-	0.027	-
HCM Control Delay (s)	11.3	-	-	9.668	-
HCM Lane LOS	B	A			
HCM 95th %tile Q(veh)	0.057	-	-	0.084	-

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation
Not Defined

October 2013

APPENDIX "F" PHASE 2
2015 TOTAL LEVEL OF SERVICE
WORKSHEETS

Lanes and Geometrics

3: Rollie

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	16	12	12	12
Grade (%)		0%				0%			0%			0%
Storage Length (ft)	250		200		0		0	150		0	0	
Storage Lanes	1		1		1		0	1		0	0	
Taper Length (ft)	150				120			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.850			0.988			0.962				
Flt Protected	0.950				0.950			0.950				0.976
Satd. Flow (prot)	1770	1863	1583	0	1770	1840	0	1770	2031	0	0	1818
Flt Permitted	0.558				0.372			0.579				0.867
Satd. Flow (perm)	1039	1863	1583	0	693	1840	0	1079	2031	0	0	1615
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)		105			7			11				
Link Speed (mph)		30				30			30			30
Link Distance (ft)		425				274			308			376
Travel Time (s)		9.7				6.2			7.0			8.5

Intersection Summary

Area Type: Other



Lane Group	SBR
Lane Configurations	
Ideal Flow (vphpl)	1900
Lane Width (ft)	12
Grade (%)	
Storage Length (ft)	100

Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1583
Right Turn on Red	Yes
Satd. Flow (RTOR)	124
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	

Intersection Summary

HCM 2010 Signalized Intersection Summary 3: Rollie

												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (veh/h)	61	330	97	56	31	207	18	123	30	10	46	48
Number	7	4	14		3	8	18	5	2	12	1	6
Initial Q (Qb), veh	0	0	0		0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00		1.00		1.00	1.00		1.00	1.00	
Parking Bus Adj	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3		186.3	186.3	190.0	186.3	193.7	190.0	190.0	186.3
Lanes	1	1	1		1	1	0	1	1	0	0	1
Cap, veh/h	336	546	464		237	546	0	723	1042	0	339	327

Arrive On Green	0.29	0.29	0.00	0.29	0.29	0.00	0.10	0.54	0.00	0.36	0.36
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Sat Flow, veh/h	<u>1151</u>	<u>1863</u>	<u>1583</u>	<u>1018</u>	<u>1863</u>	<u>0</u>	<u>1774</u>	<u>1937</u>	<u>0</u>	<u>708</u>	<u>900</u>
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Grp Volume(v), veh/h	66	359	0	34	225	0	134	33	0	102	0
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Grp Sat Flow(s),veh/h/ln	1151	1863	1583		1018	1863	0	1774	1937	0	1608	0
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Q Serve(g_s), s	3.2	11.0	0.0	2.0	6.3	0.0	2.7	0.5	0.0	0.4	0.0
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Cycle Q Clear(g_c), s	9.5	11.0	0.0	13.0	6.3	0.0	2.7	0.5	0.0	2.5	0.0
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Prop In Lane	1.00	1.00	1.00	0.00	1.00	0.00	0.49				
Lane Grp Cap(c), veh/h	336	546	464	237	546	0	723	1042	0	666	0
V/C Ratio(X)	0.20	0.66	0.00	0.14	0.41	0.00	0.19	0.03	0.00	0.15	0.00
Avail Cap(c_a), veh/h	777	1259	1071	627	1259	0	739	1042	0	666	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	22.3	20.1	0.0	25.8	18.5	0.0	9.3	7.1	0.0	14.0	0.0
Incr Delay (d2), s/veh	0.3	1.4	0.0	0.3	0.5	0.0	0.1	0.1	0.0	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (95%), veh/ln	1.6	8.7	0.0	0.9	5.1	0.0	1.9	0.4	0.0	2.0	0.0
Lane Grp Delay (d), s/veh	22.6	21.5	0.0	26.1	19.0	0.0	9.4	7.1	0.0	14.5	0.0
Lane Grp LOS	C	C		C	B		A	A		B	
Approach Vol, veh/h	425			259			167			102	
Approach Delay, s/veh	21.7			19.9			8.9			14.5	
Approach LOS	C			B			A			B	
Timer											
Assigned Phs	4			8			5	2		6	
Phs Duration (G+Y+Rc), s	25.1			25.1			11.4	40.0		28.6	
Change Period (Y+Rc), s	6.0			6.0			5.0	5.0		5.0	
Max Green Setting (Gmax), s	44.0			44.0			7.0	35.0		23.0	
Max Q Clear Time (g_c+I1), s	13.0			15.0			4.7	2.5		4.5	
Green Ext Time (p_c), s	4.2			4.1			0.1	0.7		0.6	
Intersection Summary											
HCM 2010 Ctrl Delay	18.2										
HCM 2010 LOS	B										
Notes											

HCM 2010 Signalized Intersection Summary

3: Rollie

Movement	SBR
Lane Configurations	
Volume (veh/h)	114
Number	16
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus Adj	1.00
Adj Sat Flow veh/h/ln	186.3
Lanes	1
Cap, veh/h	575
Arrive On Green	0.00
Sat Flow, veh/h	1583
Grp Volume(v), veh/h	0
Grp Sat Flow(s),veh/h/ln	1583
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	575
V/C Ratio(X)	0.00
Avail Cap(c_a), veh/h	575
HCM Platoon Ratio	1.00
Upstream Filter(I)	0.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.0
Initial Q Delay(d3),s/veh	0.0
%ile Back of Q (95%), veh/ln	0.0
Lane Grp Delay (d), s/veh	0.0
Lane Grp LOS	
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	

Timer**Assigned Phs**

Phs Duration (G+Y+Rc),

s

Change Period (Y+Rc),

s

Max Green Setting

(Gmax), s

Max Q Clear Time

(g_c+l1), s

Green Ext Time (p_c), s

Intersection Summary

HCM 2010 TWSC

3: Rollie

Two Way Analysis cannot be performed on Signalized Intersection.

Timing Report, Sorted By Phase

3: Rollie



 ø2					 ø4		
40 s					50 s		
 ø5		 ø6			 ø8		
12 s		28 s			50 s		
Phase Number	2	4	5	6	8		
Movement	NBTL	EBTL	NBL	SBTL	WBTL		
Lead/Lag			Lead	Lag			

Lead-Lag Optimize

Recall Mode	Max	None	None	Max	None
Maximum Split (s)	40	50	12	28	50
Maximum Split (%)	44.4%	55.6%	13.3%	31.1%	55.6%
Minimum Split (s)	30	28	12	24	25
Yellow Time (s)	3	4	3	3	4
All-Red Time (s)	2	2	2	2	2
Minimum Initial (s)	7	10	7	7	10
Vehicle Extension (s)	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)	0	7		7	7
Flash Dont Walk (s)	0	12		12	12
Dual Entry	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	No	Yes
Start Time (s)	0	40	0	12	40
End Time (s)	40	0	12	40	0
Yield/Force Off (s)	35	84	7	35	84
Yield/Force Off 170(s)	35	72	7	23	72
Local Start Time (s)	78	28	78	0	28
Local Yield (s)	23	72	85	23	72
Local Yield 170(s)	23	60	85	11	60

Intersection Summary

Cycle Length 90

Control Type Actuated-
Uncoordinated

Natural Cycle 65

Splits and Phases: 3: Rollie

6: Access/New 3/4 & SH 52

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	273		0	100		0	0		0	0		0
Storage Lanes	1		1	1		0	0		1	0		1
Taper Length (ft)	162			180			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike												
Factor Frt			0.850		0.986				0.865			0.865
Flt Protected	0.950			0.950								
Satd. Flow (prot)	1770	1863	1583	1770	1837	0	0	0	1611	0	0	1611
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	1770	1863	1583	1770	1837	0	0	0	1611	0	0	1611
Link Speed (mph)		30			30			30			30	
Link Distance (ft)	508			429			313			266		
Travel Time (s)	11.5			9.8			7.1			6.0		
Intersection Summary												

Area Type: Other

HCM 2010 TWSC

6: Access/New 3/4 & SH 52

Intersection

Intersection Delay, s/veh 1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	82	340	20	20	267	27	0	0	10	0	0	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	Free	-	-	Stop	-	-	Stop
Storage Length	273	-	0	100	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	89	370	22	22	290	29	0	0	11	0	0	40

Major/Minor	Major1		Major2			Minor1		Minor2				
Conflicting Flow All	290	0	0	370	0	0	882	882	370	882	882	290
Stage 1	-	-	-	-	-	-	548	548	-	334	334	-
Stage 2	-	-	-	-	-	-	334	334	-	548	548	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Capacity-1 Maneuver	1272	-	-	1189	-	-	267	285	676	267	285	749
Stage 1	-	-	-	-	-	-	521	517	-	680	643	-
Stage 2	-	-	-	-	-	-	680	643	-	521	517	-
Time blocked-Platoon, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Capacity-1 Maneuver	1272	-	-	1189	-	-	236	260	676	245	260	749
Mov Capacity-2 Maneuver	-	-	-	-	-	-	236	260	-	245	260	-
Stage 1	-	-	-	-	-	-	485	481	-	632	631	-

Lanes and Geometrics

10/10/2013

Stage 2 - - - - - - 632 631 - 477 481 -

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.5	10.4	10.1
HCM LOS			B	B

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	676	1272	-	-	1189	-	-	749
HCM Lane V/C Ratio	0.016	0.07	-	-	0.018	-	-	0.054
HCM Control Delay (s)	10.4	8.043	-	-	8.084	-	-	10.1
HCM Lane LOS	B	A			A			B
HCM 95th %tile Q(veh)	0.049	0.226	-	-	0.056	-	-	0.17

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

9: SH 52 & New RI/RO



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						

Frt	0.987			0.865		
Flt Protected						
Satd. Flow (prot)	0	3539	3493	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	3539	3493	0	0	1611
Link Speed (mph)	30		30	30		
Link Distance (ft)	274		508	179		
Travel Time (s)	6.2		11.5	4.1		
Intersection Summary						
Area Type:	Other					

HCM 2010 TWSC 9:
SH 52 & New RI/RO

Intersection

Intersection Delay, s/veh 0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	442	277	27	0	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Stop
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	480	301	29	0	40

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	301	0	541
Stage 1	-	-	301
Stage 2	-	-	240
Follow-up Headway	2.22	-	3.52
Pot Capacity-1 Maneuver	1257	-	471
Stage 1	-	-	725

Stage 2	-	-	-	-	777	-
Time blocked-Platoon, %	-	-	-	-	-	-
Mov Capacity-1	1257	-	-	-	471	868
Maneuver						
Mov Capacity-2	-	-	-	-	471	-
Maneuver						
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	777	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1257	-	-	-	868
HCM Lane V/C Ratio	-	-	-	-	0.046
HCM Control Delay (s)	0	-	-	-	9.3
HCM Lane LOS	A				A
HCM 95th %tile Q(veh)	0	-	-	-	0.146

Notes
~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Lanes and Geometrics

3: Rollie

10/10/2013

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	16	12	12	12
Grade (%)		0%				0%			0%			0%
Storage Length (ft)	250		200		0		0	150		0	0	
Storage Lanes	1		1		1		0	1		0	0	
Taper Length (ft)	150				120			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.850			0.994			0.961				
Flt Protected	0.950				0.950			0.950				0.980
Satd. Flow (prot)	1770	1863	1583	0	1770	1852	0	1770	2029	0	0	1825
Flt Permitted	0.189				0.347			0.526				0.825
Satd. Flow (perm)	352	1863	1583	0	646	1852	0	980	2029	0	0	1537
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)			227			3			23			
Link Speed (mph)		30				30			30			30
Link Distance (ft)		425				274			308			376
Travel Time (s)		9.7				6.2			7.0			8.5

Intersection Summary

Area Type: Other

Lane Group	SBR
Lane Configurations	
Ideal Flow (vphpl)	1900
Lane Width (ft)	12
Grade (%)	

2015 Total PM (Phase 2) Two Lane(Optimized) 8/13/2013 2015 Total PM (Phase 2) Two

Lane(Optimized)
Incline Associates

Synchro 8 Light Report
Page 1

HCM 2010 Signalized Intersection Capacity Analysis

3: Rollie

10/10/2013

Storage Length (ft) 100

Storage Lanes 1

Taper Length (ft)

Lane Util. Factor 1.00

Ped Bike Factor

Frt 0.850

Flt Protected

Satd. Flow (prot) 1583

Flt Permitted

Satd. Flow (perm) 1583

Right Turn on Red Yes

Satd. Flow (RTOR) 155

Link Speed (mph)

Link Distance (ft)

Travel Time (s)

Intersection Summary

												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (veh/h)	123	419	209	59	38	540	21	241	103	37	55	83
Number	7	4	14		3	8	18	5	2	12	1	6
Initial Q, veh	0	0	0		0	0	0	0	0	0	0	0
Ped-Bike Adj (A _{pbT})	1.00		1.00		1.00		1.00	1.00		1.00	1.00	
Parking Bus Adj	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863		1863	1863	1900	1863	1937	1900	1900	1863
Lanes	1	1	1		1	1	0	1	1	0	0	1
Lane Assignment												
Cap, veh/h	275	881	749		367	881	0	484	771	0	177	242

2015 Total PM (Phase 2) Two Lane(Optimized) 8/13/2013 2015 Total PM (Phase 2) Two Lane(Optimized)
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Synchro 8 Light Report
Page 2

HCM 2010 Signalized Intersection Capacity Analysis

3: Rollie

10/10/2013

HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.47	0.47	0.00	0.47	0.47	0.00	0.12	0.40	0.00	0.22	0.22
Ln Grp Delay, s/veh	31.5	16.2	0.0	21.8	18.8	0.0	22.1	16.8	0.0	30.6	0.0
Ln Grp LOS	C	B		C	B		C	B		C	
Approach Vol, veh/h		589			628			374			150
Approach Delay, s/veh		19.7			19.0			20.5			30.6
Approach LOS		B			B			C			C
Timer:		1	2	3	4	5	6	7	8		
Assigned Phs			2		4	5	6		8		
Case No			4.0		5.0	1.2	28.0		6.0		
Phs Duration (G+Y+Rc), s			39.0		46.4	15.0	24.0		46.4		
Change Period (Y+Rc), s			5.0		6.0	5.0	5.0		6.0		
Max Allow Headway (MAH), s			5.3		5.1	3.8	5.3		5.1		
Max Green (Gmax), s			34.0		45.0	10.0	19.0		45.0		
Max Q Clear (g_c+l1), s			5.2		35.4	11.4	8.4		22.7		
Green Ext Time (g_e), s			1.5		5.0	0.0	1.0		7.9		
Prob of Phs Call (p_c)			1.00		1.00	1.00	1.00		1.00		
Prob of Max Out (p_x)			0.00		0.67	1.00	0.10		0.22		

Left-Turn Movement Data

Assigned Mvmt				7	5	1		3			
Mvmt Sat Flow, veh/h				825	1774	531		932			

Through Movement Data

Assigned Mvmt			2		4		6		8		
Mvmt Sat Flow, veh/h			1937		1863		1088		1863		

2015 Total PM (Phase 2) Two Lane(Optimized) 8/13/2013 2015 Total PM (Phase 2) Two

Lane(Optimized)
Incline Associates

Synchro 8 Light Report
Page 3

HCM 2010 Signalized Intersection Capacity Analysis

3: Rollie

10/10/2013

Right-Turn Movement Data

Assigned Mvmt	12	14	16	18
Mvmt Sat Flow, veh/h	0	1583	1583	0

Left Lane Group Data

Assigned Mvmt	0	0	0	7	5	1	0	3
Lane Assignment	LL (Pr/Pm)				L+T		L	
Lanes in Grp	0	0	0	1	1	1	0	1
Grp Vol (v), veh/h	0	0	0	134	262	150	0	41
Grp Sat Flow (s), veh/h/ln	0	0	0	825	1774	1619	0	932
Q Serve Time (g_s), s	0.0	0.0	0.0	12.7	9.4	3.4	0.0	2.7
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	33.4	9.4	6.4	0.0	17.3

Movement SBR

Lane Configurations

Volume (veh/h)	143
Number	16
Initial Q, veh	0
Ped-Bike Adj (A_pbT)	1.00
Parking Bus Adj	1.00
Adj Sat Flow, veh/h/ln	1863
Lanes	1

Lane Assignment

Cap, veh/h	352
HCM Platoon Ratio	1.00
Prop Arrive On Green	0.00
Ln Grp Delay, s/veh	0.0

Ln Grp LOS

Approach Vol, veh/h

Approach Delay, s/veh

Approach LOS

Timer:

HCM 2010 Signalized Intersection Capacity Analysis

3: Rollie

10/10/2013

Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	825	1301	1301	0	932
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	40.4	21.0	19.0	0.0	40.4
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	19.7	12.6	19.0	0.0	25.9
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	12.7	2.1	3.4	0.0	2.7
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	1.00	0.40	0.00	1.00
Lane Grp Cap (c), veh/h	0	0	0	275	484	419	0	367
V/C Ratio (X)	0.00	0.00	0.00	0.49	0.54	0.36	0.00	0.11
Avail Cap (c_a), veh/h	0	0	0	319	484	419	0	417
Upstream Filter (I)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	30.2	20.8	28.2	0.0	21.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.3	1.2	2.4	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	31.5	22.1	30.6	0.0	21.8
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.6	4.0	2.7	0.0	0.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.2	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	0.00	1.80	1.80	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	4.9	7.5	5.4	0.0	1.2
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.50	1.27	0.40	0.00	0.13
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T			T			T	
Lanes in Grp	0	1	0	1	0	0	0	1
Grp Vol (v), veh/h	0	112	0	455	0	0	0	587
Grp Sat Flow (s), veh/h/ln	0	1937	0	1863	0	0	0	1863
Q Serve Time (g_s), s	0.0	3.2	0.0	14.5	0.0	0.0	0.0	20.7
Cycle Q Clear Time (g_c), s	0.0	3.2	0.0	14.5	0.0	0.0	0.0	20.7
Lane Grp Cap (c), veh/h	0	771	0	881	0	0	0	881
V/C Ratio (X)	0.00	0.15	0.00	0.52	0.00	0.00	0.00	0.67
Avail Cap (c_a), veh/h	0	771	0	982	0	0	0	982
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.4	0.0	15.7	0.0	0.0	0.0	17.3
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.5	0.0	0.0	0.0	1.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

2015 Total PM (Phase 2) Two Lane(Optimized) 8/13/2013 2015 Total PM (Phase 2) Two Lane(Optimized)
Incline Associates

Synchro 8 Light Report
Page 5

Control Delay (d), s/veh	0.0	16.8	0.0	16.2	0.0	0.0	0.0	18.8
1st-Term Q (Q1), veh/ln	0.0	1.5	0.0	6.3	0.0	0.0	0.0	9.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.65	0.00	1.00	0.00	1.54
%ile Back of Q (95%), veh/ln	0.0	2.8	0.0	10.6	0.0	0.0	0.0	14.3
%ile Storage Ratio (RQ%)	0.00	0.26	0.00	0.69	0.00	0.00	0.00	1.66

Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment			R		R			
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1583	0	1583	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	749	0	352	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	834	0	352	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0

2015 Total PM (Phase 2) Two Lane(Optimized) 8/13/2013 2015 Total PM (Phase 2) Two

Lane(Optimized)
Incline Associates

Synchro 8 Light Report
Page 6

Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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Intersection Summary

HCM 2010 Ctrl Delay 20.5

HCM 2010 LOS C

Notes

HCM 2010 TWSC

3: Rollie

Two Way Analysis cannot be performed on Signalized Intersection.

Timing Report, Sorted By Phase

3: Rollie



 ø2					 ø4				
39 s					51 s				
 ø5		 ø6			 ø8				
15 s		24 s			51 s				
Phase Number	2	4	5	6	8				
Movement	NBTL	EBTL	NBL	SBTL	WBTL				
Lead/Lag			Lead	Lag					
Lead-Lag Optimize									
Recall Mode	Max	None	None	Max	None				

Maximum Split (s)	39	51	15	24	51
Maximum Split (%)	43.3%	56.7%	16.7%	26.7%	56.7%
Minimum Split (s)	30	28	12	24	25
Yellow Time (s)	3	4	3	3	4
All-Red Time (s)	2	2	2	2	2
Minimum Initial (s)	7	10	7	7	10
Vehicle Extension (s)	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)	0	7		7	7
Flash Dont Walk (s)	0	12		12	12
Dual Entry	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	No	Yes
Start Time (s)	0	39	0	15	39
End Time (s)	39	0	15	39	0
Yield/Force Off (s)	34	84	10	34	84
Yield/Force Off 170(s)	34	72	10	22	72
Local Start Time (s)	75	24	75	0	24
Local Yield (s)	19	69	85	19	69
Local Yield 170(s)	19	57	85	7	57

Intersection Summary

Cycle Length 90

Control Type Actuated-
Uncoordinated

Natural Cycle 70

Splits and Phases: 3: Rollie

Lanes and Geometrics

6: Access/New 3/4 & SH 52

												
Lane Group	EBL	EBT EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	
Grade (%)		0%			0%			0%			0%	

												10/10/2013
Storage Length (ft)	273		0	100		0	0		0	0		0
Storage Lanes	1		1	1		0	0		1	0		1
Taper Length (ft)	162			180			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike												
Factor Frt			0.850		0.992				0.865			0.865
Flt Protected	0.950			0.950								
Satd. Flow (prot)	1770	1863	1583	1770	1848	0	0	0	1611	0	0	1611
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	1770	1863	1583	1770	1848	0	0	0	1611	0	0	1611
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		508			429			313			266	
Travel Time (s)		11.5			9.8			7.1			6.0	

Intersection Summary

Area Type: Other

HCM 2010 TWSC

6: Access/New 3/4 & SH 52

Intersection

Intersection Delay, 1.4
s/veh

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	107	443	20	20	616	36	0	0	10	0	0	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	Free	-	-	Stop	-	-	Stop
Storage Length	273	-	0	100	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	116	482	22	22	670	39	0	0	11	0	0	42

Major/Minor	Major1		Major2			Minor1			Minor2			
Conflicting Flow All	670	0	0	482	0	0	1427	1427	482	1427	1427	670
Stage 1	-	-	-	-	-	-	714	714	-	713	713	-
Stage 2	-	-	-	-	-	-	713	713	-	714	714	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Capacity-1 Maneuver	920	-	-	1081	-	-	113	135	584	113	135	457
Stage 1	-	-	-	-	-	-	422	435	-	423	435	-
Stage 2	-	-	-	-	-	-	423	435	-	422	435	-
Time blocked-Platoon, %	-	-	-	-	-	-	-	-	-	-	-	-

												10/10/2013	
Mov Capacity-1	920	-	-	1081	-	-	91	116	584	99	116	457	
Maneuver													
Mov Capacity-2	-	-	-	-	-	-	91	116	-	99	116	-	
Maneuver													
Stage 1	-	-	-	-	-	-	369	380	-	370	426	-	
Stage 2	-	-	-	-	-	-	376	426	-	362	380	-	

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.8	0.2	11.3	13.7
HCM LOS			B	B

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	584	920	-	-	1081	-	-	457
HCM Lane V/C Ratio	0.019	0.126	-	-	0.02	-	-	0.093
HCM Control Delay (s)	11.3	9.478	-	-	8.399	-	-	13.7
HCM Lane LOS	B	A			A			B
HCM 95th %tile Q(veh)	0.057	0.432	-	-	0.062	-	-	0.305

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Lanes and Geometrics

9: SH 52 & New RI/RO



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.992			0.865
Flt Protected						
Satd. Flow (prot)	0	3539	3511	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	3539	3511	0	0	1611
Link Speed (mph)		30	30		30	
Link Distance (ft)		274	508		179	
Travel Time (s)		6.2	11.5		4.1	
Intersection Summary						

Area Type: Other

HCM 2010 TWSC 9:
SH 52 & New RI/RO

Intersection

Intersection Delay, s/veh 0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	570	619	36	0	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Stop
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	620	673	39	0	42

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	673	0	-	0	983	336
Stage 1	-	-	-	-	673	-
Stage 2	-	-	-	-	310	-
Follow-up Headway	2.22	-	-	-	3.52	3.32
Pot Capacity-1 Maneuver	914	-	-	-	246	660
Stage 1	-	-	-	-	468	-
Stage 2	-	-	-	-	717	-
Time blocked- Platoon, %	-	-	-	-	-	-

Mov	Capacity-1	914	-	-	-	246	660
Maneuver							
Mov	Capacity-2	-	-	-	-	246	-
Maneuver							
	Stage 1	-	-	-	-	468	-
	Stage 2	-	-	-	-	717	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.8
HCM LOS			B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	914	-	-	-	660
HCM Lane V/C Ratio	-	-	-	-	0.064
HCM Control Delay (s)	0	-	-	-	10.8
HCM Lane LOS	A				B
HCM 95th %tile Q(veh)	0	-	-	-	0.205

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation
Not Defined

October 2013

APPENDIX "G" PHASE 2

2033 TOTAL LEVEL OF SERVICE WORKSHEETS

Lanes and Geometrics

3: Rollie

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	16	12	12	12	12
Grade (%)	0%				0%			0%			0%	
Storage Length (ft)	250		200	0		0	100		0	0		100
Storage Lanes	1		0	1		0	2		0	0		1
Taper Length (ft)	150			120			75			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike												
Factor Frt		0.973			0.995			0.959				0.850
Flt Protected	0.950			0.950			0.950				0.979	
Satd. Flow (prot)	1770	3444	0	1770	3522	0	3433	2025	0	0	1824	1583
Flt Permitted	0.329			0.205			0.557				0.867	
Satd. Flow (perm)	613	3444	0	382	3522	0	2013	2025	0	0	1615	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		40			6			16				153
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		425			274			308			376	
Travel Time (s)		9.7			6.2			7.0			8.5	
Intersection Summary												
Area Type:	Other											

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	76	647	141	41	571	21	179	39	15	49	65	141
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	193.7	190.0	190.0	186.3	186.3
Lanes	1	2	0	1	2	0	2	1	0	0	1	1
Cap, veh/h	306	1433	0	275	1433	0	1171	907	0	257	318	490
Arrive On Green	0.38	0.38	0.00	0.38	0.38	0.00	0.09	0.47	0.00	0.31	0.31	0.00
Sat Flow, veh/h	800	3725	0	741	3725	0	3442	1937	0	608	1030	1583
Grp Volume(v), veh/h	83	703	0	45	621	0	195	42	0	124	0	0
Grp Sat Flow(s),veh/h/ln	800	1863	0	741	1863	0	1721	1937	0	1638	0	1583
Q Serve(g_s), s	6.4	10.7	0.0	3.7	9.2	0.0	2.6	0.9	0.0	1.2	0.0	0.0
Cycle Q Clear(g_c), s	15.6	10.7	0.0	14.4	9.2	0.0	2.6	0.9	0.0	3.9	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	0.43		1.00
Lane Grp Cap(c), veh/h	306	1433	0	275	1433	0	1171	907	0	575	0	490
V/C Ratio(X)	0.27	0.49	0.00	0.16	0.43	0.00	0.17	0.05	0.00	0.22	0.00	0.00
Avail Cap(c_a), veh/h	469	2193	0	426	2193	0	1177	907	0	575	0	490
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.7	17.4	0.0	22.9	17.0	0.0	13.2	10.8	0.0	19.1	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.3	0.0	0.3	0.2	0.0	0.1	0.1	0.0	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (95%), veh/ln	2.3	8.3	0.0	1.2	7.2	0.0	1.8	0.7	0.0	3.2	0.0	0.0
Lane Grp Delay (d), s/veh	23.2	17.7	0.0	23.2	17.2	0.0	13.3	10.9	0.0	20.0	0.0	0.0
Lane Grp LOS	C	B		C	B		B	B		B		
Approach Vol, veh/h	786			666			237			124		
Approach Delay, s/veh	18.3			17.6			12.9			20.0		
Approach LOS	B			B			B			B		

Timer					
Assigned Phs	4	8	5	2	6
Phs Duration (G+Y+Rc), s	34.8	34.8	11.9	40.0	28.1
Change Period (Y+Rc), s	6.0	6.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	44.0	44.0	7.0	35.0	23.0
Max Q Clear Time (g_c+l1), s	17.6	16.4	4.6	2.9	5.9
Green Ext Time (p_c), s	11.2	11.4	0.1	0.9	0.8

Intersection Summary

HCM 2010 Ctrl Delay 17.4

HCM 2010 LOS B

Notes

HCM 2010 TWSC
3: Rollie

Two Way Analysis cannot be performed on Signalized Intersection.

Timing Report, Sorted By Phase

3: Rollie



 ø2						 ø4					
40 s						50 s					
 ø5						 ø6					
12 s						28 s					
Phase Number	2		4		5	6	8				
Movement	NBTL		EBTL		NBL	SBTL	WBTL				
Lead/Lag					Lead	Lag					
Lead-Lag Optimize											
Recall Mode	Max		None		None	Max	None				
Maximum Split (s)	40		50		12	28	50				

Maximum Split (%)	44.4%	55.6%	13.3%	31.1%	55.6%
Minimum Split (s)	30	28	12	24	25
Yellow Time (s)	3	4	3	3	4
All-Red Time (s)	2	2	2	2	2
Minimum Initial (s)	7	10	7	7	10
Vehicle Extension (s)	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)	0	7		7	7
Flash Dont Walk (s)	0	12		12	12
Dual Entry	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	No	Yes
Start Time (s)	0	40	0	12	40
End Time (s)	40	0	12	40	0
Yield/Force Off (s)	35	84	7	35	84
Yield/Force Off 170(s)	35	72	7	23	72
Local Start Time (s)	78	28	78	0	28
Local Yield (s)	23	72	85	23	72
Local Yield 170(s)	23	60	85	11	60

Intersection Summary

Cycle Length 90

Control Type Actuated-
Uncoordinated

Natural Cycle 65

Splits and Phases: 3: Rollie

6: Access/New 3/4 & SH 52

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%				0%				0%		0%	
Storage Length (ft)	273		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	162			180			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.988			0.993				0.865			0.865
Flt Protected	0.950			0.950								
Satd. Flow (prot)	1770	3497	0	1770	3514	0	0	0	1611	0	0	1611
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	1770	3497	0	1770	3514	0	0	0	1611	0	0	1611
Link Speed (mph)		30			30			30			30	
Link Distance (ft)	508			429			313			266		
Travel Time (s)	11.5			9.8			7.1			6.0		

Intersection Summary

Area Type: Other

HCM 2010 TWSC

6: Access/New 3/4 & SH 52

Intersection

Intersection Delay,
s/veh 1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	82	576	50	50	546	27	0	0	25	0	0	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	Free	-	-	Stop	-	-	Stop
Storage Length	273	-	-	100	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	89	626	54	54	593	29	0	0	27	0	0	40

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	593	0	0	626	0	0	1209	1506	313	1193	1506	297
Stage 1	-	-	-	-	-	-	804	804	-	702	702	-
Stage 2	-	-	-	-	-	-	405	702	-	491	804	-
Follow-up Headway	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Capacity-1 Maneuver	979	-	-	952	-	-	139	120	683	142	120	699
Stage 1	-	-	-	-	-	-	343	394	-	395	439	-
Stage 2	-	-	-	-	-	-	593	439	-	528	394	-
Time blocked- Platoon, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Capacity-1 Maneuver	979	-	-	952	-	-	117	103	683	121	103	699

Mov Capacity-2 Maneuver	-	-	-	-	-	-	117	103	-	121	103	-
Stage 1	-	-	-	-	-	-	312	358	-	359	414	-
Stage 2	-	-	-	-	-	-	527	414	-	461	358	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.7	10.5	10.5
HCM LOS			B	B

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	683	979	-	-	952	-	-	699
HCM Lane V/C Ratio	0.04	0.091	-	-	0.057	-	-	0.058
HCM Control Delay (s)	10.5	9.045	-	-	9.01	-	-	10.5
HCM Lane LOS	B	A			A			B
HCM 95th %tile Q(veh)	0.124	0.3	-	-	0.181	-	-	0.183

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

9: SH 52 & New RI/RO



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↑			↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1

Lanes and Geometrics

10/10/2013

Taper Length (ft)	25			25		
Lane Util. Factor	1.00	0.95	0.91	0.91	1.00	1.00
Ped Bike Factor						
Frt	0.993			0.865		
Flt Protected						
Satd. Flow (prot)	0	3539	5050	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	3539	5050	0	0	1611
Link Speed (mph)	30		30	30		
Link Distance (ft)	274		508	179		
Travel Time (s)	6.2		11.5	4.1		
Intersection Summary						
Area Type:	Other					

HCM 2010 TWSC 9: SH 52 & New RI/RO

Intersection

Intersection Delay, s/veh 0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	705	556	27	0	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Stop
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	766	604	29	0	40

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	604	0	987
Stage 1	-	-	604
Stage 2	-	-	383
Follow-up Headway	3.12	-	3.67
Pot Capacity-1 Maneuver	605	-	277
Stage 1	-	-	431

Lanes and Geometrics

10/10/2013

Stage 2	-	-	-	-	637	-
Time blocked-Platoon, %	-	-	-	-	-	-
Mov Capacity-1	605	-	-	-	277	592
Maneuver	-	-	-	-	-	-
Mov Capacity-2	-	-	-	-	277	-
Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	431	-
Stage 2	-	-	-	-	637	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.5
HCM LOS			B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	605	-	-	-	592
HCM Lane V/C Ratio	-	-	-	-	0.068
HCM Control Delay (s)	0	-	-	-	11.5
HCM Lane LOS	A				B
HCM 95th %tile Q(veh)	0	-	-	-	0.218

Notes
~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Lanes and Geometrics

10/10/2013

3: Rollie

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	16	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	250		200	0		0	100		0	0		100
Storage Lanes	1		0	1		0	2		0	0		1
Taper Length (ft)	150			120			75			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor Frt		0.959			0.993			0.959				0.850
Flt Protected	0.950			0.950			0.950				0.983	
Satd. Flow (prot)	1770	3394	0	1770	3514	0	3433	2025	0	0	1831	1583
Flt Permitted	0.372			0.112			0.472				0.819	
Satd. Flow (perm)	693	3394	0	209	3514	0	1706	2025	0	0	1526	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		85			8			25				198
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		425			274			308			376	
Travel Time (s)		9.7			6.2			7.0			8.5	
Intersection Summary												
Area Type:	Other											

HCM 2010 Signalized Intersection Summary

3: Rollie

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	163	810	305	51	541	27	352	145	55	62	116	182
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	193.7	190.0	190.0	186.3	186.3
Lanes	1	2	0	1	2	0	2	1	0	0	1	1
Cap, veh/h	364	1641	0	256	1641	0	929	825	0	187	326	443
Arrive On Green	0.44	0.44	0.00	0.44	0.44	0.00	0.09	0.43	0.00	0.28	0.28	0.00
Sat Flow, veh/h	825	3725	0	628	3725	0	3442	1937	0	459	1165	1583
Grp Volume(v), veh/h	177	880	0	55	588	0	383	158	0	193	0	0
Grp Sat Flow(s), veh/h/ln	825	1863	0	628	1863	0	1721	1937	0	1623	0	1583
Q Serve(g_s), s	14.9	14.2	0.0	5.8	8.6	0.0	6.3	4.2	0.0	3.8	0.0	0.0
Cycle Q Clear(g_c), s	23.6	14.2	0.0	20.0	8.6	0.0	6.3	4.2	0.0	7.5	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	0.35		1.00
Lane Grp Cap(c), veh/h	364	1641	0	256	1641	0	929	825	0	513	0	443
V/C Ratio(X)	0.49	0.54	0.00	0.22	0.36	0.00	0.41	0.19	0.00	0.38	0.00	0.00
Avail Cap(c_a), veh/h	442	1994	0	315	1994	0	929	825	0	513	0	443
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	23.1	16.8	0.0	24.2	15.3	0.0	17.9	14.8	0.0	23.9	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.3	0.0	0.4	0.1	0.0	0.3	0.5	0.0	2.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (95%), veh/ln	5.6	10.4	0.0	1.7	6.8	0.0	4.7	3.7	0.0	6.2	0.0	0.0
Lane Grp Delay (d), s/veh	24.1	17.1	0.0	24.6	15.4	0.0	18.2	15.3	0.0	26.0	0.0	0.0
Lane Grp LOS	C	B		C	B		B	B		C		
Approach Vol, veh/h	1057			643			541			193		
Approach Delay, s/veh	18.3			16.2			17.3			26.0		
Approach LOS	B			B			B			C		

Timer

Assigned Phs	4	8	5	2	6
Phs Duration (G+Y+Rc), s	42.2	42.2	12.0	40.0	28.0
Change Period (Y+Rc), s	6.0	6.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	44.0	44.0	7.0	35.0	23.0
Max Q Clear Time (g_c+l1), s	25.6	22.0	8.3	6.2	9.5
Green Ext Time (p_c), s	10.7	11.9	0.0	2.1	1.7

Intersection Summary

HCM 2010 Ctrl Delay 18.1

HCM 2010 LOS B

Notes

HCM 2010 TWSC

3: Rollie

Two Way Analysis cannot be performed on Signalized Intersection.

Timing Report, Sorted By Phase

3: Rollie



 ø2						 ø4					
40 s						50 s					
 ø5						 ø8					
12 s						50 s					
 ø6											
28 s											
Phase Number	2	4	5	6	8						
Movement	NBTL	EBTL	NBL	SBTL	WBTL						
Lead/Lag			Lead	Lag							
Lead-Lag Optimize											
Recall Mode	Max	None	None	Max	None						
Maximum Split (s)	40	50	12	28	50						

Maximum Split (%)	44.4%	55.6%	13.3%	31.1%	55.6%
Minimum Split (s)	30	28	12	24	25
Yellow Time (s)	3	4	3	3	4
All-Red Time (s)	2	2	2	2	2
Minimum Initial (s)	7	10	7	7	10
Vehicle Extension (s)	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)	0	7		7	7
Flash Dont Walk (s)	0	12		12	12
Dual Entry	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	No	Yes
Start Time (s)	0	40	0	12	40
End Time (s)	40	0	12	40	0
Yield/Force Off (s)	35	84	7	35	84
Yield/Force Off 170(s)	35	72	7	23	72
Local Start Time (s)	78	28	78	0	28
Local Yield (s)	23	72	85	23	72
Local Yield 170(s)	23	60	85	11	60

Intersection Summary

Cycle Length 90

Control Type Actuated-
Uncoordinated

Natural Cycle 65

Splits and Phases: 3: Rollie

Lanes and Geometrics

6: Access/New 3/4 & SH 52

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%				0%			0%			0%	
Storage Length (ft)	273		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		1

Taper Length (ft)	162		180		25		25					
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike												
Factor Frt	0.991		0.992				0.865				0.865	
Flt Protected	0.950		0.950									
Satd. Flow (prot)	1770	3507	0	1770	3511	0	0	0	1611	0	0	1611
Flt Permitted	0.950		0.950									
Satd. Flow (perm)	1770	3507	0	1770	3511	0	0	0	1611	0	0	1611
Link Speed (mph)	30		30				30				30	
Link Distance (ft)	508		429				313				266	
Travel Time (s)	11.5		9.8				7.1				6.0	

Intersection Summary

Area Type: Other

HCM 2010 TWSC

6: Access/New 3/4 & SH 52

Intersection												
Intersection Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	107	770	50	50	616	36	0	0	25	0	0	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	Free	-	-	Stop	-	-	Stop
Storage Length	273	-	-	100	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	116	837	54	54	670	39	0	0	27	0	0	42
Major/Minor	Major1		Major2			Minor1			Minor2			
Conflicting Flow All	670	0	0	837	0	0	1513	1848	418	1429	1848	335
Stage 1	-	-	-	-	-	-	1070	1070	-	778	778	-
Stage 2	-	-	-	-	-	-	443	778	-	651	1070	-
Follow-up Headway	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Capacity-1 Maneuver	916	-	-	793	-	-	82	74	584	95	74	661
Stage 1	-	-	-	-	-	-	236	296	-	355	405	-
Stage 2	-	-	-	-	-	-	564	405	-	424	296	-

Time blocked-Platoon, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Capacity-1 Maneuver	916	-	-	793	-	-	66	60	584	78	60	661	-
Mov Capacity-2 Maneuver	-	-	-	-	-	-	66	60	-	78	60	-	-
Stage 1	-	-	-	-	-	-	206	259	-	310	377	-	-
Stage 2	-	-	-	-	-	-	492	377	-	353	259	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.7	11.5	10.8
HCM LOS			B	B

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	584	916	-	-	793	-	-	661
HCM Lane V/C Ratio	0.047	0.127	-	-	0.069	-	-	0.064
HCM Control Delay (s)	11.5	9.501	-	-	9.873	-	-	10.8
HCM Lane LOS	B	A			A			B
HCM 95th %tile Q(veh)	0.146	0.434	-	-	0.22	-	-	0.205

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Lanes and Geometrics

9: SH 52 & New RI/RO



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↑			↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	0	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.91	0.91	1.00	1.00
Ped Bike Factor						
Frt			0.992			0.865
Flt Protected						
Satd. Flow (prot)	0	3539	5045	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	3539	5045	0	0	1611
Link Speed (mph)		30	30		30	
Link Distance (ft)		274	508		179	
Travel Time (s)		6.2	11.5		4.1	
Intersection Summary						

Area Type: Other

HCM 2010 TWSC 9:

SH 52 & New RI/RO

Intersection

2033 Total PM (Phase 2) Opt 8/13/2013 2033 Total PM (Phase 2) Opt
Incline Associates

Synchro 8 Light Report
Page 10

Intersection Delay, s/veh 0.3

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Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	927	619	36	0	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Stop
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1008	673	39	0	42

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Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	673 0	- 0	1177 336
Stage 1	- -	- -	673 -
Stage 2	- -	- -	504 -
Follow-up Headway	3.12 -	- -	3.67 3.92
Pot Capacity-1 Maneuver	561 -	- -	215 563
Stage 1	- -	- -	392 -
Stage 2	- -	- -	554 -
Time blocked-Platoon, %	-	- -	
Mov Capacity-1 Maneuver	561 -	- -	215 563
Mov Capacity-2 Maneuver	- -	- -	215 -
Stage 1	- -	- -	392 -

Stage 2	-	-	-	-	554	-
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Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.9
HCM LOS			B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	561	-	-	-	563
HCM Lane V/C Ratio	-	-	-	-	0.075
HCM Control Delay (s)	0	-	-	-	11.9
HCM Lane LOS	A				B
HCM 95th %tile Q(veh)	0	-	-	-	0.243

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation
Not Defined

October 2013

APPENDIX "H"

CDOT SIGNAL TIMING

0 + Key				Phase + Key						EB		NBLT		SB		WB		NB	
FUNCTION	KEY	12345678	FUNCTION	KEY	Ph 1	Ph 2	Ph 3	Ph 4	Ph 5	Phase		Ph 6	Ph 7						
Vehicle Recall	0	2 6	Max I	0	0	45	15	30	0	45	0	45	0	30					
Ped Recall	1		Max II/HFDW	1	0	0	0	0	0	0	0	0	0	0					
Red Lock	2		Walk	2	0	7	0	7	0	7	0	7	0	0					
Yellow Lock	3		Flashing DW	3	0	12	0	12	0	12	0	12	0	0					
Permits	4	234 678	Max Initial	4	0	0	0	0	0	0	0	0	0	0					
Ped Phases	5	2 4 6 8	Min Green	5	0	10	7	7	0	10	0	10	0	7					
Lead Phases	6	1 3 5 7	TBR	6	0	0	0	0	0	0	0	0	0	0					
Double Entry	7	4 8	TTR	7	0	0	0	0	0	0	0	0	0	0					
Sequential Timing	8		Observe Gap	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Startup Green	9		Passage	9	0.0	3.0	5.0	3.0	0.0	5.0	0.0	5.0	0.0	3.0					
Overlap A	A		Min Gap	A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Overlap B	B		Added Actuation	B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Overlap C	C		Yellow	C	0.0	4.0	3.0	3.0	0.0	4.0	0.0	4.0	0.0	3.0					
Overlap D	D		Red Clear	D	0.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0					
Exclusive	E		Red Revert	E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Simultaneous Gap	F	4 8	Walk II	F	0	0	0	0	0	0	0	0	0	0					

A + Code EVENT	1234567							HOUR	MIN	FUNC	CODE	EVENT	1234567							HOUR	MIN	FUNC	CODE
	1	2	3	4	5	6	7						1	2	3	4	5	6	7				
1						6	30			1	80-83	17								0	0	0	C0-C3
2						9	0			2	84-87	18								0	0	0	C4-C7
3						15	0			3	88-8B	19								0	0	0	C8-CB
4						18	30			2	8C-8F	20								0	0	0	CC-CF
5						20	0			20	90-93	21								0	0	0	D0-D3
6							0			0	94-97	22								0	0	0	D4-D7
7							0			0	98-9B	23								0	0	0	D8-DB
8							0			0	9C-9F	24								0	0	0	DC-DF
9							0			0	A0-A3	25								0	0	0	E0-E3
10							0			0	A4-A7	26								0	0	0	E4-E7
11							0			0	A8-AB	27								0	0	0	E8-EB
12							0			0	AC-AF	28								0	0	0	EC-EF
13							0			0	B0-B3	29								0	0	0	F0-F3
14							0			0	B4-B7	30								0	0	0	F4-F7
15							0			0	B8-BB	31								0	0	0	F8-FB
16							0			0	BC-BF	32								0	0	0	FC-FF

B + Plan + Key		Plan								
FUNCTION	KEY	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
Cycle Length	0	90	80	100	0	0	0	0	0	0
Forceoff Phase 1	1	0	0	0	0	0	0	0	0	0
Forceoff Phase 2	2	0	0	0	0	0	0	0	0	0
Forceoff Phase 3	3	16	24	23	0	0	0	0	0	0
Forceoff Phase 4	4	33	36	41	0	0	0	0	0	0
Forceoff Phase 5	5	0	0	0	0	0	0	0	0	0
Forceoff Phase 6	6	0	0	0	0	0	0	0	0	0
Forceoff Phase 7	7	0	0	0	0	0	0	0	0	0
Forceoff Phase 8	8	33	36	41	0	0	0	0	0	0
Offset	9	79	10	99	0	0	0	0	0	0
Permissive Length	A	1	1	1	0	0	0	0	0	0
Max Dwell	B	31	27	34	0	0	0	0	0	0
		12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678
Lead Phases	C	1 3 5 7	1 3 5 7	1 3 5 7						
Coord Phases	D	2 6	2 6	2 6						
Perm 2 Phases	E									
Min Recall	F	2 6	2 6	2 6						

FINAL DRAINAGE REPORT FOR HOPE GRAYSON COMMERCIAL

**110 COPPER PLACE
FORT LUPTON, COLORADO**

Prepared for:

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Project No: CLEI 105

Initial: December 2021



CIVIL ENGINEERING & LAND DEVELOPMENT CONSULTING

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CENTENNIAL, CO 80122
970.270.6218 - ZROSS@COLOLANDENG.COM

I hereby affirm this Final Drainage Report for the Hope Grayson project was prepared by me (or under my direct supervision) in accordance with the provisions of the City of Ft. Lupton Storm Drainage Design and Technical Criteria Manual for the owners thereof."

_____(Affix Seal)
Zane Ross, P.E.
Registered Professional Engineer
State of Colorado No. 45432

TABLE OF CONTENTS

I	Introduction	4
1.1	Background.....	4
1.2	Description of Property	4
2	Drainage Design Criteria.....	5
2.1	Previous Investigations	5
3	Drainage System Description	5
3.1	Existing Drainage Conditions	5
3.2	Off-site Tributary Area	5
4	Conclusion	6
	References.....	6

APPENDIX A

APPENDIX B

I Introduction

1.1 Background

This Drainage Report has been prepared by Colorado Land Engineering, Ltd., for the proposed 0.817 acre Hope Grayson Commercial development located at 110 Copper Place, Ft. Lupton, Colorado. Lot 6 is part of the Vincents East Addition 3rd Filing 2nd Am Subdivision more generally located at the NE corner of Rollie Ave and HWY 52 (1st Street). The proposed project will develop the 0.817 acre lot into a commercial retail/dental development, developing approximately 9,200 building sq footage.

1.2 Description of Property

The proposed Hope Grayson Commercial is located on the subject property within the NW 1/4 of Section 5, Township 1 North, Range 66 West of the Sixth Prime Meridian, City of Fort Lupton, Colorado (see Vicinity Map in appendix). The parcel will be developed in 2 phases, with the site parking lot and south building as Phase 1, and the north building development including landscaping/water/sewer utilities for the north building will be developed in the future as Phase 2. This Drainage Report addresses the developed condition assuming both phases will be constructed. This property is zoned as C-1 (Commercial).

The total area of the existing property is approximately 0.817 acres. The existing terrain generally slopes from the southeast to the northwest corner of the property at grades ranging from 1% to 4%. The existing ground coverage is mostly native seed grasses and vegetation. Under existing conditions, storm runoff from the property sheet flows northwest to Copper Place west of the site and 2nd Street. Flows travel west and north to an existing detention pond developed for the shopping center. There are no existing irrigation facilities or canals on the property.

The Soil Survey of Weld County Area, Colorado, prepared by the U.S. Department of Agriculture Soil Conservation Service, shows that approx. 84% of the property is underlain by Julesburg sandy loam, a Hydrologic Soil Group A soil. The remaining portion of the property is underlain by Olney fine sandy loam, Hydrologic Soil Group B. A soils map is included in Appendix A.

The property is located within Zone X, area being located outside of the designated 500-year floodplain, as shown on the Flood Insurance Rate Map, Weld County, Colorado and Incorporated Areas, Map Number 08123C2110E, effective January 20, 2016. The ultimate drainageway for the property is the South Platte River.

Once developed, the Site will be comprised of two buildings, totaling an approx. 9,200 S.F. building area, trash enclosure, associated parking, landscaping, drive aisles, and sidewalks.

2 Drainage Design Criteria

2.1 Previous Investigations

A previous drainage study was performed for the regional commercial development titled, "Phase III Drainage Report for Vincent Village", dated July 3, 2019, prepared by Wilson & Company, Inc. This report will reference this drainage study to show how this site is being developed in conformance with the previously approved drainage study.

3 Drainage System Description

3.1 Existing Drainage Conditions

Under existing conditions stormwater runoff sheet flows from south to northwest eventually into storm sewer which flows to the existing north detention pond. The previous 7/3/2019 drainage study prepared by Wilson & Company delineates the project site within overall drainage basin C. Drainage basin C has a total area of 3.49 acres comprised of Lot 7, Lot 6, Lot 5, and Copper Place. Drainage basin C was designed with an overall site imperviousness of 80%. The developed imperviousness of Lot 6 when completed will be 64%. This calculation is shown in Appendix B. Since the site's imperviousness of 64% is less than the 80% design imperviousness shown in the Phase III Drainage Report, it can be derived that the development of Lot 6 will not generate more stormwater flow than design or adversely affect the existing drainage system within 2nd Street or the existing regional detention pond. It is anticipated that the flows from the developed site will be less than the design flows due to the lower impervious site coverage.

Flows sheet flow from the site to the site's parking lot, northwest to Copper Place and 2nd Street. A portion of the site south of the south building will flow south to an existing culvert under Copper Place and will convey flows west. It is anticipated that only the southern landscaped portion of the site will flow to the Copper Place culvert, therefore would not increase flows to the culvert greater than experienced in the undeveloped condition today.

Previous delineated drainage patterns will not change as result of this development. Drainage Basin C will maintain the same sheet flow drainage patterns as established by the Phase III Drainage Report. Per the Phase III Drainage Report, runoff from Lot 6 is captured by design points 5 and 7 within 2nd Street, and convey stormwater northwest to the existing regional detention pond.

The site's development area is less than 1.0 acres, therefore this site development is exempt from any water quality improvement requirements.

3.2 Off-site Tributary Area

Off-site tributary areas to the site do not appear to exist at this time.

4 Conclusion

The Hope Grayson Commercial Site contains 0.817 acres to be developed as a commercial retail development. The runoff from this development will be collected in area or curb inlets before flowing through underground pipes that discharge into the existing regional detention pond. Drainage patterns as described in the overall Phase III Drainage Report will be maintained for Lot 6 and developed impervious area will be less than the allowable maximum for the site. The development of Lot 6 is in conformance with the previously approved Phase III Drainage Study prepared by Wilson & Company, dated July 3, 2019.

References

- 1 Weld County Storm Drainage Design and Technical Criteria Manual
- 2 Urban Storm Drainage Criteria Manual, Urban Drainage and Flood Control District, September 2001, Vol 1, Revised March 2017, Vol 2, Revised September 2017, Vol 3, Revised November 2015.
- 3 Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM)
- 4 Natural Resources Conservation Service Web Soil Survey.

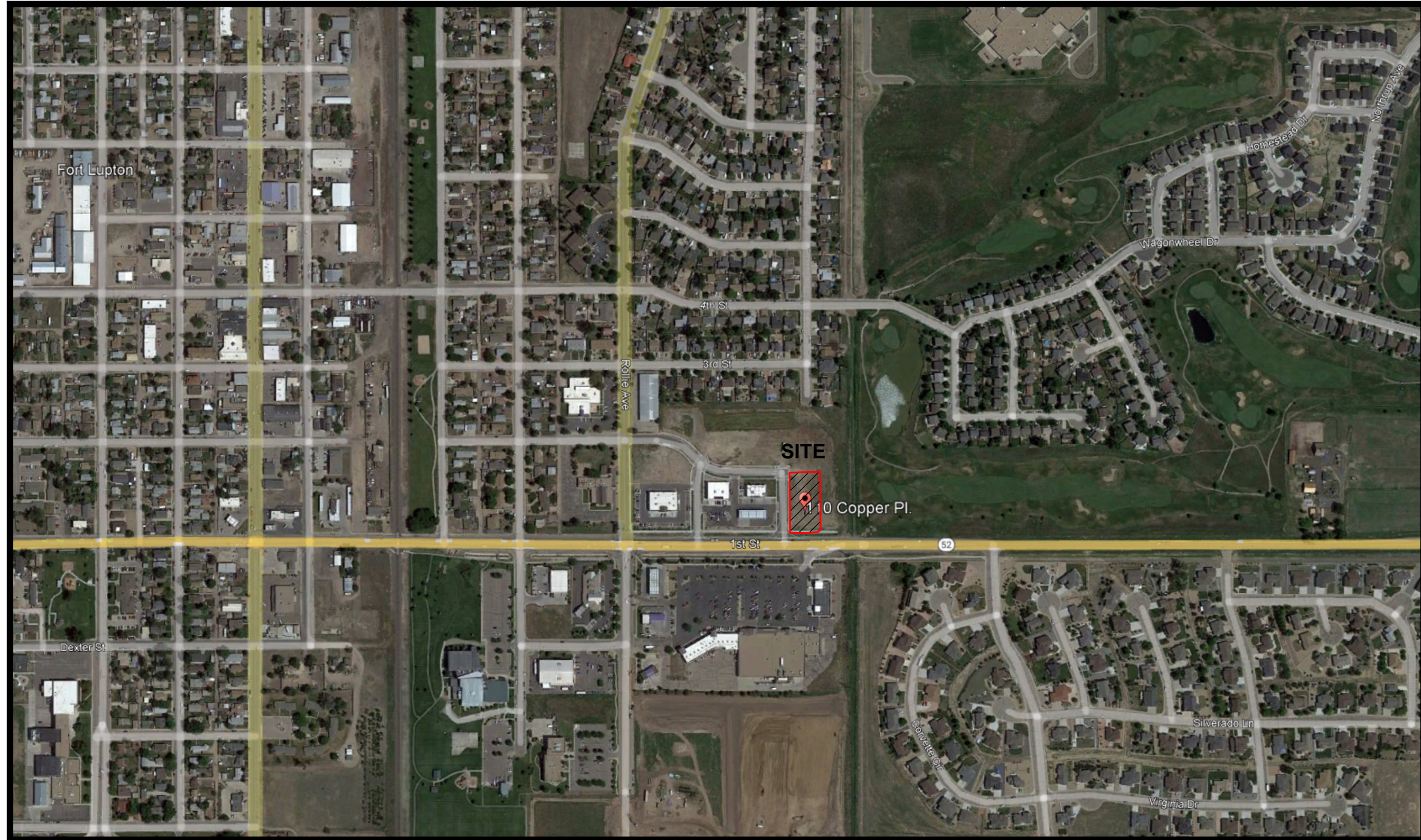
APPENDIX A

VICINITY MAP

FEMA FIRM MAP

SOILS MAP

PHASE III DRAINAGE MAP (WILSON & COMPANY 7/3/2019)



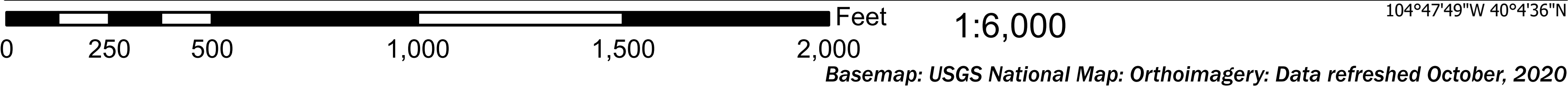
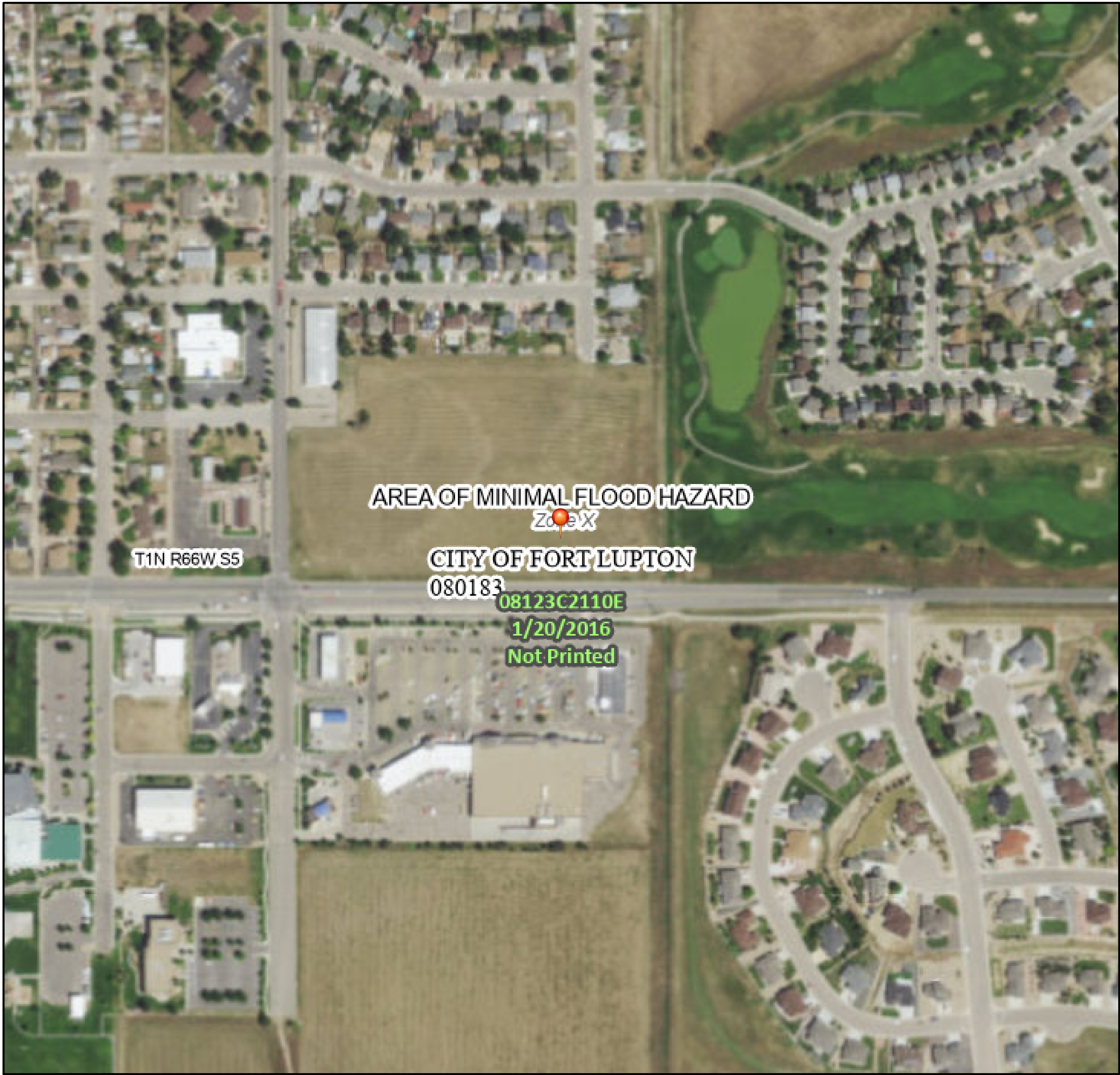
SCALE: NOT TO SCALE

VICINITY MAP

National Flood Hazard Layer FIRMette



104°48'26"W 40°5'4"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>
OTHER AREAS	NO SCREEN	Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
		Area of Undetermined Flood Hazard <i>Zone D</i>
GENERAL STRUCTURES	- - - -	Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **12/11/2021 at 2:39 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

FEMA FIRM MAP



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United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Weld County, Colorado, Southern Part



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

Preface	2
How Soil Surveys Are Made	5
Soil Map	8
Soil Map.....	9
Legend.....	10
Map Unit Legend.....	11
Map Unit Descriptions.....	11
Weld County, Colorado, Southern Part.....	13
29—Julesburg sandy loam, 0 to 1 percent slopes.....	13
47—Olney fine sandy loam, 1 to 3 percent slopes.....	14
75—Vona sandy loam, 0 to 1 percent slopes.....	15
References	17

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

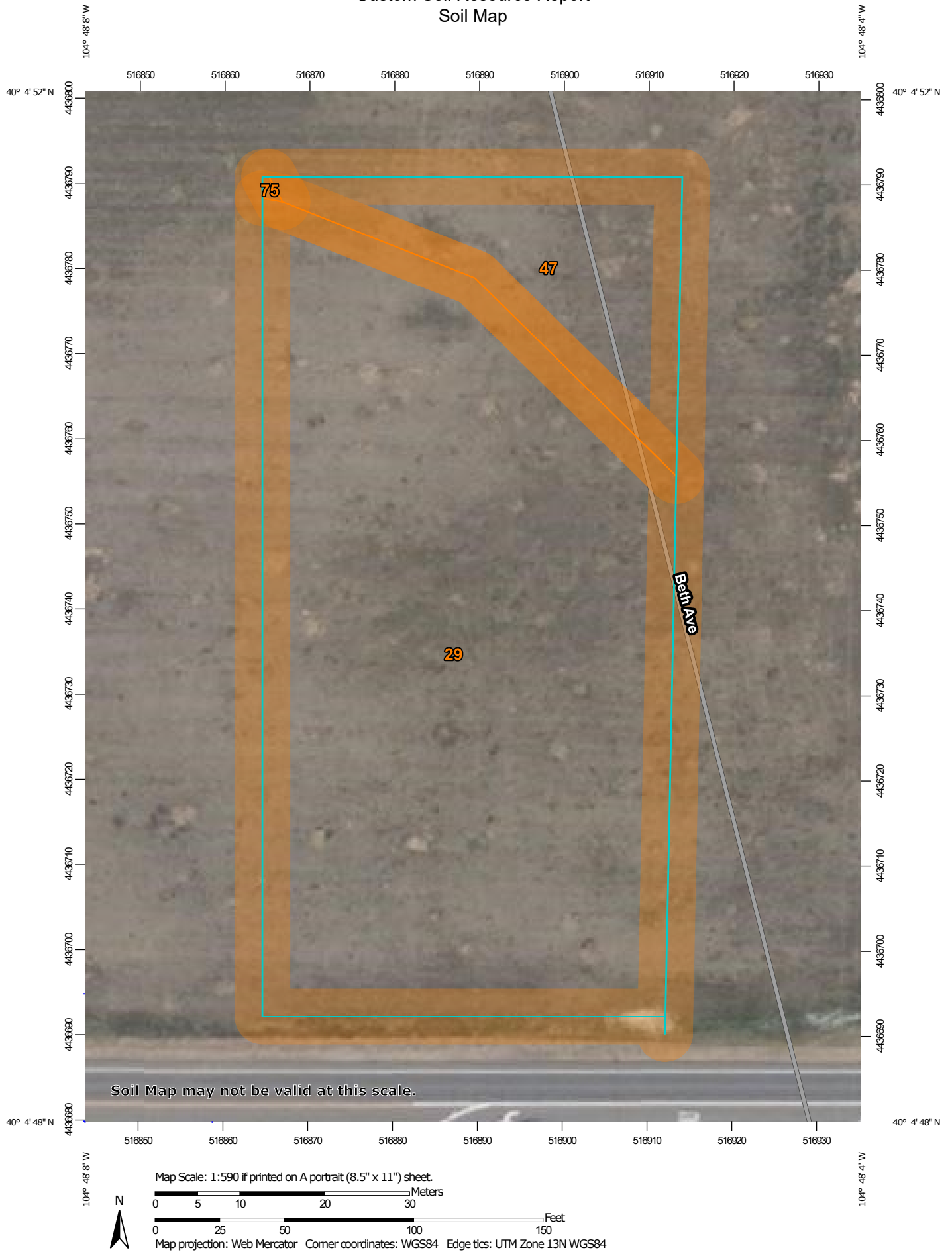
Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Weld County, Colorado, Southern Part
Survey Area Data: Version 20, Aug 31, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 19, 2018—Aug 10, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
29	Julesburg sandy loam, 0 to 1 percent slopes	1.0	84.4%
47	Olney fine sandy loam, 1 to 3 percent slopes	0.2	15.5%
75	Vona sandy loam, 0 to 1 percent slopes	0.0	0.1%
Totals for Area of Interest		1.2	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Weld County, Colorado, Southern Part

29—Julesburg sandy loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 3626

Elevation: 4,700 to 4,800 feet

Mean annual precipitation: 15 to 19 inches

Mean annual air temperature: 48 to 52 degrees F

Frost-free period: 145 to 155 days

Farmland classification: Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60

Map Unit Composition

Julesburg and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Julesburg

Setting

Landform: Terraces

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: South platte river alluvium

Typical profile

H1 - 0 to 12 inches: sandy loam

H2 - 12 to 27 inches: sandy loam

H3 - 27 to 60 inches: sand

Properties and qualities

Slope: 0 to 1 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): 2s

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: A

Ecological site: R067BY024CO - Sandy Plains

Hydric soil rating: No

Minor Components

Valent

Percent of map unit: 4 percent

Hydric soil rating: No

Edgar

Percent of map unit: 4 percent

Hydric soil rating: No

Remmit

Percent of map unit: 4 percent

Hydric soil rating: No

Vona

Percent of map unit: 3 percent

Hydric soil rating: No

47—Olney fine sandy loam, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 362v

Elevation: 4,600 to 5,200 feet

Mean annual precipitation: 11 to 15 inches

Mean annual air temperature: 46 to 54 degrees F

Frost-free period: 125 to 175 days

Farmland classification: Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60

Map Unit Composition

Olney and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Olney

Setting

Landform: Plains

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Mixed deposit outwash

Typical profile

H1 - 0 to 10 inches: fine sandy loam

H2 - 10 to 20 inches: sandy clay loam

H3 - 20 to 25 inches: sandy clay loam

H4 - 25 to 60 inches: fine sandy loam

Properties and qualities

Slope: 1 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Custom Soil Resource Report

Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Moderate (about 7.0 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability classification (nonirrigated): 4c

Hydrologic Soil Group: B

Ecological site: R067BY024CO - Sandy Plains

Hydric soil rating: No

Minor Components

Zigweid

Percent of map unit: 10 percent

Hydric soil rating: No

Vona

Percent of map unit: 5 percent

Hydric soil rating: No

75—Vona sandy loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 363v

Elevation: 4,650 to 4,950 feet

Mean annual precipitation: 13 to 15 inches

Mean annual air temperature: 48 to 55 degrees F

Frost-free period: 130 to 160 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Vona and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Vona

Setting

Landform: Terraces

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium

Typical profile

H1 - 0 to 6 inches: sandy loam

H2 - 6 to 28 inches: fine sandy loam

H3 - 28 to 60 inches: sandy loam

Properties and qualities

Slope: 0 to 1 percent

Custom Soil Resource Report

Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Hydrologic Soil Group: A
Ecological site: R067BY024CO - Sandy Plains
Hydric soil rating: No

Minor Components

Remmit

Percent of map unit: 11 percent
Hydric soil rating: No

Olney

Percent of map unit: 4 percent
Hydric soil rating: No

References

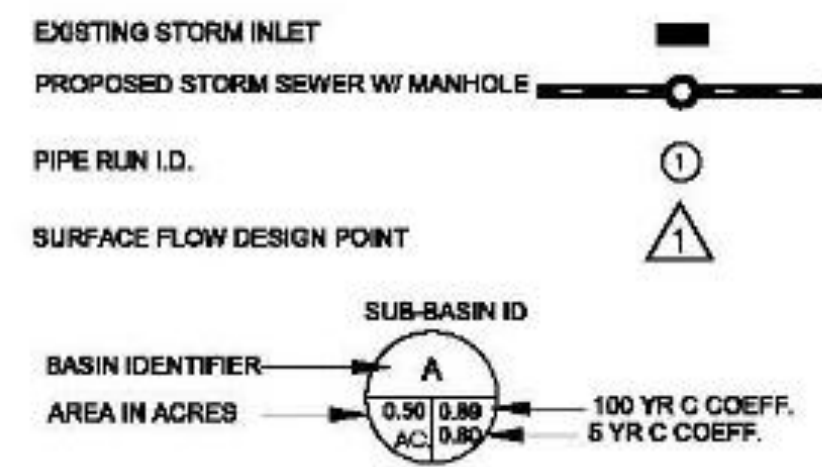
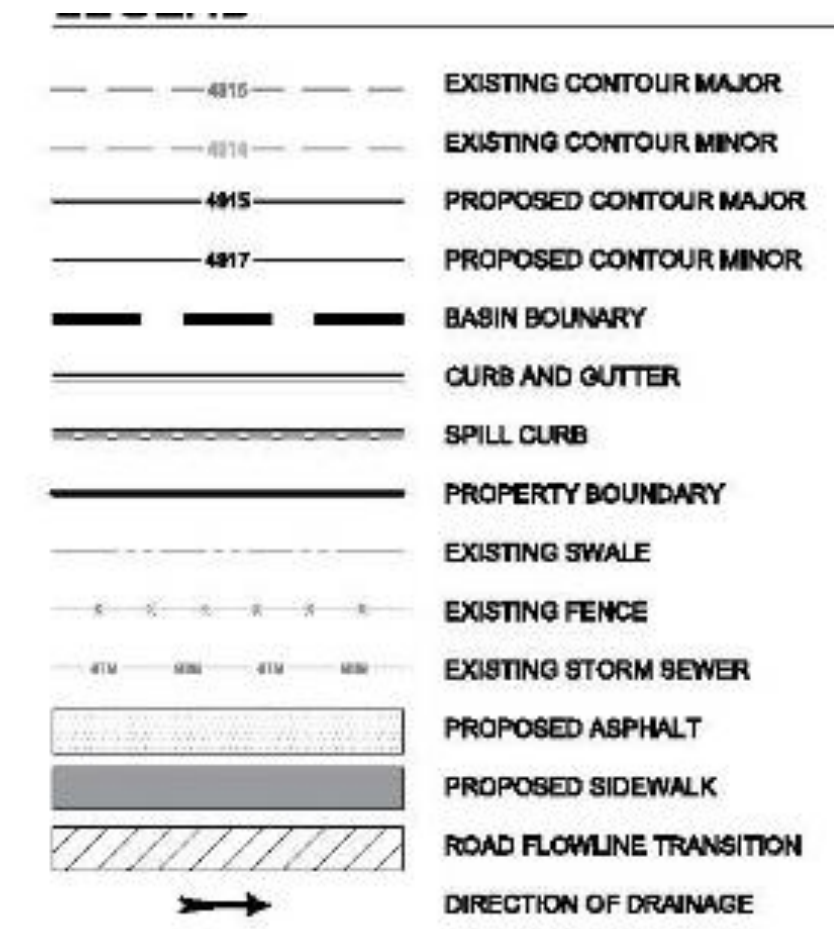
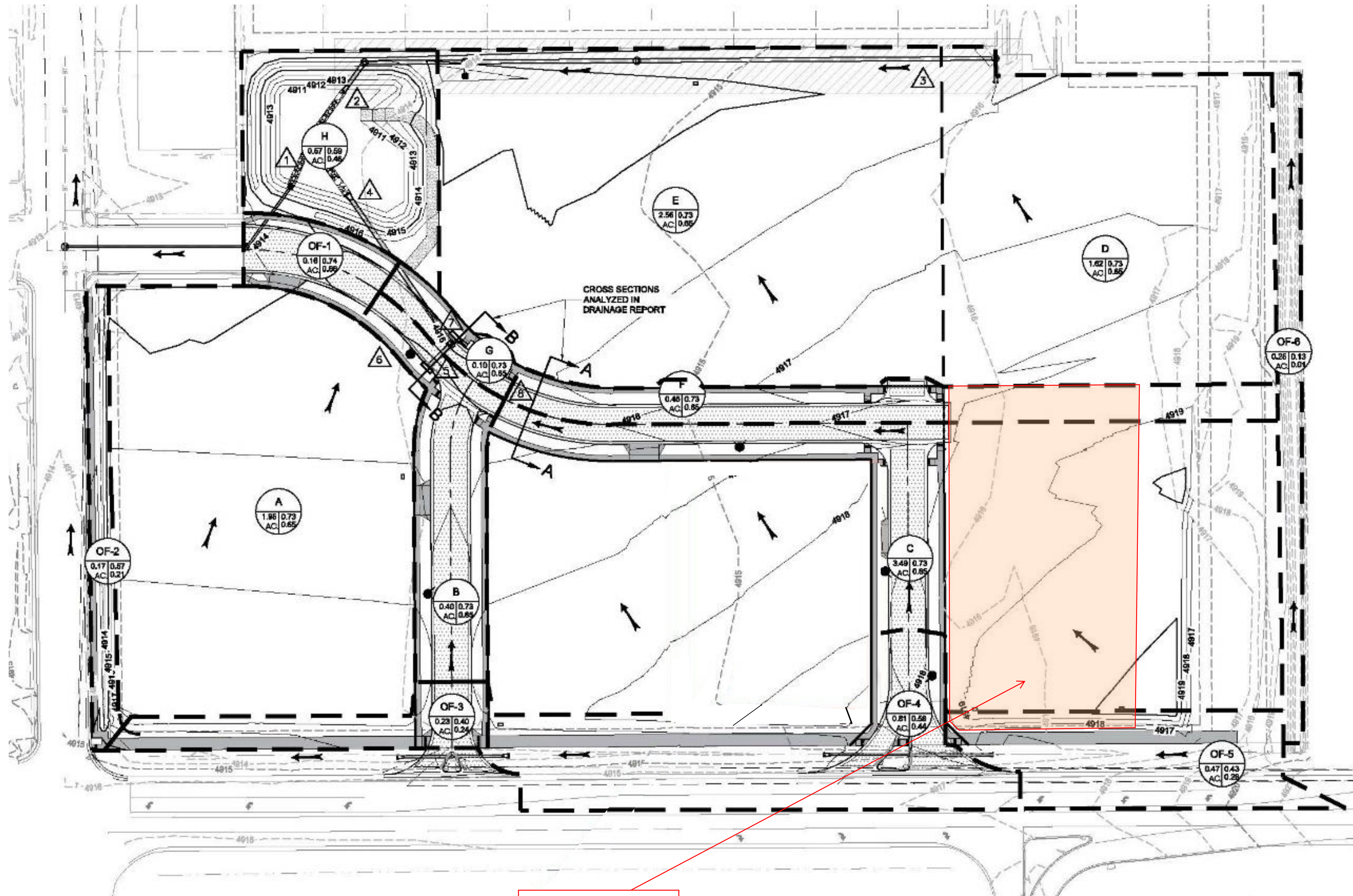
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Custom Soil Resource Report

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BASIN SUMMARY TABLE				
Basin Designation	Area (ac)	Q2 (cfs)	Q5 (cfs)	Q100 (cfs)
A	1.95	3.57	5.21	11.29
B	0.40	0.68	1.00	2.16
C	3.49	5.28	7.72	16.71
D	1.62	2.97	4.35	9.41
E	2.56	4.69	6.85	14.84
F	0.45	0.72	1.05	2.28
G	0.10	0.20	0.30	0.65
H	0.57	0.74	1.09	2.65
OF-1	0.16	0.32	0.46	0.99
OF-2	0.08	0.00	0.00	0.09
OF-3	0.23	0.17	0.25	0.80
OF-4	0.81	1.18	1.74	4.29
OF-5	0.47	0.42	0.63	1.86
OF-6	0.25	0.00	0.00	0.13

PEAK FLOW SUMMARY TABLE					
Design Point	Contributing Basin(s) (ac)	Contributing Area (ac)	Q2 (cfs)	Q5 (cfs)	Q100 (cfs)
1	A-H	11.13	18.85	27.57	60.00
2	D, E	4.18	7.66	11.20	24.25
3	D	1.62	2.97	4.35	9.41
4	A-C, F, G	6.38	10.45	15.28	33.09
5	A,B, C	5.84	9.53	13.93	30.16
6	A	1.95	3.57	5.21	11.29
7	F, G	0.54	0.92	1.35	2.93
8	C, F	3.93	6.00	8.77	18.99

SITE
LOT 6 -
0.817
ACRES



LEGAL DESCRIPTION
LOTS 1, 2, 3, 4 & OUTLOT A, VINCENT'S EAST ADDITION THIRD FILING,
COUNTY OF WELD, STATE OF COLORADO.

BASIS OF BEARING
GPS DERIVED BEARINGS BASED ON A BEARING OF SOUTH 00°18'11" EAST ALONG THE
EASTERLY LINE OF THE NORTHWEST QUARTER OF SECTION 5, BETWEEN A FOUND #6
REBAR WITH 3 1/4" ALUMINUM CAP "LS 14823" IN RANGE BOX PER MONUMENT RECORD
AT THE NORTH QUARTER CORNER OF SECTION 5 AND A FOUND #6 REBAR WITH 3 1/4"
ALUMINUM CAP "LS 13155" IN RANGE BOX (PER MONUMENT RECORD) AT THE CENTER
QUARTER CORNER OF SECTION 5 AS SHOWN HEREON. COLORADO STATE PLANE
COORDINATE SYSTEM, NORTH ZONE, NORTH AMERICAN DATUM 1983 (NAD83/07). ALL
BEARINGS SHOWN HEREON ARE RELATIVE THERETO.

BENCHMARK
GPS DERIVED ELEVATIONS BASED ON NGS POINT U 260 RESET, WITH A PUBLISHED
ELEVATION OF 4893.9 FEET (NAVD83), BEING A FOUND STANDARD NGS BM DISK
STAMPED U 260 RESET 1993 SET IN A DRILL HOLE IN A CONCRETE DIVISION BOX
LOCATED ON COUNTY ROAD 16. SEE NGS SHEET FOR MORE INFORMATION. AN
ONSITE BENCHMARK WAS ESTABLISHED AT THE SOUTHERLY END OF BETH AVENUE
R.O.W., BEING A SET 1 1/2" ALUMINUM CAP STAMPED "CP-1" WITH AN ELEVATION OF
4918.30 FEET.

PHASE III DRAINAGE
MAP (WILSON &
COMPANY JULY
2019)

APPENDIX B

RUNOFF IMPERVIOUS CALCULATIONS PROPOSED GRADING PLAN

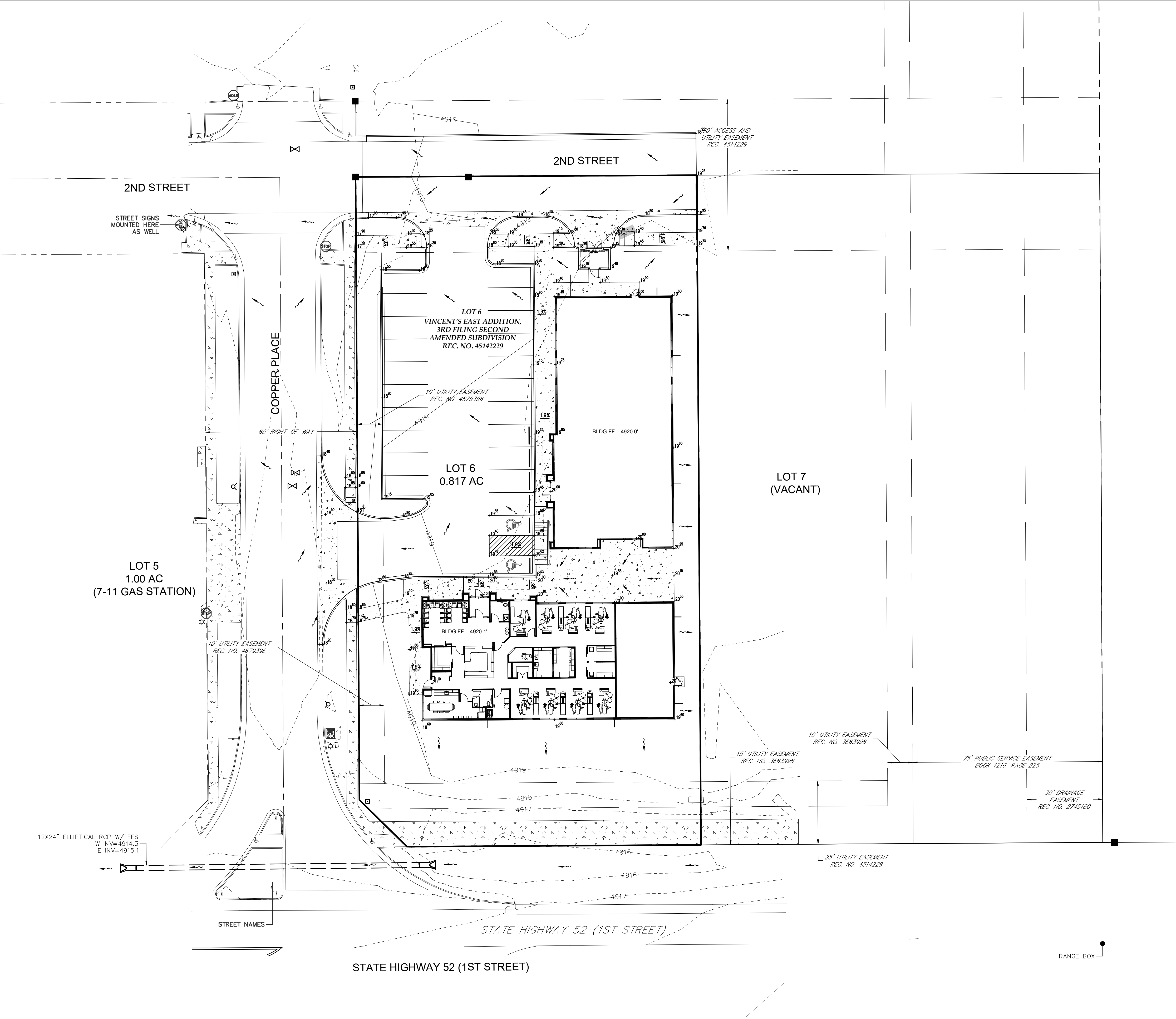
HOPE GRAYSON - LOT 6 - VINCENTS EAST ADDITION 3RD FIL 2ND SUB

Project #: CLE1105
Prepared By: ZMR

COMPOSITE BASIN - WEIGHTED "C" CALCULATIONS
-REFERENCE UDFCD Vol.1 RUNOFF Table 6-3

	Residential							Lawns					
	Single Family			Multi-Unit				Clay Soil					
	0.25 acres	3 DU's/Ac 3,000 sf 2 story	5 DU's/Ac 3,000 sf 2 story		(attached)	Roof	Streets: Paved	Gravel	2-7% Slope		>7% Slope	Historic	
% Imperv.	45.00%	48.00%	63.00%	75.00%	90.00%	100.00%	40.00%	2.00%	2.00%	2.00%			
												Total Area	Percent Impervious
BASIN	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area			
LOT 6					0.21	0.325		0.281			0.817	63.7%	
TOTAL	0.00	0.00	0.00	0.00	0.21	0.32	0.00	0.28	0.00	0.00	0.817	63.7%	

HOPE GRAYSON - SITE DEVELOPMENT PLAN - CASE NUMBER: SDP__-_____
LOT 6, VINCENT'S EAST ADDITION 3RD FILING SECOND AMENDED SUBDIVISION, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
110 COPPER PLACE, CITY OF FT. LUPTON, COLORADO



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ELECTRICAL LINE

FIBER-OPTIC LINE

GAS LINE

STORM SEWER LINE

WATER LINE

CONTOUR LINE

FENCE LINE

RAILING

GUARD RAIL RAILING

ACCESS PLATE

BOLLARD

CLEANOUT

COMMUNICATIONS PEDESTAL

ELECTRICAL METER

ELECTRIC TRANSFORMER

FIRE HYDRANT

GAS METER

IRRIGATION VALVE

LIGHT POLE (DIRECTIONAL)

MANHOLE

SIGN

STREET LIGHT

WATER METER

WATER VALVE

- GRADING PLAN NOTES:
1.

2.

3.

4.

5.

6.

7.

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11.

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13.

14.
- ALL SITE AND UTILITY WORK SHALL BE DONE IN CONFORMANCE WITH THE REQUIREMENTS OF THE LOCAL, STATE AND FEDERAL AUTHORITY HAVING JURISDICTION.

THE CONTRACTOR SHALL HAVE COPIES OF THE APPROVED PLANS ON THE JOBSITE AT ALL TIMES.

ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION AND DEPTH OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION. CALL THE UTILITY NOTIFICATION CENTER "811" PRIOR TO CONSTRUCTION.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING ALL INSPECTIONS WITH THE APPROPRIATE AGENCIES.

THE CONTRACTOR SHALL ADJUST ALL MANHOLES, CLEANOUTS AND VALVE BOXES TO FINISHED GRADE.

THE CONTRACTOR SHALL REFER TO THE BUILDING AND FOUNDATION PLANS FOR EXACT DIMENSIONS OF ALL BUILDINGS AND LOCATIONS OF UTILITY CONNECTIONS.

ALL SIDEWALKS AND HANDICAP RAMPS ALONG ACCESSIBLE ROUTES SHALL BE CONSTRUCTED TO MEET APPLICABLE ADA AND FHA STANDARDS. MAXIMUM CROSS SLOPE SHALL NOT EXCEED 1:50. THE MAXIMUM SLOPE OF A RAMP SHALL NOT EXCEED 1:12. ALL RAMPS SHALL BE PROVIDED WITH HANDRAILS (IF REQUIRED) AND LANDINGS IN ACCORDANCE WITH ADA AND FHA STANDARDS. HANDICAP DESIGNATED PARKING SPACES SHALL COMPLY WITH ADA STANDARDS. SURFACE SLOPES IN HANDICAP DESIGNATED PARKING SPACES SHALL NOT EXCEED 1:50 IN ALL DIRECTIONS.

WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH UTILITY, EITHER THROUGH POT-HOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

SURVEY INFORMATION AND TOPOGRAPHIC CONTOURS WERE PROVIDED BY OTHERS. CALIBRE ENGINEERING, INC. CANNOT BE HELD LIABLE FOR ANY INACCURACY IN THE SURVEY INFORMATION.

THIS DESIGN IS BASED ON A SOIL AND FOUNDATION INVESTIGATION REPORT. ALL CONCRETE, ASPHALT AND SUBGRADE SHALL BE PREPARED AND CONSTRUCTED ACCORDING TO THE RECOMMENDATIONS CONTAINED WITHIN THE GEOTECHNICAL REPORT PREPARED FOR THIS SITE.

CONTRACTOR SHALL USE THE GEOTECHNICAL REPORT FOR SPECIFICATIONS AND DETAILS FOR PLACEMENT OF PERIMETER DRAINS, UNDER-SLAB DRAINS, AND ANY OTHER GEOTECHNICAL RELATED ITEMS. ANY DISCREPANCY SHOULD BE REPORTED TO THE ENGINEER IMMEDIATELY.

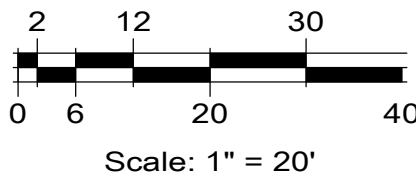
THE CONTRACTOR SHALL INFORM THE ARCHITECT/ENGINEER OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY FOR SUCH DEVIATION BY THE ARCHITECT/ENGINEER'S APPROVAL OF SHOP DRAWINGS, PRODUCT DATA, ETC., UNLESS HE HAS SPECIFICALLY INFORMED THE ARCHITECT/ENGINEER OF SUCH DEVIATION AT THE TIME OF SUBMISSION, AND THE ARCHITECT/ENGINEER HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION.

ALL THINGS WHICH, IN THE OPINION OF THE CONTRACTOR, APPEAR TO BE DEFICIENCIES, OMISSIONS, CONTRADICTIONS, SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. PLANS AND/OR SPECIFICATIONS WILL BE CORRECTED, OR WRITTEN INTERPRETATION OF THE ALLEGED DEFICIENCY, OMISSION, CONTRADICTION OR AMBIGUITY WILL BE MADE BY THE ENGINEER BEFORE THE AFFECTED WORK PROCEEDS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ERRORS OR DETAILING, FABRICATION AND INSTALLATION. THE CONTRACTOR SHALL MAKE ALL MEASUREMENTS IN THE FIELD NECESSARY TO VERIFY OR SUPPLEMENT DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS AND HE SHALL VERIFY THAT ALL DIMENSIONS SHOWN ON THE SHOP DRAWINGS ARE COORDINATED WITH THE DIMENSIONS AND REQUIREMENTS OF THE CONTRACT DRAWINGS. REVIEW OF THE SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OR RESPONSIBILITY FOR COMPLETING THE WORK SUCCESSFULLY IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS.

3 GRADING PLAN

SCALE: 1" = 20'



COLORADO
LAND
ENGINEERING

CIVIL ENGINEERING & LAND DEVELOPMENT CONSULTING

8824 S. UNIVERSITY BLVD. #150
CENTENNIAL, CO 80122
PHONE: (970) 270-6218
EMAIL: zcross@coloradeng.com

REVISIONS	DATE	DESCRIPTION
1	12/15/21	ADMINISTRATIVE SITE PLAN SUBMITTAL

HOPE GRAYSON
SITE DEVELOPMENT PLAN

LOT 6 - VINCENT'S EAST ADDITION 3RD FILING SECOND AMENDED SUBDIVISION,
CITY OF FT. LUPTON, COLORADO

SEAL

SCALE H: 1"=20'
V: N/A

JOB No. CLE1104

GRADING PLAN

C4.0

**GEOTECHNICAL SUBSURFACE EXPLORATION REPORT
RAMIREZ DENTAL FACILITY - LOT 6 VINCENT VILLAGE
NORTHEAST CORNER OF 1ST STREET & COPPER PLACE
FORT LUPTON, COLORADO
EEC PROJECT NO. 1212066**

Prepared for:

McCauley Constructors
650 Innovation Circle
Windsor, Colorado 80550

Attn: Ms. Anna Fluckey (anna.fluckey@mccauleyconstructors.com)

Prepared by:

Earth Engineering Consultants, LLC
4396 Greenfield Drive
Windsor, Colorado 80550



August 23, 2021



EARTH ENGINEERING
CONSULTANTS, LLC

McCauley Constructors
650 Innovation Circle
Windsor, Colorado 80550

Attn: Ms. Anna Fluckey (anna.fluckey@mccauleyconstructors.com)

Re: Geotechnical Subsurface Exploration Report
Ramirez Dental Facility – Lot 6 Vincent Village
Northeast of 1st Street and Copper Place
Fort Lupton, Colorado
EEC Project No. 1212066

Ms. Fluckey:

Enclosed, herewith, are the results of the subsurface exploration completed by Earth Engineering Consultants, LLC (EEC) for the referenced project. For this exploration, three (3) soil borings were extended to depths of approximately 10 to 25 feet below existing site grades at locations as presented herein. This subsurface exploration was carried out in general accordance with our proposal dated June 15, 2021.

In summary, the subsurface conditions encountered beneath the surficial vegetation, generally consisted of silty/clayey sand extending to depths of approximately 7 to 14 feet. The silty/clayey sand materials were generally loose to medium dense and exhibited low swell potential at current moisture and density conditions. A very stiff lean clay with varying amounts of sand seam was encountered at depths of approximately 14 feet in borings B-1 and B-2 and extended to the depths explored at 15 feet in boring B-1 and to sand/gravel soils at a depth of approximately 19 feet in boring B-2. Sand/gravel soils were encountered below the silty/clayey sand in boring B-3 and below the lean clay in boring B-2 at depths of approximately 7 to 19 feet, and extended to the depths explored, approximately 10 to 25 feet. Groundwater was observed at a depth of approximately 22 feet below the ground surface in boring B-2. Groundwater was not observed in the remaining borings which extended to depths of approximately 10 to 15 feet.

Based on the encountered subsurface conditions, in our opinion, the proposed building could be supported on conventional spread footings bearing on approved undisturbed native subsoils and/or approved engineered fill material. Interior floor slabs, exterior flatwork, and pavement

4396 GREENFIELD DRIVE
WINDSOR, COLORADO 80550
(970) 545-3908 FAX (970) 663-0282

sections could also be supported on approved undisturbed native subsoils and/or approved engineered fill materials provided the recommendations as presented in the attached report are adhered to. Geotechnical recommendations concerning design and construction of the proposed site improvements are provided within the attached report.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the enclosed report, or if we can be of further service to you in any other way, please do not hesitate to contact us.

Very truly yours,
Earth Engineering Consultants, LLC



Erin Dunn, E.I.
Project Engineer

Reviewed by:



David A. Richer, P.E.
Senior Geotechnical Engineer

**GEOTECHNICAL SUBSURFACE EXPLORATION REPORT
RAMIREZ DENTAL FACILITY - LOT 6 VINCENT VILLAGE
NORTHEAST CORNER OF 1ST STREET & COPPER PLACE
FORT LUPTON, COLORADO
EEC PROJECT NO. 1212066**

August 23, 2021

INTRODUCTION

The geotechnical subsurface exploration for the proposed Ramirez Dental Facility located at Lot 6 within the Vincent Village Development in Fort Lupton, Colorado has been completed. To develop subsurface information in the proposed development area, three (3) soil borings were drilled to depths of approximately 10 to 25 feet below existing site grades within the proposed building and pavement improvement areas. A diagram indicating the approximate boring locations is included with this report.

We understand the proposed development will include an approximate 8,000 square foot (sf) dental building constructed as slab-on-grade (no basement) along with associated pavement improvements and exterior flatwork. We anticipate maximum foundations loads will be relatively light to moderate with maximum wall and column loads less than 3 klf and 50 kips, respectively. Floor loads are expected to be relatively light. We anticipate pavements would be utilized by low volumes of light duty traffic with areas designated for low volumes of heavier duty traffic. If actual loads exceed those assumed herein, we should be consulted to review and modify the recommendations accordingly, if necessary. Small grade changes are expected to develop site grades for the proposed improvements.

The purpose of this report is to describe the subsurface conditions encountered in the test borings, analyze and evaluate the field and laboratory test data and provide geotechnical recommendations concerning design and construction of foundations and floor slabs and support of flatwork.

EXPLORATION AND TESTING PROCEDURES

The test boring locations were established in the field by EEC personnel by pacing and estimating angles from identifiable site features at pre-determined locations. The approximate locations of the borings are shown on the attached boring location diagram. The boring locations should be considered accurate only to the degree implied by the methods used to make the field measurements.

The test borings were advanced using a truck mounted, CME-55 drill rig equipped with a hydraulic head employed in drilling and sampling operations. The boreholes were advanced using 4-inch nominal diameter continuous flight augers. Samples of the subsurface materials encountered were obtained using split-barrel and California barrel sampling procedures in general accordance with ASTM Specifications D1586 and D3550, respectively.

In the split-barrel and California barrel sampling procedures, standard sampling spoons are advanced into the ground by means of a 140-pound hammer falling a distance of 30 inches. The number of blows required to advance the split-barrel and California barrel samplers is recorded and is used to estimate the in-situ relative density of cohesionless soils and, to a lesser degree of accuracy, the consistency of cohesive soils. In the California barrel sampling procedure, relatively intact samples are obtained in removable brass liners. All samples obtained in the field were sealed and returned to our laboratory for further examination, classification and testing.

Laboratory moisture content tests were completed on each of the recovered samples with unconfined compressive strength of appropriate samples estimated using a calibrated hand penetrometer. Atterberg limits and washed sieve analysis tests were completed on select samples to evaluate the quantity and plasticity of fines in the subgrades. Swell/consolidation testing was completed on select samples to evaluate the potential for the subgrade materials to change volume with variation in moisture content and load. Soluble sulfate tests were completed on selected samples to estimate the potential for sulfate attack on site cast concrete. Results of the outlined tests are indicated on the attached boring logs and summary sheets.

As part of the testing program, all samples were examined in the laboratory and classified in general accordance with the attached General Notes and the Unified Soil Classification System, based on the soil's texture and plasticity. The estimated group symbol for the Unified Soil Classification System is indicated on the boring logs and a brief description of that classification system is included with this report.

SITE AND SUBSURFACE CONDITIONS

The proposed building is planned for construction on lot 6 within the Vincent Village Development located at the northeast corner of 1st Street and Copper Place in Fort Lupton, Colorado. The lot is currently undeveloped. It is our understanding that the adjacent lot and surrounding infrastructure

were recently developed in the past few years. Based on our review of Google Earth Images of the site, it appears the proposed development was stripped and used as a staging area for the previous construction activities. Sparse vegetation and weeds were encountered at the surface of the borings at the time of our exploration. Ground surface in this area is relatively flat.

EEC field personnel were on site during drilling to evaluate the subsurface conditions encountered and direct the drilling activities. Field logs prepared by EEC site personnel were based on visual and tactual observation of disturbed samples and auger cuttings. The final boring logs included with this report may contain modifications to the field logs based on results of laboratory testing and evaluation. Based on results of the field borings and laboratory testing, subsurface conditions can be generalized as follows.

From the ground surface, the subgrades underlying the surficial vegetation consisted of silty/clayey sand extending to depths of approximately 7 to 14 feet. The silty/clayey sand materials were generally loose to medium dense and exhibited low swell potential at current moisture and density conditions. A very stiff lean clay with varying amounts of sand seam was encountered at depths of approximately 14 feet in borings B-1 and B-2 and extended to the depths explored at 15 feet in boring B-1 and to sand/gravel soils at a depth of approximately 19 feet in boring B-2. Sand/gravel soils were encountered below the silty/clayey sand in boring B-3 and below the lean clay in boring B-2 at depths of approximately 7 to 19 feet, and extended to the depths explored, approximately 10 to 25 feet.

The stratification boundaries indicated on the boring logs represent the approximate location of changes in soil types; in-situ, the transition of materials may be gradual and indistinct.

GROUNDWATER CONDITIONS

Observations were made while drilling and after completion of the borings to detect the presence and depth to hydrostatic groundwater. At the time of drilling, groundwater was observed at a depth of approximately 22 feet below the ground surface in boring B-2. Groundwater was not observed in the remaining borings which extended to depths of approximately 10 to 15 feet. The borings were backfilled upon completion of the drilling operations; therefore, subsequent groundwater measurements were not performed.

Fluctuations in groundwater levels can occur over time depending on variations in hydrologic conditions and other conditions not apparent at the time of this report. Longer term monitoring of water levels in cased wells, which are sealed from the influence of surface water, would be required to more accurately evaluate fluctuations in groundwater levels at the site. We have typically noted deepest groundwater levels in late winter and shallowest groundwater levels in mid to late summer.

ANALYSIS AND RECOMMENDATIONS

Swell – Consolidation Test Results

The swell-consolidation test is performed to evaluate the swell or collapse potential of soils to help determine foundation, floor slab and pavement design criteria. In this test, relatively undisturbed samples obtained directly from the California sampler are placed in a laboratory apparatus and inundated with water under a predetermined load. The swell-index is the resulting amount of swell after the inundation period expressed as a percent of the sample's preload/initial thickness. After the inundation period, additional incremental loads are applied to evaluate the swell pressure and/or consolidation.

For this assessment, we conducted three (3) swell-consolidation tests on relatively undisturbed soil samples obtained at various intervals/depths on the site. The swell index values for the in-situ soil samples analyzed revealed low swell characteristics as indicated on the attached swell test summaries. The following table summarizes the swell-consolidation laboratory test results for samples obtained during our field explorations for the subject site.

Table I – Laboratory Swell-Consolidation Test Results								
No of Samples Tested	Pre-Load / Inundation Pressure PSF	Description of Material	In-Situ Characteristics				Range of Swell – Index Test Results	
			Range of Moisture Contents		Range of Dry Densities			
			Low End, %	High End %	Low End PCF	High End PCF	Low End %	High End %
2	150	Silty / Clayey Sand	6.0	9.2	123.4	124.0	0.0	1.6
1	500	Silty Sand	6.5		114.2		0.0	

Colorado Association of Geotechnical Engineers (CAGE) uses the following information to provide uniformity in terminology between geotechnical engineers to provide a relative correlation of slab performance risk to measured swell. “The representative percent swell values are not necessarily

measured values; rather, they are a judgment of the swell of the soil and/or bedrock profile likely to influence slab performance.” Geotechnical engineers use this information to also evaluate the swell potential risks for foundation performance based on the risk categories.

Table II - Recommended Representative Swell Potential Descriptions and Corresponding Slab Performance Risk Categories		
Slab Performance Risk Category	Representative Percent Swell (500 psf Surcharge)	Representative Percent Swell (1000 psf Surcharge)
Low	0 to < 3	0 < 2
Moderate	3 to < 5	2 to < 4
High	5 to < 8	4 to < 6
Very High	> 8	> 6

Based on the laboratory test results, the in-situ samples analyzed for this project were within the low range.

General Considerations

Although undocumented fill materials were not observed/identified during our subsurface exploration, undocumented fill associated with the adjacent developed lot and pavement sections could be encountered on this site. The extent of any fill materials is best observed in open excavations and/or test pits and should be evaluated prior to placement of any new fill materials or site improvements. As outlined in the following section, we recommend removal of any fill materials without documentation or compaction verification, below proposed site improvements.

Site Preparation

Prior to placement of any fill and/or improvements, we recommend any existing vegetation, undocumented fill, flatwork, pavements, and any unsuitable materials be removed from the planned improvement areas. Care should be taken to remove and recompact any previously placed, undocumented fill material with unknown origin or compaction verification. The suitability of the in-place soils and extent of fill materials can best be determined through open hole evaluations, prior to construction of site improvements. Over excavation to remove any undocumented fill materials in the building area should be extended to a uniform depth and should extend a minimum 8 inches

laterally for every 12 inches of depth. Over excavation to remove any undocumented fill materials in pavement areas should extend from back of curb to back of curb.

After removal of all topsoil, vegetation, overexcavation, and removal of unacceptable or unsuitable subsoils and prior to placement of fill, the exposed soils should be scarified to a depth of 9 inches, adjusted in moisture content to within $\pm 2\%$ of standard Proctor optimum moisture content and compacted to at least 95% of the material's standard Proctor maximum dry density as determined in accordance with ASTM Specification D698.

Fill materials used to develop site grades, and for foundation backfill should consist of an approved low volume change material, in our opinion, soils similar to the site silty/clayey sand materials or imported granular structural fill material could be used. Imported granular materials should be graded similarly to a CDOT Class 5, 6, or 7 aggregate base. Fill materials should be placed in loose lifts not to exceed 9 inches thick, adjusted in moisture content to within $\pm 2\%$ of standard Proctor optimum moisture content and compacted to at least 95% of the material's standard Proctor maximum dry density as determined in accordance with ASTM Specification D698.

Care should be exercised after preparation of the subgrades to avoid disturbing the subgrade materials. Materials which are loosened or disturbed should be reworked prior to placement of foundations/flatwork.

Footing Foundations

Based on materials observed from the test boring locations, it is our opinion that the proposed building could be supported on conventional footing foundations bearing on approved native undisturbed subsoils or properly placed fill materials, prepared as recommended in the section *Site Preparation*. Due to the potential of varying in-situ characteristics within potential backfill areas near the existing building, it is our opinion any existing fill material should be removed within the foundation bearing alignments and replaced with an approved on-site soils or an approved imported granular structural fill material. For design of footing foundations bearing on suitable strength subsoils or on properly placed fill, we recommend using a net allowable total load soil bearing pressure not to exceed 2,000 psf. The net bearing pressure refers to the pressure at foundation bearing level in excess of the minimum surrounding overburden pressure. Total loads should include full dead and live loads.

Exterior foundations and foundations in unheated areas should be located a minimum of 30 inches below adjacent exterior grade to provide frost protection. We recommend formed continuous footings have a minimum width of 12 inches and isolated column foundations have a minimum width of 24 inches. Trenched foundations should not be used.

No unusual problems are anticipated in completing the excavations required for construction of the footing foundations. Care should be taken during construction to avoid disturbing the foundation bearing materials. Materials which are loosened or disturbed by the construction activities or materials which become dry and desiccated or wet and softened should be removed and replaced prior to placement of foundation concrete. Care should be taken to ensure spread footings are placed on similar materials in order to provide a uniform bearing stratum.

We estimate the long-term settlement of footing foundations designed and constructed as outlined above would be 1 inch or less.

Floor Slabs and Exterior Flatwork

Subgrades for floor slabs and exterior flatwork should be prepared as outlined in the section *Site Preparation*. For structural design of concrete slabs-on-grade, a modulus of subgrade reaction of 100 pounds per cubic inch (pci) could be used for floors supported on undisturbed native soils or properly placed fill materials.

Additional floor slab design and construction recommendations are as follows:

- Interior partition walls should be separated/floated from floor slabs to allow for independent movement.
- Positive separations and/or isolation joints should be provided between slabs and all foundations, columns, and utility lines to allow for independent movement.
- Control joints should be provided in slabs to control the location and extent of cracking.
- Interior trench backfill placed beneath slabs should be compacted in a similar manner as previously described for imported structural fill material.
- Floor slabs should not be constructed on frozen subgrade.

- Other design and construction considerations as outlined in the ACI Design Manual should be followed.

For interior floor slabs, depending on the type of floor covering and adhesive used, those material manufacturers may require that specific subgrade, capillary break, and/or vapor barrier requirements be met. The project architect and/or material manufacturers should be consulted with for specific under slab requirements.

Care should be exercised after development of the floor slab and exterior flatwork subgrades to prevent disturbance of the in-place materials. Subgrade soils which are loosened or disturbed by construction activities or soils which become wet and softened or dry and desiccated should be removed and replaced or reworked in place prior to placement of the overlying slabs.

Lateral Earth Pressures

Portions of the new structure or site improvements which are constructed below grade may be subject to lateral earth pressures. Passive lateral earth pressures may help resist the driving forces for retaining wall or other similar site structures. Active lateral earth pressures could be used for design of structures where some movement of the structure is anticipated, such as retaining walls. The total deflection of structures for design with active earth pressure is estimated to be on the order of one half of one percent of the height of the down slope side of the structure. We recommend at-rest pressures be used for design of structures where rotation of the walls is restrained, such as below grade walls for a building. Passive pressures and friction between the footing and bearing soils could be used for design of resistance to movement of retaining walls.

Coefficient values for backfill with anticipated types of soils for calculation of active, at-rest and passive earth pressures are provided in Table III below. Equivalent fluid pressure is equal to the coefficient times the appropriate soil unit weight. Those coefficient values are based on horizontal backfill with backfill soils consisting of on-site essentially cohesive subsoils. For at-rest and active earth pressures, slopes down and away from the structure would result in reduced driving forces with slopes up and away from the structures resulting in greater forces on the walls. The passive resistance would be reduced with slopes away from the wall. The top 30 inches of soil on the passive resistance side of walls could be used as a surcharge load; however, should not be used as a part of the passive resistance value. Frictional resistance is equal to the tangent of the friction angle

times the normal force. Surcharge loads or point loads placed in the backfill can also create additional loads on below grade walls. Those situations should be designed on an individual basis.

Table III - Lateral Earth Pressures		
Soil Type	On-Site Overburden Cohesive Soils	Imported Medium Dense Granular Material
Wet Unit Weight (psf)	115	135
Saturated Unit Weight (psf)	135	140
Friction Angle (ϕ) – (assumed)	25°	35°
Active Pressure Coefficient	0.40	0.27
At-rest Pressure Coefficient	0.58	0.43
Passive Pressure Coefficient	2.46	3.70

The outlined values do not include factors of safety nor allowances for hydrostatic loads and are based on assumed friction angles, which should be verified after potential material sources have been identified. Care should be taken to develop appropriate drainage systems behind below grade walls to eliminate potential for hydrostatic loads developing on the walls. Those systems would likely include perimeter drain systems extending to sump areas or free outfall where reverse flow cannot occur into the system. Where necessary, appropriate hydrostatic load values should be used for design.

Seismic

The site soil conditions generally consist of sandy lean clay with zones of silty/clayey sand with occasional clay seams underlain by sand/gravel which extended to the depths explored, approximately 10 to 25 feet. For those site conditions, the International Building Codes indicates a Seismic Site Classification of D. Drilling to a greater depth could reveal a different site classification.

Pavements

Pavement subgrades should be prepared as outlined in the section *Site Preparation*. We anticipate the site pavements would include areas designated for low volumes of light weight automobiles (light duty) and areas of higher volumes of light weight automobiles and low volumes of trucks (heavy duty). An equivalent daily load application (EDLA) value of 7 was assumed for light duty areas and an EDLA of 15 was assumed for heavy duty areas.

Proof rolling and recompacting the subgrade is recommended immediately prior to placement of the aggregate road base section. Soft or weak areas delineated by the proof rolling operations should be undercut or stabilized in-place to achieve the appropriate subgrade support. Based on the subsurface conditions encountered at the site, an assumed R-value of 10 was used in design of the pavement sections.

If additional stabilization is required, consideration could be given to a fly ash or Portland cement treatment of the subgrades. The treatment process would involve incorporating either Class C fly ash or Portland cement within the upper 12-inches of the pavement subgrade sections from back of curb to back of curb prior to construction of the overlying pavement structure. Stabilization would consist of blending 13% by dry weight of Class C fly ash or 4% by dry weight of Portland cement in the top 12 inches of the subgrades. The blended materials should be adjusted in moisture content to slightly dry of standard Proctor optimum moisture content and compacted to at least 95% of the materials maximum dry density as determined in accordance with the standard Proctor procedure. Compaction of the subgrade should be completed within two hours after initial blending of the Class C fly ash.

Recommended minimum pavement sections are provided below in Table IV. HBP sections may show rutting/distress in truck loading and drive areas; therefore, concrete pavements should be considered in these areas. The recommended pavement sections are considered minimum; thus, periodic maintenance should be expected.

Table IV –Recommended Minimum Pavement Sections		
	Automobile Parking	Heavy Duty Areas
18-kip EDLA	7	15
18-kip ESAL's	51,100	109,500
Reliability	75%	85%
Resilient Modulus (R = 10)	3562 psi	3562 psi
PSI Loss	2.5	2.2
Design Structure Number	2.47	2.96
(A) Composite		
Hot Bituminous Pavement	4"	5"
Aggregate Base	7"	7"
(Design Structural Number)	(2.53)	(2.97)
(B) Composite with Fly Ash Treated Subgrade		
Hot Bituminous Pavement	3½"	4"
Aggregate Base	6"	7"
Fly Ash Treated Subgrade	12"	12"
(Design Structure Number)	(2.70)	(3.03)
(C) PCC (Non-reinforced)	5"	6"

We recommend aggregate base meet a CDOT Class 5 or 6 aggregate base. Aggregate base should be adjusted in moisture content and compacted to achieve a minimum of 95% of standard Proctor maximum dry density.

HBP should be graded as an approved $\frac{3}{4}$ -inch mix prepared with 75 gyrations using a Superpave gyratory compactor in accordance with CDOT standards. The HBP should consist of PG 64-22 asphalt binder. HBP should be compacted to achieve 92 to 96% of the mix's theoretical maximum specific gravity (Rice Value).

Portland cement concrete should be an approved exterior pavement mix with a minimum 28-day compressive strength of 4,500 psi and should be air entrained. Wire mesh or fiber could be considered to reduce shrinkage cracking.

The recommended pavement sections are minimums; thus, periodic maintenance should be expected. Longitudinal and transverse joints should be provided as needed in concrete pavements for expansion/contraction and isolation. The location and extent of joints should be based upon the final pavement geometry. Sawed joints should be cut in accordance with ACI recommendations. All joints should be sealed to prevent entry of foreign material and dowelled where necessary for load transfer.

Long-term pavement performance will be dependent upon several factors, including maintaining subgrade moisture levels and providing for preventive maintenance. The following recommendations should be considered the minimum:

- The subgrade and the pavement surface should be adequately sloped to promote proper surface drainage.
- Install pavement drainage surrounding areas anticipated for frequent wetting (e.g., garden centers, wash racks).
- Install joint sealant and seal cracks immediately.
- Seal all landscaped areas in, or adjacent to pavements to minimize or prevent moisture migration to subgrade soils.
- Place and compact low permeability backfill against the exterior side of curb and gutter, and
- Placing curb, gutter, and/or sidewalk directly on approved proof rolled subgrade soils without the use of base course materials.

If during or after placement of the initial lift of pavement, the area is observed to be yielding under vehicle traffic or construction equipment, it is recommended that EEC be contacted for methods of stabilization, or a change in the pavement section.

Water Soluble Sulfates (SO₄)

The water-soluble sulfate (SO₄) content of the on-site overburden subsoils, taken during our subsurface exploration at random locations and intervals are provided below. Based on reported sulfate content test results, the Class/severity of sulfate exposure for concrete in contact with the on-site subsoils is provided in this report.

Table V - Water Soluble Sulfate Test Results		
Sample Location	Description	% of Soil by Weight
B-1, S-2, at 4'	Clayey Sand	0.03
B-1, S-1, at 2'	Silty / Clayey Sand	0.03

Based on the results as presented above, ACI 318, Section 4.2 indicates the site silty/clayey sand soils have a low risk of sulfate attack on Portland cement concrete, therefore, ACI Class S0 requirements should be followed for concrete placed in the overburden soils. Foundation concrete should be designed in accordance with the provisions of the ACI Design Manual, Section 318, Chapter 4.

Other Considerations

Positive drainage should be developed away from the structure and playground/exterior flatwork areas with a minimum slope of 1 inch per foot for the first 10 feet away from the improvements in landscape areas. Care should be taken in planning of landscaping adjacent to the buildings to avoid features which would pond water adjacent to the foundations or stem walls. Placement of plants which require irrigation systems or could result in fluctuations of the moisture content of the subgrade material should be avoided adjacent to site improvements. Irrigation systems should not be placed within 5 feet of the perimeter of the buildings and parking areas. Spray heads should be designed not to spray water on or immediately adjacent to the structures or exterior flatwork. Roof drains should be designed to discharge at least 5 feet away from the structures and away from the pavement areas.

Excavations into the on-site clayey sand or sandy lean clay can be expected to stand on relatively steep, temporary slopes during construction. Excavations into primarily silty sand or sand/gravel soils have the potential for caving and/or sloughing. The individual contractor(s) should be made responsible for designing and constructing stable, temporary excavations as required to maintain stability of both the excavation sides and bottom. All excavations should be sloped or shored in the interest of safety following local and federal regulations, including current OSHA excavation and trench safety standards.

GENERAL COMMENTS

The analysis and recommendations presented in this report are based upon the data obtained from the soil borings performed at the indicated locations and from any other information discussed in this report. This report does not reflect any variations, which may occur between borings or across the site. The nature and extent of such variations may not become evident until construction. If variations appear evident, it will be necessary to re-evaluate the recommendations of this report.

It is recommended that the geotechnical engineer be retained to review the plans and specifications, so comments can be made regarding the interpretation and implementation of our geotechnical recommendations in the design and specifications. It is further recommended that the geotechnical engineer be retained for testing and observations during earthwork phases to help determine that the design requirements are fulfilled.

This report has been prepared for the exclusive use of McCauley Constructors for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No warranty, express or implied, is made. In the event that any changes in the nature, design, or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed, and the conclusions of this report are modified or verified in writing by the geotechnical engineer.

DRILLING AND EXPLORATION

DRILLING & SAMPLING SYMBOLS:

SS: Split Spoon - 13/8" I.D., 2" O.D., unless otherwise noted
 ST: Thin-Walled Tube - 2" O.D., unless otherwise noted
 R: Ring Barrel Sampler - 2.42" I.D., 3" O.D. unless otherwise noted
 PA: Power Auger
 HA: Hand Auger
 DB: Diamond Bit = 4", N, B
 AS: Auger Sample
 HS: Hollow Stem Auger

PS: Piston Sample
 WS: Wash Sample
 FT: Fish Tail Bit
 RB: Rock Bit
 BS: Bulk Sample
 PM: Pressure Meter
 WB: Wash Bore

Standard "N" Penetration: Blows per foot of a 140 pound hammer falling 30 inches on a 2-inch O.D. split spoon, except where noted.

WATER LEVEL MEASUREMENT SYMBOLS:

WL : Water Level
 WCI: Wet Cave in
 DCI: Dry Cave in
 AB : After Boring

WS : While Sampling
 WD : While Drilling
 BCR: Before Casing Removal
 ACR: After Casting Removal

Water levels indicated on the boring logs are the levels measured in the borings at the time indicated. In pervious soils, the indicated levels may reflect the location of ground water. In low permeability soils, the accurate determination of ground water levels is not possible with only short term observations.

DESCRIPTIVE SOIL CLASSIFICATION

Soil Classification is based on the Unified Soil Classification system and the ASTM Designations D-2488. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; they are described as: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are described as: clays, if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse grained soils are defined on the basis of their relative in-place density and fine grained soils on the basis of their consistency. Example: Lean clay with sand, trace gravel, stiff (CL); silty sand, trace gravel, medium dense (SM).

CONSISTENCY OF FINE-GRAINED SOILS

Unconfined Compressive
 Strength, Qu, psf

Consistency

< 500	Very Soft
500 - 1,000	Soft
1,001 - 2,000	Medium
2,001 - 4,000	Stiff
4,001 - 8,000	Very Stiff
8,001 - 16,000	Very Hard

RELATIVE DENSITY OF COARSE-GRAINED SOILS:

N-Blows/ft	Relative Density
0-3	Very Loose
4-9	Loose
10-29	Medium Dense
30-49	Dense
50-80	Very Dense
80 +	Extremely Dense

PHYSICAL PROPERTIES OF BEDROCK

DEGREE OF WEATHERING:

Slight	Slight decomposition of parent material on joints. May be color change.
Moderate	Some decomposition and color change throughout.
High	Rock highly decomposed, may be extremely broken.

HARDNESS AND DEGREE OF CEMENTATION:

Limestone and Dolomite:

Hard	Difficult to scratch with knife.
Moderately	Can be scratched easily with knife.
Hard	Cannot be scratched with fingernail.
Soft	Can be scratched with fingernail.

Shale, Siltstone and Claystone:

Hard	Can be scratched easily with knife, cannot be scratched with fingernail.
Moderately	Can be scratched with fingernail.
Hard	
Soft	Can be easily dented but not molded with fingers.

Sandstone and Conglomerate:

Well Cemented	Capable of scratching a knife blade.
Cemented	Can be scratched with knife.
Poorly Cemented	Can be broken apart easily with fingers.



UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests				Soil Classification	
				Group Symbol	Group Name
Coarse - Grained Soils more than 50% retained on No. 200 sieve	Gravels more than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels Less than 5% fines	$Cu \geq 4$ and $1 < Cc \leq 3^E$	GW	Well-graded gravel ^F
			$Cu < 4$ and/or $1 > Cc > 3^E$	GP	Poorly-graded gravel ^F
		Gravels with Fines more than 12% fines	Fines classify as ML or MH	GM	Silty gravel ^{G,H}
			Fines Classify as CL or CH	GC	Clayey Gravel ^{F,G,H}
	Sands 50% or more coarse fraction passes No. 4 sieve	Clean Sands Less than 5% fines	$Cu \geq 6$ and $1 < Cc \leq 3^E$	SW	Well-graded sand ^I
			$Cu < 6$ and/or $1 > Cc > 3^E$	SP	Poorly-graded sand ^I
		Sands with Fines more than 12% fines	Fines classify as ML or MH	SM	Silty sand ^{G,H,I}
			Fines classify as CL or CH	SC	Clayey sand ^{G,H,I}
Fine-Grained Soils 50% or more passes the No. 200 sieve	Silt and Clays Liquid Limit less than 50	inorganic	$PI > 7$ and plots on or above "A" Line	CL	Lean clay ^{K,L,M}
			$PI < 4$ or plots below "A" Line	ML	Silt ^{K,L,M}
		organic	Liquid Limit - oven dried < 0.75	OL	Organic clay ^{K,L,M,N}
			Liquid Limit - not dried		Organic silt ^{K,L,M,O}
	Silt and Clays Liquid Limit 50 or more	inorganic	PI plots on or above "A" Line	CH	Fat clay ^{K,L,M}
			PI plots below "A" Line	MH	Elastic Silt ^{K,L,M}
		organic	Liquid Limit - oven dried < 0.75	OH	Organic clay ^{K,L,M,P}
			Liquid Limit - not dried		Organic silt ^{K,L,M,O}
		Highly organic soils			PT Peat
		Primarily organic matter, dark in color, and organic odor			

^ABased on the material passing the 3-in. (75-mm) sieve

^BIf field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

^CGravels with 5 to 12% fines required dual symbols:

GW-GM well graded gravel with silt
GW-GC well-graded gravel with clay
GP-GM poorly-graded gravel with silt
GP-GC poorly-graded gravel with clay

^DSands with 5 to 12% fines require dual symbols:

SW-SM well-graded sand with silt
SW-SC well-graded sand with clay
SP-SM poorly graded sand with silt
SP-SC poorly graded sand with clay

$$^E C_u = D_{60} / D_{10} \quad C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$$

^FIf soil contains $\geq 15\%$ sand, add "with sand" to

^GIf fines classify as CL-ML, use dual symbol GC-CM, or SC-SM.

^HIf fines are organic, add "with organic fines" to group name

^IIf soil contains $> 15\%$ gravel, add "with gravel" to group name

^JIf Atterberg limits plots shaded area, soil is a CL-ML, Silty clay

^KIf soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel", whichever is predominant.

^LIf soil contains $\geq 30\%$ plus No. 200 predominantly sand, add "sandy" to group name.

^MIf soil contains $\geq 30\%$ plus No. 200 predominantly gravel, add "gravelly" to group name.

^N $PI \geq 4$ and plots on or above "A" line.

^O $PI \leq 4$ or plots below "A" line.

^P PI plots on or above "A" line.

^Q PI plots below "A" line.

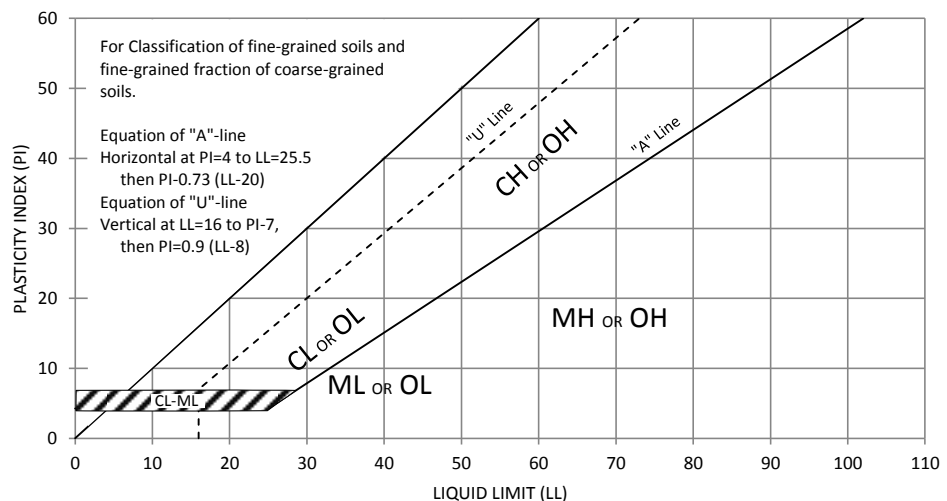




PHOTO # 1



PHOTO # 2

RAMIREZ DENTAL FACILITY
FORT LUPTON, COLORADO
EEC PROJECT No. 1212066
AUGUST 2021



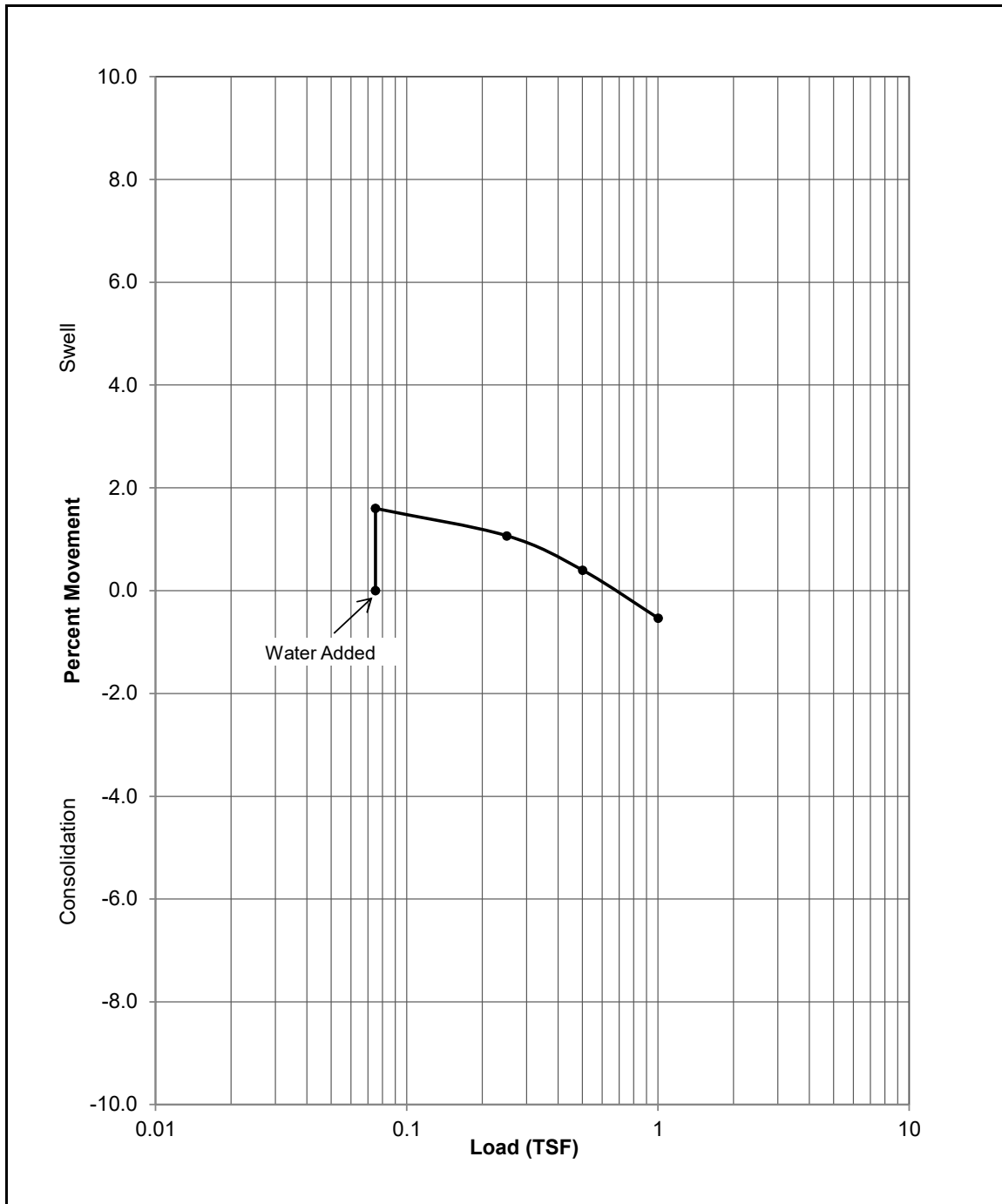
RAMIREZ DENTAL FACILITY													
FORT LUPTON, COLORADO													
PROJECT NO: 1212066		LOG OF BORING B-1 SHEET 1 OF 1					DATE: AUGUST 2021						
RIG TYPE: CME55							WATER DEPTH						
FOREMAN: DG		START DATE		8/4/2021		WHILE DRILLING			None				
AUGER TYPE: 4" CFA		FINISH DATE		8/4/2021									
SPT HAMMER: AUTOMATIC													
SOIL DESCRIPTION		D	N	QU	MC	DD	A-LIMITS		-200	SWELL			
		TYPE	(FEET)	(BLOWS/FT)	(PSF)	(%)	(PCF)	LL	PI	(%)	PRESSURE	% @ 500 PSF	
SPARSE WEEDS / VEGETATION CLAYEY SAND (SC) brown medium dense with gravel			--										
			1										
			--										
			2										
			--										% @ 150 PSF
		CS	3	24	9000+	6.0	124.4	34	18	18.8	1400 PSF	1.6%	
			--										
			4										
			--										
		SS	5	18	7000	5.9							
			--										
			6										
			--										
			7										
	--												
	8												
	--												
	9												
	--												
	10	10	1000	4.0	108.9			30.6					
	--												
	11												
	--												
	12												
	--												
	13												
	--												
	14												
	--												
SANDY LEAN CLAY (CL) brown very stiff, with calcareous deposits	SS	15	16	9000+	16.2								
BOTTOM OF BORING DEPTH 15.5'			--										
			16										
			--										
			17										
			--										
			18										
			--										
			19										
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	25												
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RAMIREZ DENTAL FACILITY											
FORT LUPTON, COLORADO											
PROJECT NO: 1212066		LOG OF BORING B-2					DATE: AUGUST 2021				
RIG TYPE: CME55		SHEET 1 OF 1					WATER DEPTH				
FOREMAN: DG		START DATE		8/4/2021		WHILE DRILLING		22'			
AUGER TYPE: 4" CFA		FINISH DATE		8/4/2021							
SPT HAMMER: AUTOMATIC											
SOIL DESCRIPTION		D	N	QU	MC	DD	A-LIMITS		-200	SWELL	
TYPE		(FEET)	(BLOWS/FT)	(PSF)	(%)	(PCF)	LL	PI	(%)	PRESSURE	% @ 500 PSF
SPARSE WEEDS / VEGETATION SILTY SAND (SM) brown loose to medium dense		1									
		2									
		3									
		4									
		5	9	4000	6.5	117.1	18	1	28.6	< 500 PSF	None
		6									
		7									
		8									
		9									
		10	13	2500	13.5						
LEAN CLAY with SAND (CL) brown very stiff with calcareous deposits		11									
		12									
		13									
		14									
		15	20	9000+	11.3	121.9			76.1		
		16									
		17									
		18									
		19									
		20	38	3000	7.3						
SAND and GRAVEL (SP / GP) brown medium dense to loose with intermittent clay seams		21									
		22									
		23									
		24									
		25	7								
		26									
BOTTOM OF BORING DEPTH 25'											

RAMIREZ DENTAL FACILITY FORT LUPTON, COLORADO										
PROJECT NO: 1212066			LOG OF BORING B-3				DATE: AUGUST 2021			
RIG TYPE: CME55			SHEET 1 OF 1				WATER DEPTH			
FOREMAN: DG			START DATE		8/4/2021		WHILE DRILLING		None	
AUGER TYPE: 4" CFA			FINISH DATE		8/4/2021					
SPT HAMMER: AUTOMATIC										
SOIL DESCRIPTION		D	N	QU	MC	DD	A-LIMITS		-200	SWELL
	TYPE	(FEET)	(BLOWS/FT)	(PSF)	(%)	(PCF)	LL	PI	(%)	PRESSURE
SPARSE VEGETATION SILTY / CLAYEY SAND (SM / SC) brown medium dense	CS	1								
		2								
		3	16	9000+	9.2	125.9				
	SS	4								
		5	18	4500	4.0					
		6								
		7								
SAND (SP) brown medium dense	SS	8								
		9								
		10	14		2.5					
BOTTOM OF BORING DEPTH 10.5'		11								
		12								
		13								
		14								
		15								
		16								
		17								
		18								
		19								
		20								
		21								
		22								
		23								
		24								
		25								

SWELL / CONSOLIDATION TEST RESULTS

Material Description: Brown Clayey Sand (SC)		
Sample Location: Boring 1, Sample 1, Depth 2'		
Liquid Limit: 34	Plasticity Index: 18	% Passing #200: 18.8%
Beginning Moisture: 6.0%	Dry Density: 123.4 pcf	Ending Moisture: 11.5%
Swell Pressure: 1400 psf		% Swell @ 150: 1.6%

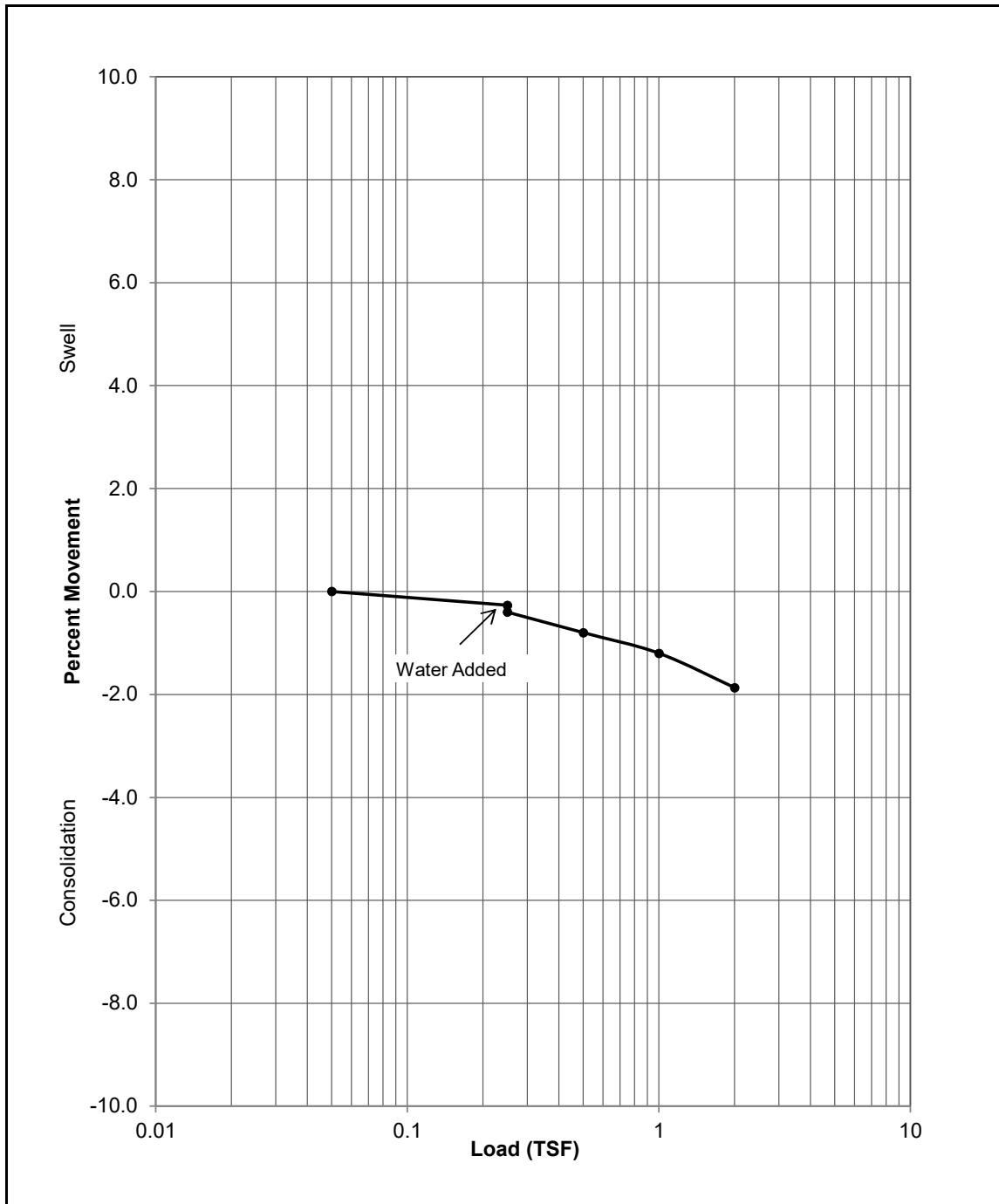


Project: Ramirez Dental Facility
 Location: Fort Lupton, Colorado
 Project #: 1212066
 Date: August 2021



SWELL / CONSOLIDATION TEST RESULTS

Material Description: Brown Silty Sand (SM)		
Sample Location: Boring 2, Sample 1, Depth 4'		
Liquid Limit: 18	Plasticity Index: 1	% Passing #200: 28.6%
Beginning Moisture: 6.5%	Dry Density: 114.2 pcf	Ending Moisture: 14.1%
Swell Pressure: < 500 psf		% Swell @ 500: None

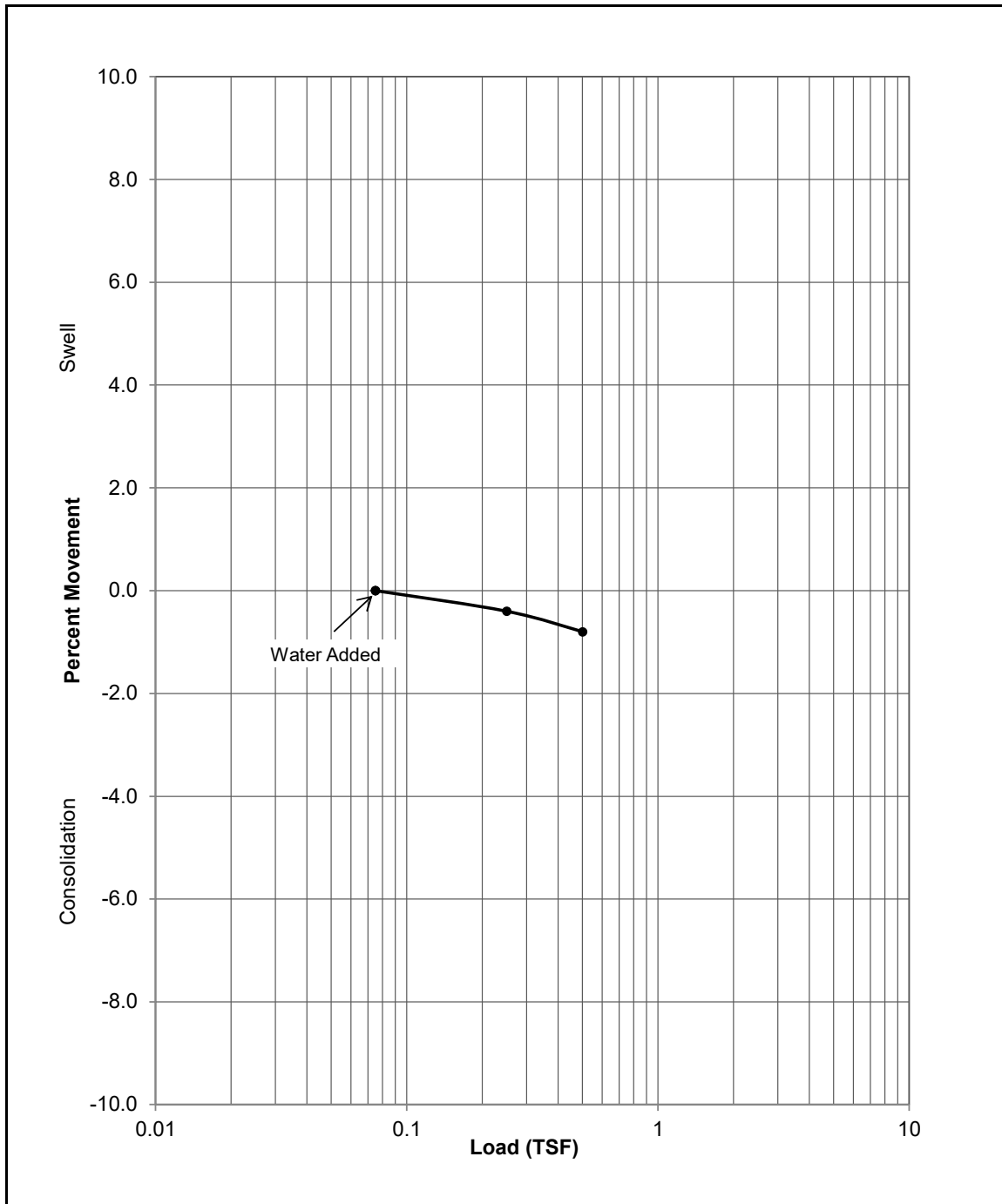


Project: Ramirez Dental Facility
 Location: Fort Lupton, Colorado
 Project #: 1212066
 Date: August 2021



SWELL / CONSOLIDATION TEST RESULTS

Material Description: Brown Silty / Clayey Sand (SM / SC)		
Sample Location: Boring 3, Sample 1, Depth 2'		
Liquid Limit: 21	Plasticity Index: 5	% Passing #200: 30.2%
Beginning Moisture: 9.2%	Dry Density: 124 pcf	Ending Moisture: 10.7%
Swell Pressure: <150 psf		% Swell @ 150: None



Project: Ramirez Dental Facility
 Location: Fort Lupton, Colorado
 Project #: 1212066
 Date: August 2021



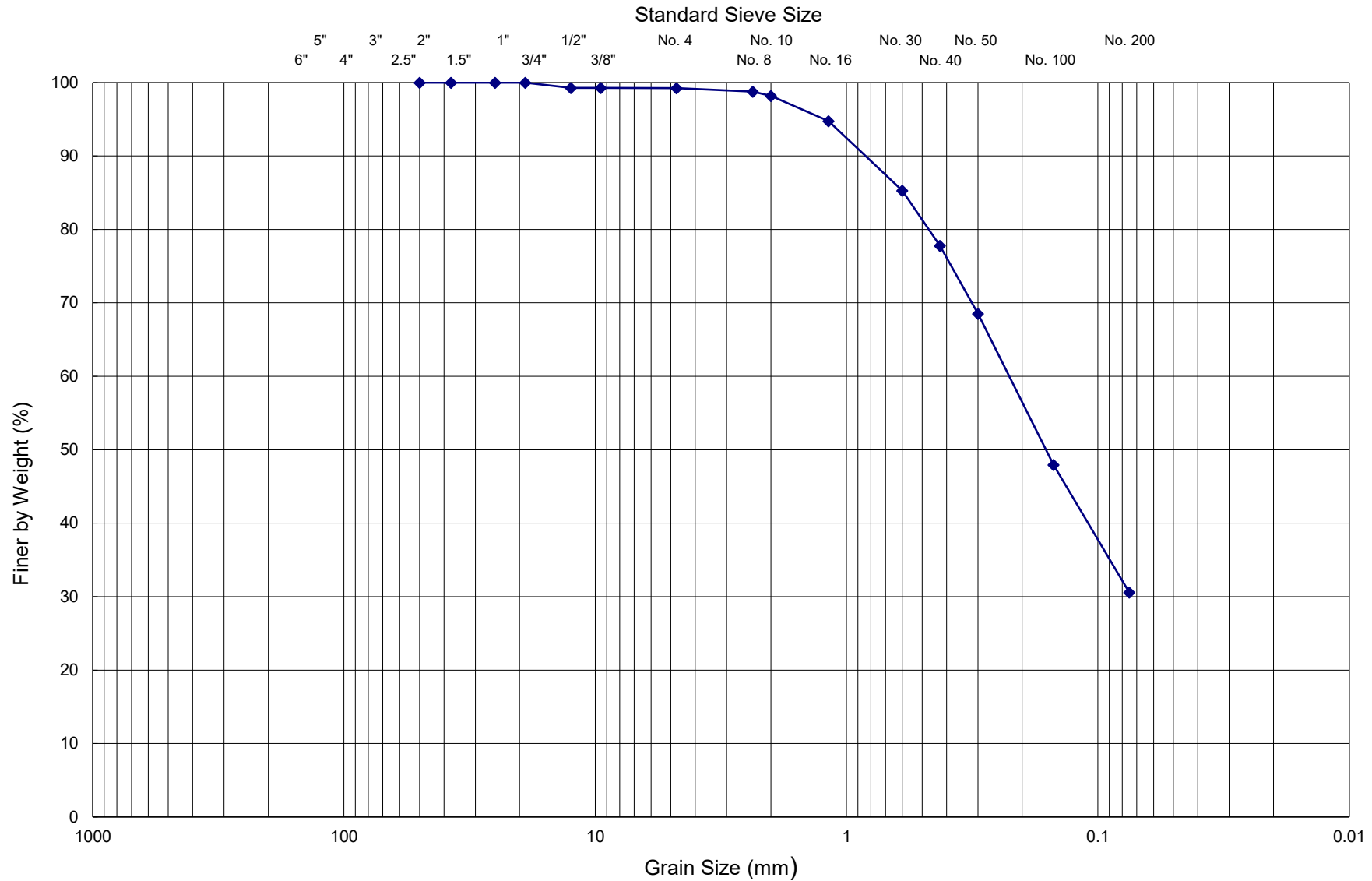
EARTH ENGINEERING CONSULTANTS, LLC
SUMMARY OF LABORATORY TEST RESULTS

Sieve Analysis (AASHTO T 11 & T 27 / ASTM C 117 & C 136)		
Sieve Size		Percent Passing
2 1/2"	(63 mm)	100
2"	(50 mm)	100
1 1/2"	(37.5 mm)	100
1"	(25 mm)	100
3/4"	(19 mm)	100
1/2"	(12.5 mm)	99
3/8"	(9.5 mm)	99
No. 4	(4.75 mm)	99
No. 8	(2.36 mm)	99
No. 10	(2 mm)	98
No. 16	(1.18 mm)	95
No. 30	(0.6 mm)	85
No. 40	(0.425 mm)	78
No. 50	(0.3 mm)	69
No. 100	(0.15 mm)	48
No. 200	(0.075 mm)	30.6

Project: Ramirez Dental Facility
Location: Fort Lupton, Colorado
Project No: 1212066
Sample ID: B-1, S-3, at 9'
Sample Desc.: Clayey Sand (SC)
Date: August 2021



EARTH ENGINEERING CONSULTANTS, LLC
Summary of Washed Sieve Analysis Tests (ASTM C117 & C136)



Cobble	Gravel		Sand			Silt or Clay
	Coarse	Fine	Coarse	Medium	Fine	

Project: Ramirez Dental Facility
 Location: Fort Lupton, Colorado
 Project No: 1212066
 Sample ID: B-1, S-3, at 9'
 Date: August 2021

D ₁₀₀	D ₆₀	D ₅₀	D ₃₀	D ₁₀	C _u	C _c
19.00	0.24	0.16	---	---	---	---



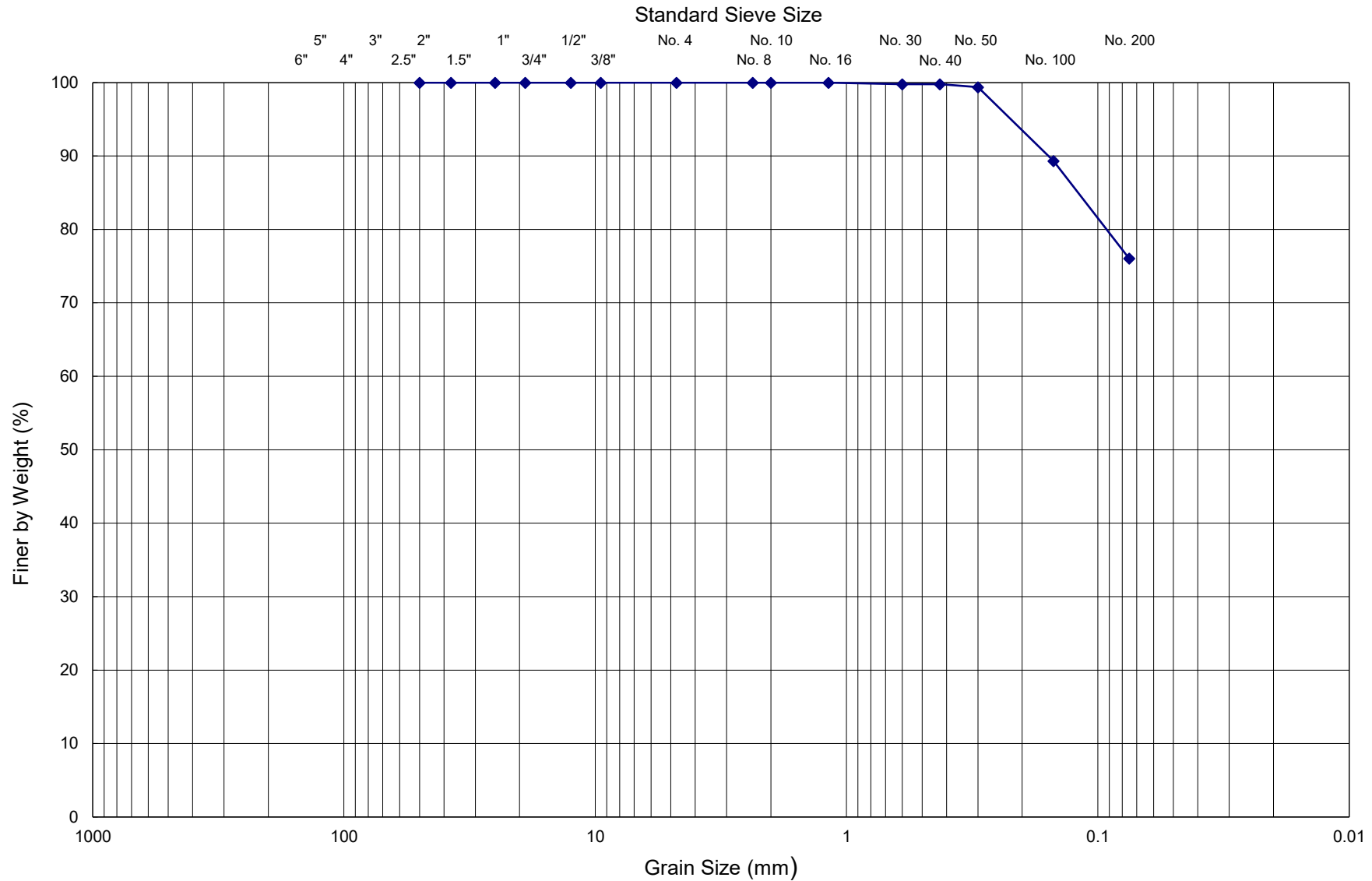
EARTH ENGINEERING CONSULTANTS, LLC
SUMMARY OF LABORATORY TEST RESULTS

Sieve Analysis (AASHTO T 11 & T 27 / ASTM C 117 & C 136)		
Sieve Size		Percent Passing
2 1/2"	(63 mm)	100
2"	(50 mm)	100
1 1/2"	(37.5 mm)	100
1"	(25 mm)	100
3/4"	(19 mm)	100
1/2"	(12.5 mm)	100
3/8"	(9.5 mm)	100
No. 4	(4.75 mm)	100
No. 8	(2.36 mm)	100
No. 10	(2 mm)	100
No. 16	(1.18 mm)	100
No. 30	(0.6 mm)	100
No. 40	(0.425 mm)	100
No. 50	(0.3 mm)	99
No. 100	(0.15 mm)	89
No. 200	(0.075 mm)	76.1

Project: Ramirez Dental Facility
Location: Fort Lupton, Colorado
Project No: 1212066
Sample ID: B-2, S-3, at 14'
Sample Desc.: Lean Clay with Sand (CL)
Date: August 2021



EARTH ENGINEERING CONSULTANTS, LLC
Summary of Washed Sieve Analysis Tests (ASTM C117 & C136)



Cobble	Gravel		Sand			Silt or Clay
	Coarse	Fine	Coarse	Medium	Fine	

Project: Ramirez Dental Facility
 Location: Fort Lupton, Colorado
 Project No: 1212066
 Sample ID: B-2, S-3, at 14'
 Date: August 2021

D ₁₀₀	D ₆₀	D ₅₀	D ₃₀	D ₁₀	C _u	C _c
1.18	---	---	---	---	---	---





Fort Lupton Fire Protection District

1121 Denver Avenue • Fort Lupton, Colorado 80621

Office: (303)857-4603 • Fax: (303)857-6619 • Website: www.forthluptonfire.org

Date: 1/25/2022

Project name: Hope Grayson Commercial Site Plan LUP2021-0033

Project address: 110 Copper Place, Fort Lupton, Co 80621

FLFPD Project # R2022-002

Plan reviewer: Taw Tamlin, Fire Marshal

The Fire District has reviewed the referral submittal for **Hope Grayson Commercial Site Plan LUP2021-0033** located at **110 Copper Place.**, Fort Lupton, CO 80621. The submittal was reviewed for compliance with *2018 International Fire Code (IFC)* and National Fire Protection Association (*NFPA*) standards as adopted by the Fort Lupton Fire Protection District and the City Council of Fort Lupton, and Weld County Commissioners. The following specific and general requirements and conditions shall be met at time of construction.

Specific Requirements:

1. Any property owner or authorized agent who intends to conduct an operation or business, or install or modify systems and equipment which is regulated by this code, or to cause any such work to be done, shall first make application to the fire code official and obtain the required permit.
2. The Fort Lupton Fire Protection District only accepts construction documents and supporting data be submitted (Electronically) with each application for a permit.

A Plan Review/Fire Permit Application must be completed at the time of submittal. All applicable project review fees must be paid before the plan review will be completed.

NOTE: All project drawings must be reviewed, stamped and signed by a State of Colorado licensed engineer, architect or NICET level III designer with a specialization in fire protection.

A Fire Code Analysis Report will need to be provided by the designer. The Fire Code Analysis Report must include the following information:

- Total project square footage
- Total building square footage
- Building construction type RE: (Type I-V)
- Occupancy classification
- Design code year
- Specific fire alarm or fire suppression systems information

The following items need to be submitted electronically for the plan review to be completed:

- Completed and Signed FLFPD Application for Plan Review. Available at our website - www.fortluptonfire.org
- Unlocked stamp drawings to include, Civil and Construction Drawings.
- Unlocked Fire Safety System Shop Drawings to include fire alarm with data/cut sheets, fire sprinkler with data/cut sheets, specialized project drawings with data/cut sheets, hazardous materials with data/cut sheets, Kitchen Hood Fire Suppression Systems with data/cut sheets and Mobile Food Vehicle with data/cut sheets.

Once the submitted documents/drawings and information is reviewed and accepted the documents/drawings will be stamped by FLFPD and return to person submitting the project.

All submitted drawings must meet all the requirements listed in the 2018 International Fire Codes or the current addition of the NFPA Standards.

Fire Department Access:

- 2018 International Fire Code, Chapter 5, Section 503 *Fire Apparatus Access Roads*
- 2018 International Fire Code, Appendix D of *Fire Apparatus Access Roads*

NOTE: All “Imminent Travel Lanes” for all residential projects will need to be 26’ that is unobstructed. All “Imminent Travel Lanes” for all commercial projects will need to be 26’ that is unobstructed.

Address Numerals:

- 2018 International Fire Code, Chapter 5, Section 505 *Premise Identification*
- Address numerals shall be visible from the street fronting the property and posted with a minimum of 4” numerals mounted on a contrasting background.

Security Key Box:

- 2018 International Fire Code, Chapter 5, Section 506 *Key Boxes*
- A Security Key Box (KNOXBOX) is required to be mounted on the front of every new commercial building. *Application for Knox can be found at <https://www.knoxbox.com/>.*



Fort Lupton Fire Protection District

1121 Denver Avenue • Fort Lupton, Colorado 80621

Office: (303)857-4603 • Fax: (303)857-6619 • Website: www.forthluptonfire.org

NOTE: Large commercial properties may require more than one Security Key Box

Plan Review Package Checklist:

- Completed FLFPD Plan Review/Fire Permitting Application
- Pay all applicable plan review and permitting fees by check, or cash (We are unable to process Credit Cards at this time)
- Engineering Report, signed and stamped
- Site Plan drawing submittal, signed and stamped
- Architectural and Construction drawing submittal, signed and stamped
- Engineered drawings, signed, and stamped
- Fire Alarm shop drawings and data cut sheets, signed and stamped
- Fire Sprinkler shop drawings and data cut sheets, signed and stamped
- Underground fire line drawings and data cut sheets, signed and stamped
- Copies of Division of Fire Prevention and Control Fire Suppression and underground Fire Line Contractor Registrations.

If you have any further questions, please contact Taw Tamlin, Fire Marshal at 303-857-4603.

Magaly Morales-Tejada

From: Jake Freier
Sent: Tuesday, January 11, 2022 4:12 PM
To: Magaly Morales-Tejada
Cc: Maria Lancto; Todd Hodges; Alyssa Knutson
Subject: RE: Referral Response Request - Hope Grayson Commercial Site Plan LUP2021-0033

Good Afternoon,

The subject property is currently addressed 110 Copper Place which will be the address of the planned south building site. If necessary, unit numbers or letters will be assigned. After final approval, the City will assign a second address for the north building site.

Thanks,
Jake Freier



From: Magaly Morales-Tejada <MMTejada@Fortluptonco.gov>
Sent: Thursday, January 6, 2022 9:05 AM
Cc: Maria Lancto <MLancto@Fortluptonco.gov>; Todd Hodges <thodges@Fortluptonco.gov>; Alyssa Knutson <AKnutson@Fortluptonco.gov>
Subject: Referral Response Request - Hope Grayson Commercial Site Plan LUP2021-0033

Good Morning,

The documentation located at the following link is submitted to you for review and recommendation for a site plan being reviewed by the City of Fort Lupton. The application documents can be reviewed at the following link:

<https://www.fortlupton.org/DocumentCenter/Index/646>.

Any comments you consider relevant to this request would be appreciated. Please reply by **January 27, 2022** so that we may give full consideration to your recommendation. Any response not received before or on this date may be deemed to be a favorable response to the Planning & Building Department.

The Public Hearings for this matter are scheduled for:

- Planning Commission: Thursday, February 10, 2022 at 6:00 PM; and
- City Council: Tuesday, March 1, 2022 at 7:00 PM

Your time in this matter is greatly appreciated!

Magaly Morales-Tejada

Planning Technician

130 S. McKinley Ave.

Fort Lupton, CO 80621

Direct: 720-466-6111



Magaly Morales-Tejada

From: Kristen Thompson <kthompson@northernwater.org>
Sent: Thursday, January 27, 2022 4:28 PM
To: Magaly Morales-Tejada
Cc: Maria Lancto; Todd Hodges; Alyssa Knutson
Subject: RE: Referral Response Request - Hope Grayson Commercial Site Plan LUP2021-0033

Magaly,

We do not have any comments on this referral.

Thank you
Kris



Kristen Thompson | Inclusion Specialist
220 Water Ave | Berthoud, CO 80513
Direct: (970) 622-2237
Main: 800-369-RAIN (7246)

www.northernwater.org

[Facebook](#) | [Twitter](#) | [Instagram](#) | [LinkedIn](#)

Disclaimer Notice: An allotment of Colorado-Big Thompson water is subject to the Water Conservancy Act, C.R.S 37-45-101 et seq, the authority of the Board of Directors of the Northern Colorado Water Conservancy District, and other relevant laws and regulations. The information provided in this email is not binding on Northern Water because the legal rights to Colorado-Big Thompson Project Allotments are subject to the continuing discretion of the Board of Directors of Northern Water and other legal limitations and requirements. Northern Water staff and counsel cannot provide you with legal advice, and you are advised to seek legal counsel with respect to the subject matter of this email. You also have an independent obligation to review and confirm the accuracy and completeness of any information provided to you by Northern Water, and to supplement or correct the records of Northern Water with respect to any errors or omissions.

From: Magaly Morales-Tejada <MMTejada@Fortluptonco.gov>
Sent: Thursday, January 6, 2022 9:05 AM
Cc: Maria Lancto <MLancto@Fortluptonco.gov>; Todd Hodges <thodges@Fortluptonco.gov>; Alyssa Knutson <AKnutson@Fortluptonco.gov>
Subject: Referral Response Request - Hope Grayson Commercial Site Plan LUP2021-0033

External Message - Please be cautious when replying or opening links or attachments in this email

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Magaly Morales-Tejada
Planning Technician

130 S. McKinley Ave.
Fort Lupton, CO 80621
Direct: 720-466-6111



Magaly Morales-Tejada

From: John Fryar
Sent: Thursday, January 6, 2022 9:21 AM
To: Magaly Morales-Tejada
Subject: RE: Referral Response Request - Hope Grayson Commercial Site Plan LUP2021-0033

No law enforcement issues noted.

John Fryar
Chief of Police

From: Magaly Morales-Tejada
Sent: Thursday, January 6, 2022 9:05 AM
Cc: Maria Lancto <MLancto@Fortluptonco.gov>; Todd Hodges <thodges@Fortluptonco.gov>; Alyssa Knutson <AKnutson@Fortluptonco.gov>
Subject: Referral Response Request - Hope Grayson Commercial Site Plan LUP2021-0033

Good Morning,

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Magaly Morales-Tejada
Planning Technician
130 S. McKinley Ave.
Fort Lupton, CO 80621
Direct: 720-466-6111





Public Works

130 S. McKinley Avenue
Fort Lupton, CO 80621

Phone: 303.857.6694

Fax: 303.857.0351

www.fortluptonco.gov

MEMO

To: Todd Hodges
Alyssa Knutson
CC: Zane Ross (Colorado Land Engineering)
From: Roy Vestal
Date: January 27, 2022
Subject: Hope Grayson Commercial Site Plan LUP2021-0033
Public Works Review

Public Works has reviewed the submitted documents for the above referenced development project with the following comments for inclusion with the Site Plan submittal. Be advised, review of construction drawings is for general compliance with city standards. There may be additional concerns as this design develops.

1. Utilities - Plant investment fees increase on April 1, 2022

a. Water - Chapter 3

- i. Please consider taking the domestic service tap off of the fire line for combined water service/fire service configuration off of the main in Copper.
- ii. Plans show 2 - 1-inch potable water services.
 1. 1" Commercial tap = 4.8 SFE
 2. Water plant investment fee = \$14,725.00 / tap
 3. CBT Water shares required = $2.2 \times 2 = 4.4$
 - a. Cash in lieu @ \$60,000/share = \$264,000

b. Sanitary Sewer - Chapter 4

- i. Plans show 2 - 1-inch potable water services.
 1. 1" Commercial tap = 4.8 SFE
 2. WWTP plant investment fee = \$45,600 / tap

2. Drainage

- a. Drainage Study as submitted is acceptable.
- b. Consideration of offsite flows conveyance through this area must be made.
- c. Coordination with current staff planning for this basin is required.
 - i. Proposed storm line in 14th needs to be coordinated with Tri-State planes from the east.

3. Landscape / Grading - Chapter 2 Design Standards

- a. A SWMP and Stormwater Discharge permit must be acquired from CDPH&E. Please submit proof of prior to receiving construction permits. Please provide copy of permit from CDPH&E.
- b. Review proposed landscape plans at street locations and evaluate for sight triangle conflicts.

4. Site Plan

a. Water - Chapter 3

- i. Plumbing plans should identify back flow prevention devices and will require inspection by a certified backflow prevention technician and registration on the City's Aqua Flow web site. The backflow device will require annual inspections and entry to the City's Cross Connection Inspection Control system (in accordance with Section 13-85 of the City Municipal Code).
- ii. Backflow prevention assemblies (if required) shall be tested by a Certified Cross-Connection Control Technician upon installation and tested at least annually, thereafter.

b. Roadway - Chapter 6

- i. *Section 6.18.02* At the intersection of two public streets or a private driveway and a public street, sight distance shall be evaluated across a "sight distance triangle" where obstructions are restricted according to the following criteria. The site triangle needs to be pulled back to the ultimate roadway section.

c. Traffic Control - Chapter 8

- i. The Traffic Analysis as submitted is acceptable.

Final approval of drawings does not infer the drawings are error free. The City shall have full authority to review and approve all submittals and construction for compliance with these DESIGN STANDARDS and CONSTRUCTION SPECIFICATIONS. An approval or acceptance by the City does not relieve the owner, engineer, designer, or contractor from responsibility for ensuring that the calculations, plans, specifications, construction, and record drawings are in compliance with these DESIGN STANDARDS. Any approval or acceptance by the City shall not result in any liability to the City or its employees for any claim, suit, loss, damage, or injury resulting from the use or implementation of the approved documents. Nothing in these DESIGN STANDARDS shall be construed to circumvent any sections of the City of Fort Lupton Code or sub codes, pertaining to responsibility for reports, studies, designs, and construction.

January 24, 2022

City of Fort Lupton Planning & Building
130 South McKinley Avenue
Fort Lupton, CO 80621

Re: Hope Grayson Commercial Site Plan LUP2021-0033

Dear Magaly:

On behalf of United Power, Inc., thank you for inviting us to review and comment on the Hope Grayson Commercial Site Plan LUP2021-0033. After review of the information, we have the following comments:

- The site plan did not indicate how it is intended to bring electrical service to the building for the Phase 2 Development (Future). If United Power brings service from the south side going north to the future building, we will need a 10' U.E. along the east side of lot 6.
- Please note for landscaping that we can only have small bushes and shrubs. We cannot have any deep rooting vegetation or trees planted above our lines or within utility easements. The clearance distance for equipment such as transformers, etc. is a minimum of 15' from the front and both sides and five feet from the back to allow a backhoe if needed. And the trunk/base of the tree should be minimum of 5' away from the any line.

Please have the property owner/developer/contractor submit an application for new electric service, any modification to existing facilities including relocation and/or removal along with CAD data via <https://www.unitedpower.com/construction>. United Power would like to work with these persons early in the construction process on getting an electric design prepared so that we can request any additional easements needed and hopefully have those easements dedicated on the plat rather than obtaining separate instrument. Obtaining easements via a separate instrument can be time consuming and could cause delays.

As a Reminder: No permanent structures are acceptable within the dry utility easement(s); such as, window wells, wing walls, retaining walls, basement walls, roof overhang, anything affixed to the house like decks, etc. United Power considers any structure that impedes the access, maintenance, and safety of our facilities a permanent structure. No exceptions will be allowed, and any encroachments could result in penalties.

Service will be provided according to the rules, regulations, and policies in effect by United Power at the time service is requested. We would like to remind the developer to call the Utility Notification Center by dialing 811 to have all utilities located prior to construction. We look forward to safely and efficiently providing reliable electric power and outstanding service.

Thank you,



Samantha Riblett
United Power, Inc.
Right of Way Admin
O: 303-637-1324 | Email: platreferral@unitedpower.com

Sign Posting Affidavit

Hope Grayson Commercial Site Plan
Project No. LUP2021-0033 Plan Nos. SPR2022-0001



Facing Copper Pl. & 1st St.

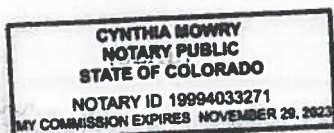
I, Anna Fluckey hereby acknowledge that the aforementioned property was posted in accordance with City Codes. Said public hearing notice was posted on this 25 day of January, 2022.

Anna Fluckey
Signature of Owner or Owner's Representative

The foregoing instrument was acknowledged before me by Anna Fluckey, this 25 day of January, 2022. Witness my hand and seal.

My commission expires 11/29/2023.

Cynthia Mowry
Notary Public



Public Notice

CITY OF FORT LUPTON NOTICE OF PUBLIC HEARING

Notice is hereby given that the City of Fort Lupton is in receipt of an application for a site plan known as the Hope Grayson Commercial Site Plan located at 110 Copper Pl. Fort Lupton, Colorado, pursuant to the City of Fort Lupton Municipal Code Notice Requirements.

The public hearings are to be held before the Planning Commission **on Thursday, February 10, 2022, at 6:00 P.M.**, and before the City Council **on Tuesday, March 1, 2022, at 7:00 P.M.** or as soon as possible thereafter.

The public hearings shall be held at the Fort Lupton City Hall, 130 S. McKinley Avenue in Fort Lupton, Colorado. In the event that there are City Hall closures due to COVID-19 at the time of the hearings, the public hearings will be held remotely, accessible to the public by phone and internet. Information on how to attend the hearings will be provided in the agenda as posted on the City's website, www.fortluptonco.gov

Further information is available through the City Planning and Building Department at (303) 857-6694.

ALL INTERESTED PERSONS MAY ATTEND

LEGAL DESCRIPTION

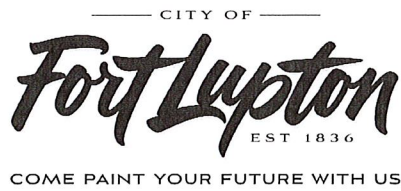
LOTS 6 AND 7, VINCENT'S EAST ADDITION
3RD FILING SECOND AMENDED
SUBDIVISION, CITY OF FORT LUPTON,
COUNTY OF WELD, STATE OF COLORADO.

Legal Notice No. FLP510

First Publication: January 25, 2022

Last Publication: January 20, 2022

Publisher: Fort Lupton Press

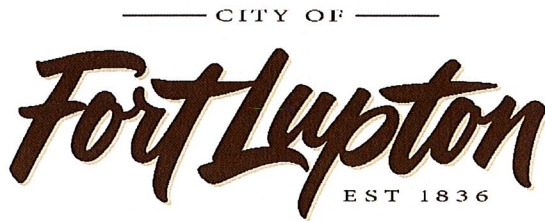


CERTIFICATE OF MAILING

I, the undersigned, hereby certify that on the 25th day of January, 2022, a true and correct copy of the foregoing Notice of Public Hearings and Site Plan Map for the Hope Grayson Commercial Site Plan was sent via U.S. Mail, postage pre-paid, to the following addresses:

TUMBLEWEED VENTURES LLC
C/O 7-ELEVEN INC
PO BOX 711
DALLAS, TX 75221

CITY OFFICIAL



Planning & Building

130 S. McKinley Avenue
Fort Lupton, CO 80621
www.fortluptonco.gov

Phone: 303.857.6694
Fax: 303.857.0351

CITY OF FORT LUPTON NOTICE OF PUBLIC HEARING

Notice is hereby given that the City of Fort Lupton is in receipt of an application for a site plan known as the Hope Grayson Commercial Site Plan located at 110 Copper Pl. Fort Lupton, Colorado, pursuant to the City of Fort Lupton Municipal Code Notice Requirements.

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Further information is available through the City Planning and Building Department at (303) 857-6694.

**ADDITIONAL INFORMATION AND DOCUMENTS ON THIS APPLICATION CAN BE FOUND AT
BIT.LY/FLDEVELOPMENT AND SCROLLING DOWN TO THE ROW TITLED: HOPE GRAYSON COMMERCIAL SITE
PLAN.**

ALL INTERESTED PERSONS MAY ATTEND

LEGAL DESCRIPTION

LOTS 6 AND 7, VINCENT'S EAST ADDITION 3RD FILING SECOND AMENDED SUBDIVISION, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO.

HOPE GRAYSON - SITE DEVELOPMENT PLAN - CASE NUMBER: SDP__-_____

LOT 6, VINCENT'S EAST ADDITION 3RD FILING SECOND AMENDED SUBDIVISION, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO

110 COPPER PLACE, CITY OF FT. LUPTON, COLORADO

PROJECT INTENT:

DEVELOPMENT OF 0.817 ACRES (LOT 6) INCLUDING APPROX 10,000 SQ FT COMMERCIAL BUILDING AREA, SPLIT INTO TWO BUILDINGS. PROJECT DEVELOPMENT WILL BE PHASED (PHASE 1 AND 2). SEE SITE PLAN FOR MORE DETAIL.

DEVELOPER/OWNER:

HOPE GRAYSON PROPERTIES, LLC
15497 COUNTY ROAD 10
FT. LUPTON, COLORADO 80521
CONTACT: JUAN RAMIREZ & DENISE TOLMICH - (RAMIREZ)
303.906.8335
DENISE@RAM-COTRUCKING.COM

CONTRACTOR:

MCCAULEY CONSTRUCTORS, INC.
650 INNOVATION CIRCLE
PO BOX 200
WINDSOR, COLORADO 80550
CONTACT: ANNA FLUCKEY
970.686.6300
ANNA.FLUCKEY@MCCAULEYCONSTRUCTORS.COM

CIVIL ENGINEER:

COLORADO LAND ENGINEERING, LTD.
6934 S UNIVERSITY BLVD #150
CENTENNIAL, COLORADO 80122
CONTACT: ZANE ROSS, PE, LEED AP
970.270.6218
ZROSS@COLOLANDENG.COM

ARCHITECT:

HAUSER ARCHITECTS, P.C.
3780 EAST 15TH STREET, SUITE 201
LOVELAND, COLORADO 80538
CONTACT: BJ DEFORGE
970.669.8220
BJ@HAUSERARCHITECTSPC.COM

LANDSCAPE ARCHITECT:

FRONTERRA - ITG DESIGN, LLC
PO BOX 178
LOVELAND, COLORADO 80539
CONTACT: JOSH MCCARN, PLA
970.235.1039
JOSH@FRONTERRA.DESIGN

SURVEYOR:

KING SURVEYORS
650 EAST GARDEN DRIVE
WINDSOR, COLORADO 80550
CONTACT: PAUL GROVES, PLS
970.686.5011
PAULG@KINGSURVEYORS.COM

UTILITY CONTACTS:

FIRE DEPARTMENT
FT. LUPTON FIRE PROTECTION DISTRICT
1121 DENVER AVENUE
FT. LUPTON, COLORADO 80521
303-857-4603

NATURAL GAS

XCEL ENERGY
1123 WEST 3RD AVE
DENVER, COLORADO 80223
800.895.4999

ELECTRIC

UNITED POWER
500 COOPERATIVE WAY
BRIGHTON, COLORADO 80603
303.637.1300

TELE

CENTURYLINK
866.963.8665

CABLE

COMCAST
800.934.6489

WATER, SANITARY AND STORM SEWER

CITY OF FT. LUPTON PUBLIC WORKS
130 S. MCKINLEY AVENUE
FORT LUPTON, COLORADO 80521
303.857-6694



SCALE: NOT TO SCALE

VICINITY MAP

SHEET INDEX

SHEET NO:	SHEET NAME
C1.0	COVER SHEET
C2.0	SITE PLAN
C3.0	UTILITY PLAN
C4.0	GRADING PLAN
A1	EXTERIOR ELEVATIONS - SOUTH BLDG
A2	EXTERIOR ELEVATIONS - SOUTH BLDG
A3	SITE DETAILS
A4	EXTERIOR ELEVATIONS - NORTH BLDG
A5	EXTERIOR ELEVATIONS - NORTH BLDG
L1.1	LANDSCAPE PLAN
L1.2	LANDSCAPE NOTES AND DETAILS
L1.3	LANDSCAPE SPECIFICATIONS

SITE DATA:

PARCEL ID: 147105249006
PROPERTY AREA: 0.817 ACRES
PARKING REQUIRED: 1 SPACE PER 500 SQ FT BUILDING AREA
9,200 SF (APPROX) / 500 SF = 19 PARKING SPACES REQUIRED
PARKING PROVIDED: 21 - 9'X18' PARKING SPACES
2 - 8'X18' VAN ACCESSIBLE PARKING SPACES

FLOODPLAIN STATEMENT:

FLOODZONE BY GRAPHIC PLOTTING ONLY THE SUBJECT PROPERTY IS SITUATED IN FLOOD ZONE "X", AREAS BEING OUTSIDE OF THE 500 YEAR FLOODPLAIN, ACCORDING TO FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NO. 08123C2110E WITH AN EFFECTIVE DATE OF JANUARY 20, 2016.

PROJECT REFERENCE:

TBD

PROJECT BASIS OF BEARINGS:

(REFERENCED FROM KING SURVEYORS ALTA DATED 7/8/2021)

GPS DERIVED BEARINGS BASED ON A BEARING OF N00°16'10"W ALONG THE EASTERLY LINE OF THE NORTHWEST QUARTER OF SECTION 5, BETWEEN A FOUND #6 REBAR WITH 3 1/4" ALUMINUM CAP "LS 14823" IN RANGE BOX PER MONUMENT RECORD AT THE NORTH QUARTER CORNER OF SECTION 5 AND A FOUND #6 REBAR WITH 3 1/4" ALUMINUM CAP "LS 13155" IN RANGE BOX (PER MONUMENT RECORD) AT THE CENTER QUARTER CORNER OF SECTION 5 AS SHOWN HEREON. COLORADO STATE PLANE COORDINATE SYSTEM, NORTH ZONE, NORTH AMERICAN DATUM 1983 (NAD83/07).

PROPERTY DESCRIPTION:

A PARCEL OF LAND IN THE CITY OF FORT LUPTON, COLORADO, LOCATED IN THE NW 1/2 OF SECTION 5, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6TH P.M., MORE PARTICULARLY DESCRIBED AS FOLLOWS:
LOT 6, VINCENT'S EAST ADDITION 3RD FILING SECOND AMENDED SUBDIVISION

OWNER'S APPROVAL:

KNOW ALL MEN BY THESE PRESENTS, THAT HOPE GRAYSON PROPERTIES, LLC, BEING THE SOLE OWNER OF THE LAND DESCRIBED HEREIN, AND _____ ARE ALL OF THE MORTGAGEES AND HOLDERS OF LIENS UPON THE PROPERTY, AND EACH AND ALL HEREBY CONSENT TO THIS PLAN AND JOIN THE CONVEYANCE AND DEDICATION OF ALL STREETS, ROADS, ALLEYS, EASEMENTS, PUBLIC WAYS AND PLACES SHOWN HEREON. IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS AND SEALS THIS ____ DAY OF _____, 20__.

OWNER SIGNATURE _____

STATE OF _____)

_____) ss

COUNTY OF _____)

THE FOREGOING DEDICATION WAS ACKNOWLEDGED BEFORE ME

BY _____

ON THIS ____ DAY OF _____, 20__.

AS _____ WITNESS MY HAND AND OFFICIAL SEAL.

NOTARY PUBLIC
MY COMMISSION EXPIRES _____

CITY ENGINEER'S APPROVAL:

APPROVED THIS ____ DAY OF _____, 20__.

CITY ENGINEER _____

CITY WATER AND SEWER DEPARTMENT APPROVAL:

APPROVED THIS ____ DAY OF _____, 20__.

DIRECTOR OF PUBLIC WORKS _____

CITY ADMINISTRATOR'S APPROVAL:

APPROVED THIS ____ DAY OF _____, 20__.

CITY ADMINISTRATOR _____

PLANNING COMMISSION RECOMMENDATION:

RECOMMENDED THIS ____ DAY OF _____, 20__.

BY RESOLUTION NO. _____

CHAIRPERSON, FORT LUPTON PLANNING COMMISSION _____

MAYOR'S CERTIFICATE:

THIS IS TO CERTIFY THAT A PLAN OF THE ABOVE-DESCRIBED PROPERTY WAS APPROVED BY RESOLUTION NO. _____ OF THE CITY OF FORT LUPTON PASSED AND ADOPTED ON THE ____ DAY OF _____, A.D., 20__ AND THAT THE MAYOR OF THE CITY OF FORT LUPTON, AS AUTHORIZED BY SAID RESOLUTION ON BEHALF OF THE CITY OF FORT LUPTON, HEREBY ACKNOWLEDGES AND ADOPTS THE SAID PLAN UPON WHICH THIS CERTIFICATE IS ENDORSED FOR ALL PURPOSES INDICATED THEREON.

MAYOR, CITY OF FORT LUPTON _____

ATTEST:

CITY CLERK _____ (SEAL)



THIS IS A PRELIMINARY PLAN. IT IS NOT TO BE USED FOR CONSTRUCTION.

REVISIONS	DATE	DESCRIPTION
1	12/7/21	ADMINISTRATIVE SITE PLAN SUBMITTAL

HOPE GRAYSON
SITE DEVELOPMENT PLAN
LOT 6 - VINCENT'S EAST ADDITION 3RD FILING SECOND AMENDED SUBDIVISION,
CITY OF FT. LUPTON, COLORADO

SCALE	H: N/A	V: N/A
JOB No.	CL1105	
COVER SHEET		
C1.0		

HOPE GRAYSON - SITE DEVELOPMENT PLAN - CASE NUMBER: SDP__-_____

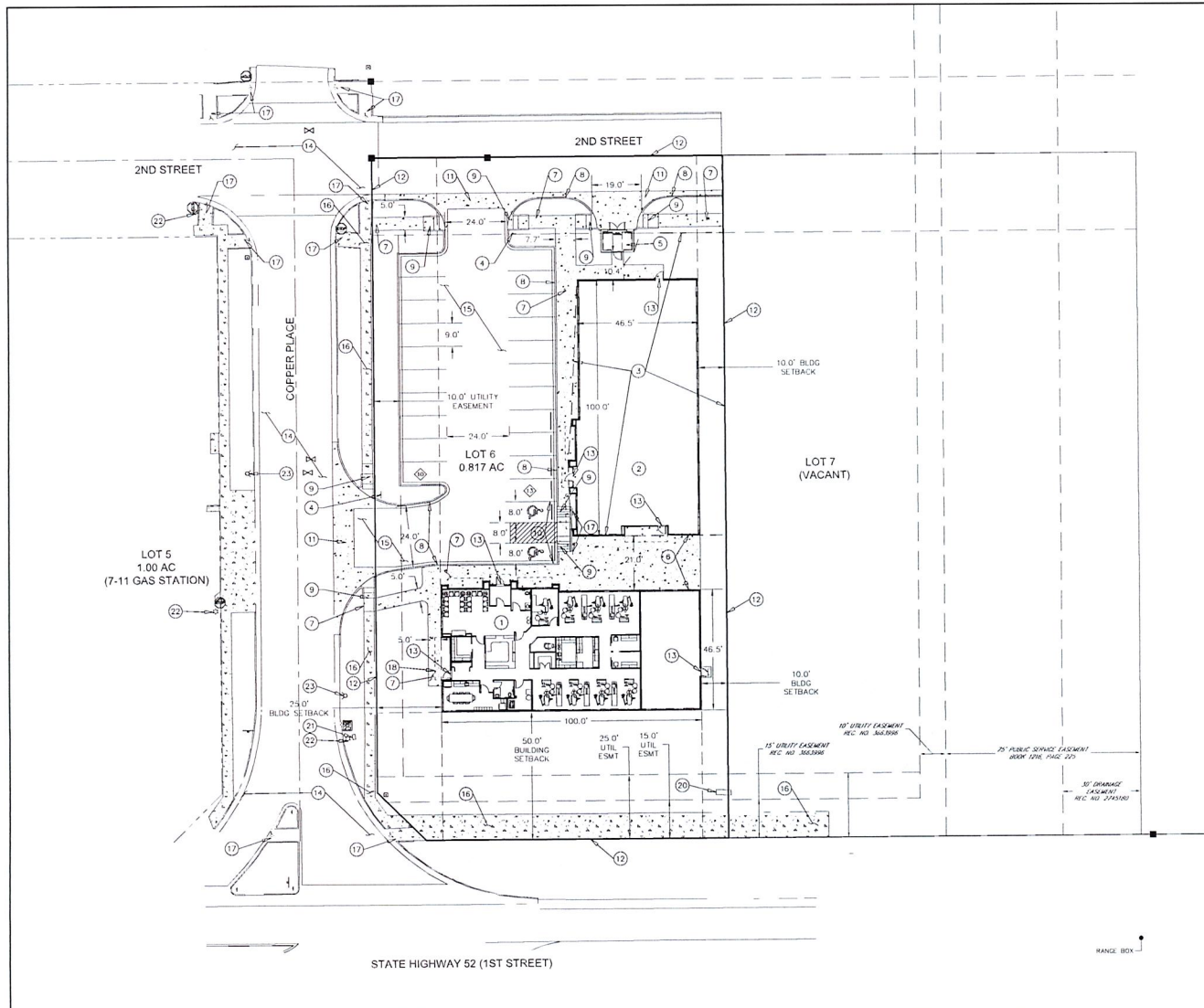
LOT 6, VINCENT'S EAST ADDITION 3RD FILING SECOND AMENDED SUBDIVISION, CITY OF FORT LUPTON, COUNTY OF WELD, STATE OF COLORADO
110 COPPER PLACE, CITY OF FT. LUPTON, COLORADO



REVISION	DATE	DESCRIPTION
1	12/12/21	ADJUSTMENTS TO PLAN SUBMITTAL

HOPE GRAYSON
SITE DEVELOPMENT PLAN
LOT 6 - VINCENT'S EAST ADDITION 3RD FILING SECOND AMENDED SUBDIVISION,
CITY OF FT. LUPTON, COLORADO

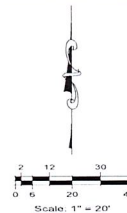
SCALE	H 1" = 20'	V. N/A
JOB No.	CLE1102	
SITE PLAN		
C2.0		



LEGEND

—	ELECTRICAL LINE
—	FIBER OPTIC LINE
—	GAS LINE
—	SEWER LINE
—	WATER LINE
—	CONTOUR LINE
—	FENCE LINE
—	RAILING
—	GUARD RAIL RAILING
○	ACCESS PLATE
●	BELLHOLE
+	ELIMINATED
□	COMMUNICATIONS PEDESTAL
□	ELECTRICAL METER
□	ELECTRIC TRANSFORMER
+	FIRE HYDRANT
+	GAS METER
+	IRIGATION VALVE
○	LIGHT POLE (DIRECTIONAL)
○	MANHOLE
+	SIGN
○	STREET LIGHT
○	WATER METER
+	WATER VALVE

- SITE SCHEDULE NOTES:**
- PROPOSED 4,598 SF BUILDING (PHASE 1)
 - PROPOSED 4,598 SF BUILDING (PHASE 2)
 - PHASE 2 DEVELOPMENT (FUTURE)
 - PROPOSED STOP SIGN R-1
 - PROPOSED TRASH ENCLOSURE
 - PROPOSED CONCRETE PATIO/PLAZA
 - PROPOSED SIDEWALK
 - PROPOSED CURB AND GUTTER
 - PROPOSED ADA RAMP
 - PROPOSED ADA PARKING
 - PROPOSED 4" CONCRETE CROSSSPAN WITH CURB RETURN
 - PROPOSED PROPERTY LINE
 - PROPOSED ENTRY DOOR
 - EX ASPHALT TO REMAIN
 - PROPOSED ASPHALT PAVING
 - EX SIDEWALK TO REMAIN
 - EX ADA RAMP TO REMAIN
 - PROPOSED ACCESSIBLE PARKING SIGN (VAN ACCESSIBLE)
 - PROPOSED PARKING WHEEL STOP
 - EXISTING TRANSFORMER TO REMAIN
 - EXISTING TELEPHONE PEDESTAL TO REMAIN
 - EXISTING STREET LIGHT POLE TO REMAIN
 - EXISTING FIRE HYDRANT TO REMAIN



1 SITE PLAN
SCALE: 1" = 20'

CITY OF FORT LUPTON CITY COUNCIL



Valerie Blackston, Ward 1
Chris Ceretto, Ward 2
Carlos Barron, Ward 3

Zo Stieber, Mayor

David Crespín, Ward 1
Claud Hanes, Ward 2
Bruce Fitzgerald, Ward 3

AM 2022-042

APPROVE A RESOLUTION IN SUPPORT OF THE BRAND GUIDELINES FOR USE ON OFFICIAL CITY OF FORT LUPTON ADMINISTRATIVE DOCUMENTS

I. Agenda Date: Council Meeting – Date, 2022

II. Attachments:

- a. Proposed Resolution
- b. Branding Guidelines (Draft with Redlines)
- c. Logo Options

III. Summary Statement:

The Logo Committee is requesting a resolution in support of the Brand Guidelines. As part of the Brand Guidelines, the Committee is also requesting a final determination on the logo to be used moving forward for official administrative City documents (letters, emails, business cards, etc.). The two options that it has been narrowed down to are included as an attachment to this Action Memorandum.

IV. Submitted by: _____
Planner

V. Finance Reviewed _____
Finance Director

VI. Approved for Presentation: _____
City Administrator

VII. Attorney Reviewed _____ Approved _____ Pending Approval

VIII. Certification of Council Approval: _____ City Clerk _____ Date

IX. Detail of Issue/Request:

In December 2021, the City Administrator established a Logo Committee comprised of City staff from multiple departments. The intent was to create a consistent branding strategy for the official messaging of the City of Fort Lupton's administrative services. In February 2022, the Committee finalized its recommendations for the City's branding strategy and formalized these recommendations in a document known as the Brand Guidelines.

The Logo Committee is requesting a resolution in support of the Brand Guidelines. As part of the Brand Guidelines, the Committee is also requesting a final determination on the logo to be used moving forward for official administrative City documents (letters, emails, business cards, etc.). The two options that it has been narrowed down to are included as an attachment to this Action Memorandum.

A resolution in support of the Brand Guidelines does not necessarily mean that they will not change from time to time as it is determined necessary by the Logo Committee or other authorized City staff. Any significant changes to the Brand Guidelines will be presented to City Council prior to going into effect.

X. Legal/Political Considerations:

N/A.

XI. Alternatives/Options:

The City Council has the following options for this request:

- a) Accept the Resolution in support of the Streetscape Plan.
- b) Do not accept the Resolution in support of the Streetscape Plan.
- c) Delay the vote on the Resolution in order to receive more information.

XII. Financial Considerations:

Staff researched the cost difference of printing business cards one-sided, or two-sided as presented in the Brand Guidelines and determined the following:

	One-Sided Printing	Two-Sided Printing
100-Pack of Business Cards	\$17.00	\$25.00
250-Pack of Business Cards	\$20.00	\$33.00

No other financial considerations have been identified for this project.

XIII. Staff Recommendation:

Staff supports the approval of the Resolution in support of the Brand Guidelines.

RESOLUTION NO. 2022Rxxx

A RESOLUTION OF THE CITY OF FORT LUPTON SUPPORTING THE BRAND GUIDELINES FOR USE ON OFFICIAL CITY OF FORT LUPTON ADMINISTRATIVE DOCUMENTS

WHEREAS, in December 2021, the City Administrator established the Logo Committee comprised of City staff from multiple departments, and

WHEREAS, the intent of the Logo Committee is to create a consistent branding strategy for the official messaging of the City of Fort Lupton's administrative services, and

WHEREAS, the Logo Committee has finalized its recommendations and formalized these recommendations in a document known as the City of Fort Lupton Brand Guidelines, and

WHEREAS the final draft version of the Brand Guidelines has been submitted to City Council for review and support, and

WHEREAS, City Council and staff understand that the Brand Guidelines may be amended from time to time as determined necessary by the Logo Committee or other designated City staff, and that any significant changes will be presented to City Council prior to going into effect, and

WHEREAS, City Council recognizes that the Brand Guidelines will assist in creating a consistent branding strategy for the official messaging of the City's administrative services.

NOW, THEREFORE, BE IT RESOLVED by the Fort Lupton City Council that full support is given to the Brand Guidelines to establish the branding strategy for the City of Fort Lupton's administrative services.

APPROVED AND PASSED BY A MAJORITY VOTE OF THOSE ELECTED TO THE CITY COUNCIL OF THE CITY OF FORT LUPTON, COLORADO THIS 1st DAY OF MARCH 2022.

City of Fort Lupton, Colorado

Zo Stieber, Mayor

Attest:

Maricela Peña, City Clerk

Approved as to form:

Andy Ausmus, City Attorney



Will be updated with new
logo.

BRAND GUIDELINES



new logo

CONTENTS

COLORS

TYPOGRAPHY

LOGO

IMAGERY

EMAIL SIGNATURES

BUSINESS CARDS

DOCUMENTS
INTERNAL & EXTERNAL

POWERPOINTS

MARKETING ITEMS





COLOR PALETTE

PRIMARY



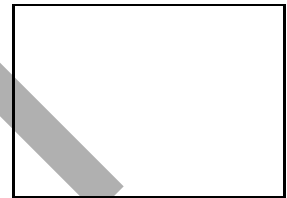
SKY BLUE
#4F6379



EVERGREEN
#5F6F45



TAN SANDS
#E9DCBB



WHITE
#FFFFFF

SECONDARY



BROWN
#4E3E08



WARM GRAY
#A59C94



PISMO DUNES
#8A7D5A

COLOR GUIDELINES

Primary Brand Colors

Primary brand colors are the main, consistent colors used in all graphics, publications, signage, ect. Primary brand colors rarely change because they are central to the brand's visual identity. With liberal amounts of white space, the brand will remain clean and uncluttered.

Secondary Brand Colors

Secondary brand colors act as a complementary color pallet to the primary brand colors. These colors can be updated more frequently and often change to reflect strategy trends and marketing goals. The secondary brand colors can be used throughout your brand's website, social media, and packaging but should not consist of more than 50% of the overall design.



new logo

TYPOGRAPHY

HEADINGS

Font: Corbel

abcdefghijklmnopqrstuvwxyz

ABCDEFGHIJKLMNOPQRSTUVWXYZ

SUBHEADINGS 1

Font: Segoe UI

abcdefghijklmnopqrstuvwxyz

ABCDEFGHIJKLMNOPQRSTUVWXYZ

SUBHEADINGS 2

Font: Segoe UI Light

abcdefghijklmnopqrstuvwxyz

ABCDEFGHIJKLMNOPQRSTUVWXYZ

Body Copy, Size ~~1~~ 12

Font: Calibri

abcdefghijklmnopqrstuvwxyz

ABCDEFGHIJKLMNOPQRSTUVWXYZ

Text on internal and external documents should be in the color black. Marketing items can be any color specified from the color palette.

LOGO

The full-colored logo may be used in most instances on light backgrounds. The light gray logo may also be used if more contrast is necessary.

MAIN LOGO

New logo.



SECONDARY LOGO

The secondary logo may be used when the logo size needs to be small and the small lettering within the main logo will be unreadable.



LOGO SPACING

Provide at least "x" amount of padding as displayed below. Provided is the determinant of "x". This helps our logo look clean and uncluttered.

New logo.



LOGO

LOGO PROPER USE

The primary-colored logo should be used on a light background. Use the secondary light gray logo on darker images or backgrounds.



LOGO DO NOT'S

When placing the logo on an image there needs to be enough contrast, otherwise an overlay should be placed. If there is still not enough contrast with an overlay, use a different photo. Photos with similar colors or blur are good options for this.



IMAGERY

LOGO PROPER USE

Imagery should represent the personality of the Fort Lupton brand. Bright, light, and warm images that show happy people, families and well-kept neighborhoods, businesses and parks are great options.



EMAIL SIGNATURES

REQUIRED EMAIL SIGNATURE

All email signatures should follow the format listed below. Calibri text should be used and the Fort Lupton Logo should hyperlink to www.FortLuptonCo.Gov.



Name, Credentials
Title

Main 303.587.6694 | Direct 720.466.6xxx

Mobile xxx.xxx.xxxx | Fax xxx.xxx.xxxx

YourName@FortLuptonCo.Gov

130 S. McKinley Avenue, Fort Lupton, Co 80621

EMAIL BODY

To create a cohesive look for The City of Fort Lupton all emails should be typed in Calibri, size 11 font, color black.

BUSINESS CARDS

Statement that background is optional or remove?



EXAMPLE

New logo



DOCUMENT TEXT REQUIREMENTS

To create a cohesive look for The City of Fort Lupton all documents should be typed in Calibri, size ~~11~~ font. This includes all internal and external documents. Document fonts should be in black.

12

LETTER HEAD TEMPLATE

Will be updated with new letterhead template.

No changes should be made to the header (the City of Fort Lupton logo and City address and contact information). Please use the letter template that is saved in the G Drive. If you cannot locate it, please contact the IT Department.

CITY OF

Fort Lupton
EST 1836

Department Name
130 S. McKinley Avenue Phone: 303.857.6694
Fort Lupton, CO 80621 Fax: 303.857.0351
www.fortluptonco.gov

January 1, 2022 The date should be centered.

Via U.S. Mail Bold Underline the method that the correspondence is being sent. E.g. U.S. Mail, Facsimile, E-Mail, etc.

John Doe
555 Main Street
Anywhere, CO 00000

Re: Insert Subject Here – Capitalize Important Words in the Title
Subject line should be tabbed in once, then a tab after the colon to insert the subject title. Make sure to capitalize important words in the title (generally not words such as: and, in, the, but, for, at, by, etc.).

Dear Mr. Doe,

Insert the body of the letter here. Insert the body of the letter here. Insert the body of the letter here.
Insert the body of the letter here.

Please do not hesitate to contact me with questions or concerns as we move forward.

Sincerely,

Jane Smith
Position Title
City of Fort Lupton

Enclosures Only include if there are enclosures.

cc: Jack Johnson Only include if there are people you are copying.

Font throughout the letter (excluding the header) should be Calibri (Body) - 11 point.

Signature should be spaced over to the right. Add your signature between the sign off and your name/title.

Be sure you are using your official job title, and each word of your title should be capitalized. Verify with your department head if you are unsure of your official title.

POWERPOINT PRESENTATIONS

To create a cohesive look for The City of Fort Lupton all presentations should use similar PowerPoint designs elements.

Update logo on all slides.

Update logo on all slides

The image displays a series of 12 presentation slides for Fort Lupton, arranged in a grid. A large, semi-transparent watermark reading "REALITYCREATiVE" is oriented diagonally across the center of the slides. A red text overlay at the top left corner states "Update logo on all slides".

The slides are numbered 01 through 12 and include the following content:

- Slide 01:** TITLE OF PRESENTATION SUBHEADING. CONTENTS. Includes a table of contents with links to About Us, Our Values, Our Team, Our Services, Our Clients, Project Portfolio, Project Timeline, Our Packages, and Contact Info.
- Slide 02:** OUR VALUES. These are the values that shape Fort Lupton. Includes VISION (To be the most trusted digital marketing agency in the nation) and MISSION (To make our client brands reach more compassionate people).
- Slide 03:** OUR TEAM. Features portraits and names of Avery Davis (CEO), John Doe (Creative Director), and Eleanor Fitzgerald (Marketing).
- Slide 04:** OUR SERVICES. Includes BRAND ACTIVATION (Start your own brand from the basic with our full brand activation package), DIGITAL MARKETING (Boost engagement and sales on your brand with our best-seller digital marketing service), and PERFORMANCE REVIEW (Consult concrete business solutions based on your digital marketing performance with our experts).
- Slide 05:** OUR CLIENTS. We are delighted to have worked with these compassionate brands. Includes logos for Beaver & Tyne, B. Hovelle Group, and Mark Graham, and mentions "and 50+ more brands".
- Slide 06:** TESTIMONIALS. Features a quote from CAHAYA DEWI, CEO Boracelle Beauty: "We have boosted sales and engagement thanks to Localist! The project is running smoothly and they are very responsive."
- Slide 07:** PROJECT TIMELINE. A timeline showing the progression from February Preparation to June Digital Marketing Running, with key milestones in March (Market Research), April (Marketing Strategy Planning), and May (Editorial Planning).
- Slide 08:** TESTIMONIALS. Features a quote from CAHAYA DEWI, CEO Boracelle Beauty: "We have boosted sales and engagement thanks to Localist! The project is running smoothly and they are very responsive."
- Slide 09:** QUESTIONS?. Includes a photo of a park and a quote from Fort Lupton: "Fort Lupton is an amazing community with the best employees. They truly have the resident's best interests at heart."
- Slide 10:** KEEP IN TOUCH. Includes contact information: Social Media (@reallygreatsite), Email (hello@reallygreatsite.com), and Website (www.reallygreatsite.com). Features a photo of a person on a horse.
- Slide 11:** LEARN MORE. Includes a list of bullet points encouraging visitors to join the Fort Lupton community on social media.
- Slide 12:** LEARN MORE again. Includes a list of bullet points encouraging visitors to join the Fort Lupton community on social media.

Each slide features the Fort Lupton logo in the bottom right corner.

MARKETING SUGGESTIONS

- Text can be in any color from the branding color palette.

DRAFT

LOGO OPTIONS

Option #1:



Option #2:



CITY OF FORT LUPTON

CITY COUNCIL



Valerie Blackston, Ward 1
Chris Ceretto, Ward 2
Carlos Barron, Ward 3

Zo Stieber, Mayor

David Crespin, Ward 1
Claud Hanes, Ward 2
Bruce Fitzgerald, Ward 3

AM 2022-043

AWARD CONTRACT TO POLARIZED WATER SOLUTIONS FOR NOT TO EXCEED \$240,000.00 FOR NON-POTABLE PUMP HOUSE RETROFIT PROJECT FROM THE UTILITY FUND - NON-POTABLE WATER SYSTEM

I. Agenda Date: Council Meeting – March 1, 2022

II. Attachments:

- a. Bid Tabulation
- b. Murrysmith recommendation
- c. Notice of Award - Polarized Water Solutions
- b. Public Works Agreement - Polarized Water Solutions.

III. Summary Statement:

Award contract for the Non-Potable Pump House Retrofit Project to Polarized Water Solutions for not to exceed \$240,000 from the Utility Fund - Non-Potable Water System.

IV. Submitted by: _____
Public Works Director

V. Finance Reviewed _____
Finance Director

VI. Approved for Presentation: _____
City Administrator

VII. Attorney Reviewed _____ Approved _____ Pending Approval

VIII. Certification of Council Approval:

_____	_____
City Clerk	Date

IX. Detail of Issue/Request:

Bid documents were advertised from January 21, 2022 with bid opening on February 18, 2022. Four bids were received with Polarized Water Solutions providing the lowest responsible bid as shown in the attached Bid Tabulation.

The City's consultant engineer (Murraysmith) evaluated the bid documents and has determined Polarized Water Solutions capable of completing the work required. They recommend award of the contract to Polarized Water Solutions.

\$385,000 is budgeted for the project in 2022.

Material order to occur immediately with construction to be schedule with delivery.

X. Legal/Political Considerations:

Not Applicable

XI. Alternatives/Options:

- A) Approve Contract Agreement with Polarized Water Solutions
- B) Do not approve the Contract Start over
- C) Award contract to other contractor

XII. Financial Considerations:

The 2022 Utility Fund budget has \$385,000 budgeted in the Non-Potable Water System for this project.

XIII. Staff Recommendation:

Staff recommends approving contract with Polarized Water Solutions for not to exceed \$240,000.00 for the Non-Potable Pump House Retrofit Project.

CITY OF FORT LUPTON, COLORADO
Non-potable Pump House Retrofit
Project No. 20-2746
Bid Tabulations - 2022-02-21

				Engineer's Estimate		Barnard Structures Inc.		CGRS Inc.		Polarized Water Solutions		Quality Well and Pump	
Bid Item	Description	Est. Qty.	Unit	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
1	Mobilization, bonds, insurance and demobilization	1	LS	\$ 5,000.00	\$ 5,000.00	\$ 28,996.00	\$ 28,996.00	\$ 7,000.00	\$ 7,000.00	\$ 1,000.00	\$ 1,000.00	\$ 2,600.00	\$ 2,600.00
2	Demolition	1	LS	\$ 15,000.00	\$ 15,000.00	\$ 6,562.00	\$ 6,562.00	\$ 26,000.00	\$ 26,000.00	\$ 6,000.00	\$ 6,000.00	\$ 6,340.00	\$ 6,340.00
3	Furnish and Install Package Pump System Skid	1	EA	\$ 260,036.30	\$ 260,036.30	\$ 198,395.00	\$ 198,395.00	\$ 240,000.00	\$ 240,000.00	\$ 200,000.00	\$ 200,000.00	\$ 298,920.00	\$ 298,920.00
4	Furnish and Install 8" Ductile Iron Pipe, Connections and Fittings	25	LF	\$ 85.00	\$ 2,125.00		\$ 11,527.00		\$ 29,000.00		\$ 18,500.00		\$ 29,200.00
5	Controls Integration	1	LS	\$ 20,000.00	\$ 20,000.00	\$ 9,005.00	\$ 9,005.00	\$ 6,500.00	\$ 6,500.00	\$ 4,000.00	\$ 4,000.00	\$ 22,000.00	\$ 22,000.00
6	Bypass Piping	1	LS	\$ 5,000.00	\$ 5,000.00	\$ 10,164.00	\$ 10,164.00	\$ 7,500.00	\$ 7,500.00	\$ 5,000.00	\$ 5,000.00	\$ 19,475.00	\$ 19,475.00
7	Site Restoration	500	SY	\$ 15.00	\$ 7,500.00		\$ 3,757.00		\$ 5,500.00		\$ 1,000.00		\$ 2,800.00
8	Vehicle Tracking Pad	1	EA	\$ 2,500.00	\$ 2,500.00	\$ 2,470.00	\$ 2,470.00	\$ 3,800.00	\$ 3,800.00	\$ 2,500.00	\$ 2,500.00	\$ 5,000.00	\$ 5,000.00
9	Site Utility Coordination (United Power)	1	LS	\$ 15,000.00	\$ 15,000.00	\$ 1,235.00	\$ 1,235.00	\$ 2,600.00	\$ 2,600.00	\$ 2,000.00	\$ 2,000.00	\$ 1,850.00	\$ 1,850.00
Total:					\$ 332,161.30		\$ 272,111.00		\$ 327,900.00		\$ 240,000.00		\$ 388,185.00

February 21, 2022

Roy Vestal
City of Fort Lupton
130 S. McKinley
Fort Lupton, CO 80621

Re: Project No. 20-2746 Non-potable Pump House Retrofit

Dear Roy,

We have evaluated the bids received on February 18, 2022 for the Non-potable Pump House Retrofit. The project consists of the supply, delivery, commissioning and startup of a three (3) pump irrigation booster pump skid system with variable frequency drives (VFDs), connection to existing influent and effluent piping, and controls integration. The work includes demolition of the existing equipment as denoted in the drawings. The skid will be outfitted with connection points for one additional pump to be installed at a future date. Electrical work will be included to connect the skid to the existing power feed to site.

Four bids were received as shown below with a detailed bid tab attached:

- Barnard Structures Inc. - \$272,111
- CGRS Inc. - \$327,900
- Polarized Water Solutions - \$240,000
- Quality Well and Pump - \$338,185

The low bid was submitted by Polarized Water Solutions in the amount of \$240,000. Our evaluation of Polarized Water Solutions bid documentation indicates that they are capable of completing the work required. Therefore, we recommend the award of a contract for construction of the Non-potable Pump House Retrofit to Polarized Water Solutions in the amount of \$240,000.

Sincerely,

A handwritten signature in black ink that reads "Joel Price". The signature is written in a cursive, flowing style.

MURRAYSMITH
Joel Price, PE
Principal Engineer

Enclosures: Detail Bid Tab



Public Works

130 S. McKinley Avenue
Fort Lupton, CO 80621

Phone: 303.857.6694
Fax: 303.857.0351

www.fortluptonco.gov

Polarized Water Solutions LLC
42029 Colonial Trail
Elizabeth, CO 80107

Date: **March 1, 2022**

Attention: Greg Rogers

**Subject: City of Fort Lupton, Colorado
Non-Potable Pump house Retrofit Project**

Notice of Award

The City of Fort Lupton, Colorado, has considered the Proposal submitted by you for the above described work in response to the Invitation for Bids dated **February 18, 2022**, and the Instructions to Bidders.

You are hereby notified that your Proposal has been accepted for the work in the amount or amounts shown on your Proposal.

You are required by the Instructions to Bidders to execute the Public Works Agreement and furnish the Performance Bond, the Payment Bond, Insurance Certificates, and other required documentation no later than ten (10) calendar days from the date of this notice.

If you fail to execute the said Public Works Agreement and to furnish the said Bonds no later than seven (7) calendar days from the date of this Notice of Award, the City of Fort Lupton, Colorado, will be entitled to consider all your rights arising out of the City of Fort Lupton, Colorado's acceptance of your Proposal as abandoned and as a forfeiture of your Proposal security as liquidated damages, but not as a penalty, for the delay and extra work caused thereby and also to compensate the City of Fort Lupton, Colorado, for the difference between your Proposal and the next lowest Bid. The City of Fort Lupton, Colorado, will be entitled to such other rights as may be granted by Colorado law.

You are required to return an acknowledged copy of this Notice of Award to the City of Fort Lupton, Colorado.

The insurance certificates required for this project shall be sent to City of Fort Lupton, Attention: Claud Hanes, 130 South McKinley Avenue, Fort Lupton, Colorado 80621.

CITY OF FORT LUPTON, COLORADO

By: Zo Stieber
Title: Mayor
Address: 130 South McKinley Avenue
Fort Lupton, Colorado 80621
Telephone: (303) 857-6694

Acceptance of Notice of Award

Receipt of the above Notice to Proceed is hereby acknowledged:

this the _____ day of _____, 2022.

Polarized Water Solutions LLC

By: _____
Title: _____
Telephone: _____



This **Public Works Agreement**, hereinafter "Agreement," is entered into by and between the **City of Fort Lupton**, Colorado, hereinafter "City," and **Polarized Water Solutions LLC**, hereinafter "Contractor."

WHEREAS the parties hereto agree in consideration of the covenants, payments, and agreements set forth herein as follows:

1. **Scope of Work**

The Contractor shall furnish all tools, equipment, machinery, supplies, superintendence, insurance, transportation, labor and other construction accessories, services and facilities specified or required to be incorporated into and for a permanent part of the completed Work. The Contractor shall provide and perform all necessary labor in a first class and workmanlike manner in accordance with the conditions and prices stated in the Bid Proposal and the requirements, stipulations, provisions and conditions of the Contract Documents. The Contractor shall perform, execute, construct, and complete all things mentioned to be done by the Contractor and all work included in this Scope of Work and the Bid Documents set forth and incorporated hereinbelow.

2. **Contract Documents**

The executed Contract Documents comprise the following:

- A. The Executed Agreement;
- B. Addenda 1 through 4;
- C. Advertisement for Bids;
- D. Invitation for Bids;
- E. Instructions to Bidders;
- F. Proposed Subcontractors;
- G. Non-Collusion Affidavit;
- H. Bid, Performance, and Payment Bonds;
 - I. Proposal;
 - J. Bid Form;
- K. Conditions of Contract;
- L. Special Conditions of Contract;
- M. City of Fort Lupton, Colorado *Standards and Specifications for the Construction of Public Improvements*, latest edition;

- N. Certificates of Insurance; and
- O. Plans (Drawings).

This Agreement, together with the other Documents enumerated above, which said other Documents are as fully a part of the Agreement as if hereto attached or herein repeated, form the Contract between the parties hereto. In the event that any provisions in any component part of this Agreement conflicts with any provision of any other component part, the conflict shall be resolved by the Engineer whose decision shall be final.

3. **Time for Completion**

The Contractor agrees to commence work upon execution of this Agreement. Substantial completion for this project shall be **June 30th, 2022**, and final project completion shall be done no later than **July 29th, 2022**.

4. **Contract Appropriations / No Change Orders**

The City states that the amount of money appropriated for this Agreement is equal to or in excess of the Contract Sum. No Change Order to this Agreement requiring additional compensable Work to be performed, which Work causes the aggregate amount payable under this Agreement to exceed the Amount appropriated for the Original Contract will be issued by the City unless the City notifies the Contractor, in writing, that lawful appropriations to cover the costs of the Additional Work have been made.

5. **Contract Amount**

The City will pay to the Contractor for the performance and completion of the Work encompassed by this Agreement, and the Contractor shall accept as full compensation therefore the Amount of **Two Hundred Forty Thousand, Dollars, \$ 240,000.00**, subject to the City's confirmation of the completion of the Scope of Work in accordance with the Contract Documents attached hereto. The said Amount to be paid upon the City's inspection and acceptance of the Work, at the City's sole discretion, including the Contractor's completion of any punch-list items as determined by the City and the execution of any releases by the Contractor deemed necessary by the City.

6. **Contractor Payments**

The Contractor shall, at no more than or less than monthly intervals on a Date to be agreed by the City and the Contractor, submit Application for Payment requests to the City.

- A. The Application for Payment shall clearly identify and provide such detail for which the Engineer and the Contractor shall agree to describe the Work completed by the Contractor up to the Date of the Application for Payment.
- B. The City will deduct and retain an amount equal to ten percent (10%) of the Application for Payment's Amount. The retained amounts shall be paid upon Final Acceptance of the work.
- C. The City will endeavor to effect the Progress Payments to the Contractor no later than thirty (30) calendar days after the Date the Application for Payment is received by the City.

- D. The Contractor shall charge Past Due Accounts an interest rate of two percent (2%) per month on any unpaid balance.

7. Warranty

All warranties for Work performed by the Contractor, repairs to be made or service calls required to be attended to by the Contractor shall be two (2) years. The Contractor shall notify the City when the Scope of Work is Completed and the City will confirm Completion of the Work, at the City's sole discretion. Once the Scope of Work is confirmed by the City as being completed, the Notice of Commencement of Warranty attached hereto and incorporated herein will be tendered by the City. The Warranty Period shall only commence upon the execution and tendering of the Notice of Commencement of Warranty to the Contractor by the City and said Warranty shall continue for the Warranty Period.

8. Amendment / No Assignment

No modification or amendment of this Agreement shall be valid unless in writing and signed by all parties to this Agreement.

9. Complete Agreement

This Agreement, and the documents attached hereto, constitute the entire Agreement between the parties with respect to the subject matter hereof and there are no agreements, representations or warranties other than as set forth herein.

10. Severability

In the event that any portion of this Agreement is held to be unenforceable, the unenforceable portion of this Agreement will be deleted and the remaining provisions of the Agreement shall continue in full force and effect.

11. Governing Law

This Agreement is governed by the laws of the State of Colorado. All parties agree that any dispute regarding enforcement of this Agreement shall be filed in the Weld County District Court after first attempting in good faith to submit the dispute to mediation. The submission of any dispute to mediation shall be a condition precedent to the filing of litigation in this matter, other than the request for injunctive relief.

12. OSHA Requirements

The Contractor agrees that it alone bears the responsibility for providing a safe and healthy work environment and shall provide employees with adequate orientation and training to safely perform the Scope of Work set forth in this Agreement. The Contractor shall at all times comply with the safety and health regulations of the Occupational Safety and Health Act of 1970 (29 CFR 1926) including all amendments and modifications thereto. In the event there is a conflict between the safety and health provisions of federal, state or local regulations, the more stringent provision shall prevail. The Contractor acknowledges and agrees that with respect to the Scope of Work under this contract, it shall comply with all

obligations and assume all responsibilities imposed upon the “Controlling Contractor” as such term is defined and construed under all of OSHA’s rules and regulations.

13. No Waiver of Governmental Immunity

The City, its elected officials, officers, and employees are relying upon, and do not waive or intent to waive by any provision of this Agreement, the monetary limitations or any other rights, immunities and protections provided by the C.R.S. § 24-10-101 et seq., *Colorado Governmental Immunity Act*, as amended or otherwise available to the City. Nothing herein shall operate as a waiver of any right the City has of governmental immunity under Colorado law which is specifically herein reserved.

14. Independent Contractor

The Contractor is a separate, legal entity from the City and the parties making this Agreement accordingly with the understanding that the Contractor at all times is acting as an independent contractor and not an employee or agent of the City. All persons retained by the Contractor to perform services pursuant to this Agreement shall be employees or independent contractors of the Contractor and are not employees, contractors or agents of the City. The Contractor does not have the authority to bind the City by contract or otherwise.

15. Indemnification by Contractor

The Contractor shall defend, indemnify and hold the City harmless from any damages, including but not limited to any loss, liability, expenses, suit or claim, or claim for injury to persons or damage to property arising out of the activities of the Contractor or its subcontractors pursuant to this Agreement. Expenses shall include all out of pocket expenses, attorney fees, expert costs and related litigation fees.

16. Force Majeure

Neither party shall be liable or responsible to the other party nor be deemed to have defaulted under or breached this Agreement for failure or delay in fulfilling or performing any obligation under this Agreement when such failure or delay is caused by or results from causes beyond the reasonable control of the affected party, including but not limited to fire, floods, embargoes, pandemics, wars, acts of war (whether war is declared or not), insurrections, riots, civil commotions, strikes, lockouts or other labor disturbances, instances affecting public health including pandemics, acts of God or acts, omission, or delays in acting by any governmental authority. Provided, however, that the party so affected shall use reasonable efforts to avoid or remove such causes of non-performance, and shall continue performance hereunder with reasonable dispatch whenever such causes are removed. Either party shall provide the other party with prompt written notice of any delay or failure to perform that occurs by reason of force majeure. The parties shall mutually seek a resolution of the delay or the failure to perform as noted above.

17. Approval Required

This Agreement is subject to the final approval of the Fort Lupton, Colorado, City Council and signature by the Mayor of Fort Lupton.

EXECUTED THIS _____ DAY OF _____, 2022

CITY OF FORT LUPTON, COLORADO

By: **Zo Stieber**

Title: **Mayor**

POLARIZED WATER SOLUTIONS LLC

By: _____

Title: _____

CITY OF FORT LUPTON

CITY COUNCIL



Valerie Blackston, Ward 1
Chris Ceretto, Ward 2
Carlos Barron, Ward 3

Zo Stieber, Mayor

David Crespín, Ward 1
Claud Hanes, Ward 2
Bruce Fitzgerald, Ward 3

AM 2022-048

APPROVAL OF A PRE-CONSTRUCTION CONTRACT WITH GH PHIPPS AS CONSTRUCTION MANAGER FOR THE NEW PUBLIC LIBRARY FACILITY

I. Agenda Date: Council Meeting – March 1, 2022

II. Attachments:

- a. FLL-2.22.22-GHP CMaR Agmt GHP signed School sign added.doc
- b. 05 19.0471 FLL Proposal_DD GMP

III. Summary Statement:

Approval of the pre-construction contract for the construction of the new public library facility with construction manager GH Phipps. This includes an amend with a proposal with a final dollar amount for the construction on the project to not exceed 6,706,593.

IV. Submitted by: _____
Thomas Samblanet, Library Director

V. Finance Reviewed _____
Finance Director

VI. Approved for Presentation: _____
City Administrator

VII. Attorney Reviewed _____ Approved _____ Pending Approval

VIII. Certification of Council Approval:

_____	_____
City Clerk	Date

IX. Detail of Issue/Request:

The attached documents are a contract with developers GH Phipps who have been selected to work on the new public library facility. The proposal for the dollar amount sets the price for the project to not exceed 6,706,593.

GH Phipps was selected over two years ago for this project and has been working alongside the architects and build team to quote the project since selected.

X. Legal/Political Considerations:

XI. Alternatives/Options:

The City council has two options:

- A) Sign the contract with GH Phipps to set them as the construction manager for the new library facility and setting the construction price for the facility.
- B) Do not sign the contract.

XII. Financial Considerations:

The Library has had funds set aside for this project for over two years now. The total cost of construction will be not exceed 6,706,593 and this will come out of the already approved building project budget.

XIII. Staff Recommendation:

Staff recommends signing this contract.

February 4th, 2022

Mr. Thomas Samblanet
Director
Fort Lupton Public & School Library
425 S. Denver Ave.
Fort Lupton, CO 80621

Re: Fort Lupton Public & School Library_GMP Amendment
GH Phipps Job #19.0471

Dear Thomas:

We are pleased to submit our GMP Amendment for the mutually executed contract between GH Phipps Construction and the City of Fort Lupton dated September 9th, 2019. This GMP is based on our prior design development proposal dated 1/14/2022 and the Design Development drawings dated 12/16/2021, as prepared by BRS Architects. Attached please find a copy of our estimate, qualifications and clarifications, and cost study report for your further review.

Again, thank you for the opportunity to work with you on this project. We look forward to working with you towards the project's successful completion. If you have any questions or require additional information, please contact me at 303-325-1520.

Sincerely,



Gregg Behmer
Preconstruction Services

Accepted By:
Authorized Representative

Organization: _____

Signature: _____

Name: _____

Title: _____

Date: _____

Accepted By:

Authorized Representative

Organization: _____

Signature: _____

Name: _____

Title: _____

Date: _____

Accepted By:

Authorized Representative

Organization: _____

Signature: _____

Name: _____

Title: _____

Date: _____

CC:

Ralph Kasper, GH Phipps

Todd Ruff, GH Phipps

Tim Johnson, GH Phipps

Daniel Matoba, BRS Architects

Dan Spykstra, Wember

Qualifications and Clarifications

Fort Lupton Public & School Library

2/4/2022

Bid Qualifications:

1. Contingencies

Escalation Contingency: 2%

Uses: Cover potential cost increases for materials between the date of this proposal and contracting with subcontractors and receiving materials.

Design and Estimating Contingency: 2%

Design Uses: Scope for additional space, added quantities of materials, enhanced quality of materials, code revisions, owner-requested items, additional equipment and/or capacity. This estimate includes design contingency.

Estimating Uses: Estimating accuracy based on quantities assumed or measured, unanticipated market conditions, lack of bidding competition, subcontractor defaults, interfacing omissions between work categories, errors of the construction manager, general condition overruns, and any other necessary costs that do not require a change order. Use of this contingency is only allowed with written approval by the Owner. This estimate includes estimating contingency.

Construction Contingency: 3%

We have included a contingency for the Contractor's exclusive use to cover those costs considered reimbursable as the cost of the work but not included in a change order. The contingency use may include but is not limited to costs associated with estimating accuracy, omissions of the estimate, discrepancies or interfacing omissions between subcontractors or suppliers scope of work, subcontractor defaults, self-performed and general condition work over runs, market conditions, acts of war, acts of God and other costs incurred by the Contractor in performance of the work.

The Construction Contingency shall not be used when the work is properly the subject of a change order including but not limited to instances of unforeseen or differing job/site conditions, drawing coordination issues. A&E errors and omissions, code requirements or owner scope issues. The owner will be informed of the use of the Construction Contingency on a regular basis and all unused contingency will be deducted from the contract sum at the completion of the project.

General:

- a) This GMP pricing will be amended based on bids received at 100% CD pricing. Those documents are anticipated to be available 3/17/2022 and CD pricing is anticipated to be complete by 4/21/22.
- b) We have not included pricing for abatement or handling of any hazardous materials.
- c) All work is to be in regular business hours.
- d) We have not included building permit and plan review fees.
- e) We understand the project is tax exempt and we have excluded tax. 6.9% tax is carried on consumables and rentals not part of the permanent project.
- f) We have not included fire watch or security.
- g) We have not included development fees, primary utility costs, or tap fees in this proposal which are typically the responsibility of the owner.
- h) We have not included costs for moving or relocations of people, furniture, or equipment.
- i) We have not included any prevailing wage rates or certified payroll processes.

- j) We reserve the right to modify our pricing due to unforeseen conditions such as taxes, tariffs, or other similar charges that are enacted after the submission of this proposal.
- k) Material supply chain issues related to tariffs and covid-19 restrictions are beyond our control and we reserve the right to adjust schedule and cost accordingly for these issues.
- l) We have not included special inspection or testing costs as these are typically owner provided. We will coordinate with the inspection and testing procedures.
- m) Due to current volatility of material prices we are unable to hold pricing in advance of contracting with subcontractors. In the case of steel pricing and roofing, we will not be able to hold pricing until the steel order is placed based on approved shop drawings.

5 Steel

- a) Lead times on metal deck have improved. Based on conversations with multiple deck suppliers lead times are in the range of 6-8 weeks. Based on this information we feel we can wait until CD's are issued and purchase decking with the steel package.
- b) The alternate 1 canopy is bid with structural steel as indicated and the panels are priced as steel, standard perforation pattern, primed for field paint flat panels. CSR log has price alternates for upgraded panel pricing.

7 Roofing

- a) Flat roof system is based on fully adhered Carlisle (or similar) 60 mil white TPO over ½" mechanically attached Dens Deck over R-30 loose laid insulation and crickets.
- b) Sloped roof system is 24 ga Berridge Cee-Lock metal roof panels with associated trims and standard color over R-30 rigid, plywood, and ice and water shield underlayment.
- c) There is a 7 month lead time on roofing materials like polyiso insulation and TPO. We are recommending contracting with a roofer based on this DD set of documents to maintain the project construction schedule. Note material pricing will be variable until product ships.

9 Finishes

- a) Drywall is priced with level 4 finish to ceiling and level 1 finish above ceiling.
- b) We have carried floor moisture mitigation under VFT-1 flooring.

10 Moveable Partitions

- a) Movable Partition wall is priced as Hufcor.

22 Plumbing

- a) We have assumed the roof is designed drain to perimeter scuppers and downspouts. We have not included pricing for roof drains.

26 Electrical

- a) Electrical pricing includes the fixtures indicated in the documents. The cost of the fixtures package included in the estimate is \$159,270 for interior and exterior lighting. This includes an allowance of 21,270 for fixture types F6, F10, F11, F12 and exit signs.
- b) 2000 A electrical service feeder not to exceed 35 LF.
- c) Pricing includes (2) 4" conduits from teledata pedestals to IT room. Allowance for 120 LF.
- d) Rough-in is included for low voltage systems only. No low voltage cabling or equipment is included in electrical pricing.
- e) All interior wiring to be in PVC, HPDE, EMT, and MC branch cable at concealed areas.

31 Earthwork

- a) We are assuming there will be no rock excavation and have not included that in our pricing.
- b) We are assuming dewatering will not be necessary and have not included that in our pricing.
- c) Site cuts and fills estimate is for approximately 1818 tons of material to balance the site.

- d) We have priced an unclassified structural fill to be approved by the soils engineer prior to placement. This is not class 1 structural fill.
- e) We have assumed we may need to move up to 1' of developer placed non-structural fill from building footprint and paving areas to landscaped areas of the site.
- f) We have not priced to export any soil from the site as our current understanding is this will be a net fill project.

32 Landscape

- a) Unit price for detail 6/L401 Tree Pit Sump is \$275 each where that might occur. That price is not currently included in the estimate.

Allowances:

The following allowances were provided with our fee and GC's proposal and they are included in this pricing.

- 1. Electrical Power Consumption Expense: \$10,000
- 2. Gas Service Consumption Expense: \$5,000
- 3. Trash Dumpsters: \$15,000
- 4. Temporary Weather Protection for Sub Trades: \$25,000

General Requirements:

- 1. We anticipate this project will take 43 weeks. We have included 43 weeks of full time supervision and general conditions cost per our fee and GC's proposal. We have included an additional 2 weeks of superintendent time to return for landscape planting in spring of 2023 after the project has completed.



SUMMARY

Job # 19.0471

Fort Lupton Public & School Library

Design Development Estimate				Remarks		
Description:		Fort Lupton Library	Alternate 1	Total		
Fort Lupton Library	14,492 SF	5,858,456		5,858,456		
Alternate1 - Canopy	750 SF		133,815	133,815		
Subtotal Direct Costs		\$ 5,858,456	\$ 133,815	\$ 5,992,271		
Building Permit	0.00%	-	-	-	By Owner	
Plan Check Fee	0.00%	-	-	-	By Owner	
Fire Department/Misc Permits	0.15%	8,788	201	8,988		
Use Tax	0.00%	-	-	-	Exempt	
		\$ 5,867,244	\$ 134,016	\$ 6,001,260		
Liability Insurance	0.85%	58,051	1,326	59,376		
Builders Risk Insurance	0.15%	10,244	234	10,478		
Performance and Payment Bond	0.60%	40,977	936	41,913		
		\$ 5,976,515	\$ 136,512	\$ 6,113,027		
Escalation Contingency	2.00%	119,530	2,680	122,211		
Design/Estimating Contingency	2.00%	119,530	2,730	122,261		
Construction Contingency	3.00%	179,295	4,095	183,391		
		\$ 6,394,871	\$ 146,018	\$ 6,540,889		
Construction Fee	4.64%	296,722	6,775	303,497		
Preconstruction Fee	Fixed	15,000	-	15,000		
Design Development Estimate	Total	\$ 6,706,593	\$ 152,793	\$ 6,859,387		



Systems Summary Report

City of Fort Lupton
Fort Lupton Public & School Library

Job # 19.0471

January 14, 2022

Description	Quan Un	Total	\$/Un
Fort Lupton Library	14,492 SF		
Substructure	14,492 SF		
Foundation Concrete and SOG	341 CY	349,821	1,025.87
Total Substructure	14,492 SF	349,821	24.14
Structure	14,492 SF		
Structural Steel Complete	61 TN	460,182	7,543.96
Total Structure	14,492 SF	460,182	31.75
Exteriors	14,492 SF		
Exterior Masonry	8,670 SF	264,879	30.55
Exterior Drywall Systems (includes drywall, framing, insulation, sheathing, spray insulation)	11,323 SF	307,366	27.15
Fiber Cement Siding Systems	4,001 SF	162,249	40.55
Exterior Glazing Systems	1,828 SF	211,072	115.47
Roofing and Sheet Metal	16,942 SF	373,327	22.04
Joint Sealants	14,492 SF	11,031	0.76
Wood Framing	5,150 SF	196,593	38.17
Total Exteriors	14,492 SF	1,526,518	105.34
Interiors	14,492 SF		
Internal Partitions	1,064 LF	168,464	158.33
Doors	27 EA	53,992	1,999.71
Unload/Handle/Distribute Doors/Frames/Hardware	27 EA	5,028	186.21
Floor Finishes	15,043 SF	153,089	10.18
Ceiling and Acoustic Finishes	7,373 SF	97,890	13.28
Painting	20,325 SF	67,345	3.31
Interior Glazing Systems	652 SF	58,022	88.99
Total Interiors	14,492 SF	603,831	41.67
Equipment and Furnishings	14,492 SF		
Visual Display Boards	9 EA	7,937	881.94
Toilet Partitions	3 EA	5,946	1,982.16
Toilet Accessories	41 EA	12,217	297.97
Corner Guards/Wall Protection	1 LS	12,317	12,317.05
Identifying Devices	1 LS	35,858	35,858.00
Fire Extinguisher & Cabinets	4 EA	5,846	1,461.62
Movable Partitions	25 LF	27,965	1,118.61
Flagpoles	2 EA	10,562	5,280.79
Miscellaneous Specialties - Fireplace, Postal	1 LS	2,100	2,100.00
Residential Appliances	3 EA	4,499	1,499.79
Library Equipment - OFCI Book Drop	1 LS	266	266.24
Window Treatments	2,122 SF	23,888	11.26



Systems Summary Report

City of Fort Lupton
Fort Lupton Public & School Library

Job # 19.0471

January 14, 2022

Description	Quan Un	Total	\$/Un
Millwork	100 LF	128,074	1,280.74
Total Equipment and Furnishings	14,492 SF	277,476	19.15

Mechanical	14,492 SF		
Prime Mechanical Complete	14,492 SF	321,516	22.19
Plumbing Complete	14,492 SF	190,451	13.14
Fire Protection	14,492 SF	71,539	4.94
Total Mechanical	14,492 SF	583,506	40.26

Electrical	14,492 SF		
Prime Electrical	14,492 SF	543,624	37.51
Fire Alarm and Detection	14,492 SF	46,360	3.20
Total Electrical	14,492 SF	589,984	40.71

Building Sitework	14,492 SF		
Survey	1 LS	30,000	30,000.00
Erosion Control and Sedimentation	1 LS	28,521	28,521.03
Earthwork	2 AC	236,061	118,030.67
Storm Water Management	10 MO	29,754	2,975.40
Utility Services	60 LF	120,440	2,007.33
Asphalt Pavement and Markings	35,425 SF	202,863	5.73
Site Concrete Paving	261 CY	202,337	775.24
Fences & Gates	319 LF	9,141	28.66
Site Furnishings	1 LS	14,000	14,000.00
Landscaping & Irrigation	30,327 SF	168,590	5.56
Total Building Sitework	14,492 SF	1,041,707	71.88

CM @ Risk Scope Coordination Matrix - Allowances	1 LS		
CM @ Risk Scope Coordination Matrix - Allowances	1 LS	55,000	55,000.00
Total CM @ Risk Scope Coordination Matrix - Allowances	1 LS	55,000	55,000.00

CM@R Scope Coordination Matrix	10 MO		
DESIGN SERVICES	10 MO	-	
PROCUREMENT	10 MO	-	
PRE-CONSTRUCTION	10 MO	-	
PROJECT COST CONTROL	10 MO	-	
PROJECT SCHEDULING	10 MO	18,255	1,825.54
SUBCONTRACTOR SELECTION / PURCHASING	10 MO	-	
CONTRACT DOCUMENT COORDINATION	10 MO	-	
GENERAL CONTRACTOR STAFF	10 MO	259,311	25,931.06
QUALITY CONTROL / WARRANTY	10 MO	-	
TEMPORARY FACILITIES	10 MO	33,784	3,378.38



Systems Summary Report

City of Fort Lupton
Fort Lupton Public & School Library

Job # 19.0471

January 14, 2022

Description	Quan Un	Total	\$/Un
TEMPORARY UTILITIES	10 MO	1,950	195.00
CLEAN-UP	10 MO	30,920	3,092.00
WEATHER PROTECTION / TEMPORARY HEATING	10 MO	5,000	500.00
ON-SITE EQUIPMENT / HOISTING	10 MO	20,712	2,071.21
LEED CERTIFICATION MANAGEMENT	10 MO	-	
DOCUMENT REPRODUCTION / PRINTING	10 MO	-	
INSURANCE & BONDS	10 MO	-	
PERMITS & FEES	10 MO	500	50.00
OTHER COSTS	10 MO	-	
ADDITIONAL ITEMS	10 MO	-	
Fee = 4.64% of total project		-	
Total CM@R Scope Coordination Matrix	10 MO	370,432	37,043.20
Total Fort Lupton Library	14,492 SF	5,858,456	404.25



Systems Summary Report

City of Fort Lupton
Fort Lupton Public & School Library

Job # 19.0471

January 14, 2022

Description	Quan	Un	Total	\$/Un
Alternates				
Alternates				
Alternate 1 - Canopy			133,815	
Total Alternates			133,815	
Total Alternates			133,815	
Total Direct Cost	14,492	SF	5,992,271	413.49

Item	Description	Sorts	Submitted			Status					Remarks
		Param.	Submitted by	Date	Deduct/Add Amount	Status	Date	Rejected Amount	Pending Amount	Accepted Amount	
Defined Project Alternates		Alt									
Alt1.1	Canopy - with steel, standard perf, primed for field paint flat panels				152,793	pending			152,793		
Alt1.2	Aluminum, custom perforated, kynar coated corrugated panels for canopy in lieu of steel in Alt1.1				23,125	pending			23,125		
Alt1.3	Custom pattern Parasoleil panels - https://parasoleil.com/products/shade , powder coated					pending					
Alt 2	AWP-1 Acoustic Wall Panel					pending					
SITEWORK		Site									
2001	Remove (1) of (2) Hydrants (at street cut location) if both are not required				(12,642)	pending			(12,642)		
SUBSTRUCTURE		Substr									
STRUCTURE		Struct									
EXTERIORS		Exterior									
2301	Enhanced brick detailing - vertical running bond or vertical stacked bond				(17,072)	pending			(17,072)		
2302	Remove mechanical screen louvers				(20,670)	pending			(20,670)		
INTERIORS		Interiors									
EQUIPMENT AND FURNISHINGS		EQ									
MECHANICAL		MECH									
2601	Spring vibraton isolation rail kit for (10) RTU curbs				(18,000)	pending			(18,000)		
ELECTRICAL		ELEC									
2701	Adjust Light Fixture Package Budget				0	pending			0		
TOTALS											
	Subtotal				107,534			0	107,534	0	

Estimate - DD Dated 1/14/22								Total:	6,706,593		
Project Budget (RE;Wember Update)									6,780,000		

Item	Description	Sorts	Submitted			Status					Remarks
		Param.	Submitted by	Date	Deduct/Add Amount	Status	Date	Rejected Amount	Pending Amount	Accepted Amount	
	Over/(Under) Budget									(73,407)	
	Accepted Items to Date									0	
	Over/(Under) Budget							Pending Items:	107,534	(73,407)	
	Revised Project Total									6,706,593	

The above options are meant only to serve as suggestions, and are not recommendations of GH Phipps. It is the responsibility of the Design Team and Owner to research each alternative for code compliance, meeting the requirements of the specifications, engineering, compatibility with adjacent products and incorporation into the project documents. GH Phipps takes no responsibility for the design or engineering verification required for any of the options above.

CONSTRUCTION MANAGER AT RISK AGREEMENT

THIS CONSTRUCTION MANAGEMENT/GENERAL CONTRACTOR AGREEMENT ("Construction Agreement") is made and entered into September 9 of the year 2019, by and between the **City of Fort Lupton** (hereinafter referred to as the "City"), and **GH Phipps Construction Companies** (hereinafter referred to as the "Construction Manager At Risk," "Contractor," or "CM@R"), for services in connection with the following described project:

General Scope.

Construction of a new approx. 16,000sf Library facility in Ft Lupton Colorado, with associated sitework.

This Contract shall be performed in conjunction with the services of the Architect for the project, Barker Rinker Seacat Architects.

Therefore, in consideration of the mutual covenants and provisions contained herein, the parties agree as follows:

1.0 The Construction Team and Extent of Construction Agreement

1.1 The CM@R accepts the relationship of trust and confidence established with the City by this Construction Agreement. He covenants with the City to furnish his best skill and judgment and to cooperate with the Architect in furthering the interests of the City. He agrees to furnish efficient business administration and superintendence and to use his best efforts to perform the Work in the best and soundest way and in the most expeditious and economical manner consistent with the interests of the City.

1.1.1 The Construction Team: The CM@R, the City, and the Architect, collectively referred to as the "Construction Team" shall work from the beginning of design through construction completion. The CM@R shall provide leadership to the Construction Team on all matters relating to construction.

1.1.2 Extent of Construction Agreement: This Construction Agreement, the General Conditions of the Construction Agreement ("General Conditions"), and the Supplementary Conditions of the Construction Agreement, if any, represent the entire agreement between the City and the CM@R and supersede all prior negotiations, representations or agreements. This Construction Agreement shall not be superseded by any provisions of the documents for construction and may be amended only by written instrument executed by both the City and the CM@R. Nothing contained herein shall be deemed to create any contractual relationship between the CM@R and the Architect, or any of the contractors, subcontractors or material suppliers on the Project; nor shall anything contained herein be deemed to give any third party any claim or right of action against the City or the CM@R that does not otherwise exist without regard to this Construction Agreement.



1.1.3 Contract Documents: The provisions of the General Conditions and all of the "Contract Documents" for the Project as that term is defined therein are incorporated by this reference into this Construction Agreement, to the extent those documents and their provisions are not in conflict with specific provisions herein.

2.0 Construction Manager At Risk Services

The CM@R's basic services under this Construction Agreement shall consist of the two phases described below:

2.1 Design Phase. As part of the Design Phase services, the CM@R will:

2.1.1 Consultation During Project Development - Attend regularly scheduled meetings with the Architect and/or City during the development of conceptual and preliminary design to advise on site use and improvements, selection of materials, building systems and equipment. Provide recommendations on construction feasibility, availability of materials and labor, time requirements for installation and construction and factors related to cost including costs of alternative designs or materials, preliminary budgets and possible economies.

2.1.2 Scheduling - Develop a Project Time Schedule that coordinates and integrates the Architect's design efforts with construction schedules. Update the Project Time Schedule incorporating a detailed schedule for the construction operations of the Project, including realistic activity sequences and durations, allocation of labor and materials, processing of shop drawings and samples and delivery of products requiring long lead-time procurement. Include the City's occupancy requirements showing portions of the Project having occupancy priority.

2.1.3 Project Construction Budget - Review the City's established Project budget as soon as major program requirements have been identified and update the budget periodically for the City's approval. Prepare an estimate based on a quantity survey of drawings and specifications at the end of the Schematic Design Phase for approval by the City as the Project Construction Budget. Update and refine this estimate for City's approval as the development of the drawings and specifications proceeds. Advise the City and the Architect if it appears that the Project Construction Budget will not be met and, in that event, make recommendations for corrective action.

2.1.4 Value Engineering - Provide technical review and analysis of systems and materials being considered in the design to produce the greatest value for the least cost.

2.1.5 Coordination of Contract Documents - Review the drawings and specifications as they are being prepared, recommending alternative solutions whenever design details affect construction feasibility or schedules without, however, assuming any of the Architect's customary responsibilities for design.

2.1.6 Construction Planning - Recommend for purchase and expedite the procurement of long-lead items to ensure their delivery by the required dates.

2.1.7 Division of Work - Make recommendations to the City and the Architect regarding the division of the Work in the plans and specifications to facilitate the bidding and awarding of subcontractors and to allow for phased construction, taking into consideration such factors as time of performance, availability of labor, overlapping trade jurisdictions, provisions for temporary facilities and other matters.

2.1.8 Construction Document Review - Perform final review of plans and specifications with the Architect and City to eliminate areas of conflict or misinterpretation and to assure proper coordination, accuracy and completeness.

2.1.9 Labor - Analyze the types, quantity and availability of appropriate categories of labor required for various phases of the Project.

2.1.10 Bidding - Prepare pre-qualification criteria for subcontractor and supplier bidders and develop subcontractor interest in the Project. As working drawings and specifications are completed, establish bidding schedules and conduct pre-bid conferences to familiarize bidders with bidding documents, management techniques and any special systems, materials or methods. Receive competitive bids on the Work from various subcontractors, pursuant to bidding procedures acceptable to the City. Analyze all bids, review them with the City and Architect, make recommendations for contract awards and award subcontractors.

2.1.11 Conferences - Conduct pre-construction conferences with successful subcontractors.

2.2 Construction Phase. As part of the Construction Phase services, the CM@R will:

2.2.1 Project Control - Supervise the Work of the subcontractors and coordinate the Work with the activities and responsibilities of the City and Architect in order to complete the Project in accordance with the City's objectives of cost, time and quality.

2.2.2 Staffing - Maintain a competent full-time staff at the Project site to coordinate, provide overall direction of the Work, and monitor progress of the subcontractors on the Project.

2.2.3 Organization - Establish on-site organization and lines of authority in order to carry out the overall plans of the Construction Team.

2.2.4 Coordination - Establish and implement procedures for coordination among the City, Architect, subcontractors and the CM@R with respect to all aspects of the Project.

2.2.5 Scheduling - Schedule and conduct progress meetings at which subcontractors, the City, Architect and the CM@R can discuss jointly such matters as procedures, progress, problems and scheduling. Provide a detailed schedule for the operations of the CM@R and subcontractors on the Project, including realistic activity sequences and durations, allocation of labor and materials, processing of shop drawings and samples and delivery of products requiring



long lead-time procurement. Include City key dates such as certificate of occupancy and ceremonies.

2.2.6 Monitoring - Provide regular monitoring of the schedule as construction progresses. Identify potential variances between scheduled and probable completion dates. Review schedule for work not started or incomplete and recommend to the City and subcontractors adjustments in the schedule to meet the scheduled completion date. Provide summary reports of such monitoring activities and document all changes in the schedule.

2.2.7 Evaluation - Determine the adequacy of the subcontractors' personnel and equipment and the availability of materials and supplies to meet the schedule.

2.2.8 Cost Control - Develop and implement an effective system of Project cost control, showing actual costs for activities in process and estimates for uncompleted tasks. Revise and refine the initially approved Project Construction Budget, incorporate approved changes as they occur and develop cash flow reports and forecasts as needed.

2.2.9 Change Orders - Develop and implement a system for the expeditious review and processing of Change Orders. Initiate necessary or desirable changes to the City and the Architect, review requests for changes, submit recommendations to the City and the Architect and assist in negotiating Change Orders, in accordance with section 17.00 of the General Conditions of the Construction Agreement.

2.2.10 Permits - Secure or assist the City in securing all necessary permits, licenses and inspections for the proper completion and execution of the Work, in accordance with section 12.00 of the General Conditions of the Construction Agreement.

2.2.11 City's Consultants - If required, assist the City in selecting, retaining and coordinating professional services of a surveyor, testing laboratories and any special consultants.

2.2.12 Superintendent - Keep on the Project, during the work, a competent superintendent and any necessary assistants, all satisfactory to the Architect and the City, in accordance with section 16.00 of the General Conditions of the Construction Agreement.

2.2.13 Safety Measures - Establish procedures and measures for the safety of persons and property at and around the site of the Work. Assure compliance with all federal, state and local statutes, rules, regulations and orders applicable to the conduct of the Work.

2.2.14 Contract Interpretations - Refer all questions relative to interpretation of design intent to the Architect in writing. Develop and implement an effective system of tracking the status of questions and responses.

2.2.15 Shop Drawings and Samples - In collaboration with the Architect, establish and implement procedures for expediting the processing and approval of shop drawings and samples, in accordance with section 8.00 of the General Conditions of the Construction Agreement.

2.2.16 Reports and Project Site Documents - Record the daily progress of the Project in a daily log available to the City and the Architect. Submit on a weekly basis written progress reports and summaries of meetings to the City and the Architect, including information on the subcontractors' work and the percentage of completion.

2.2.17 Record Sets - Maintain at the Project site, on a current basis, records of all necessary contracts, shop drawings, samples, purchases, materials, equipment, maintenance and operating manuals and instructions and any other documents and revisions thereto which arise out of the Construction Agreement or the Work, in accordance with section 7.00 of the General Conditions of the Construction Agreement. Obtain data from subcontractors and maintain a current set of record drawings, specifications, operating manuals, warranties and guarantees. Upon the date of final completion of the Project, submit all such documents to the Architect for delivery to the City.

2.2.18 Completion - Determine completion of the Work or designated portions thereof and prepare for the Architect a list of incomplete or unsatisfactory items together with a schedule for their completion, in accordance with section 51.00 of the General Conditions of the Construction Agreement.

2.2.19 Start-Up and Training - With the City's maintenance personnel and the Architect, direct the checkout of utilities, operating systems and equipment for readiness and assist in their initial start-up and testing by the subcontractors. Facilitate all training of City's personnel as required.

2.2.20 Final Completion - Determine final completion and provide written notice to the City and Architect that the Work is ready for final inspection. Secure and transmit to the Architect required guarantees, tax affidavits, certificates, releases, bonds and waivers. Turn over to the City all keys and maintenance stocks.

2.2.21 Warranty - During the one (1)-year warranty period at no additional cost to the City, perform one (1) warranty inspections at approximately 11 months after the City's acceptance of Work, and ensure that Work which proves defective or deficient during such time is corrected either by the subcontractors or such other means as shall be required.

2.3 Additional Services - Additional services shall be performed only upon the express, prior written authorization of the City and paid for as provided herein. Additional services shall include the following:

2.3.1 Analysis of Existing Improvements - Services related to investigation, appraisals or valuations of existing conditions, facilities or equipment; or verifying the accuracy of existing drawings or other City-furnished information.

2.3.2 City-Furnished Equipment - Services related to City - furnished equipment, furniture and furnishings which are not a part of the Work.

2.3.3 Expert Witness - Preparing to serve or serving as an expert witness in connection with any public hearing or legal proceeding.

2.3.4 After Completion - Inspections of and services related to the Project after completion of the services under this Construction Agreement.

2.3.5 Other - Providing any other service not otherwise included in this Construction Agreement.

3.0 The City's Responsibilities

3.1 Information - The City shall provide full information regarding its requirements for the Project.

3.2 City's Representative - The City's representative shall be Wember who shall be acquainted with the scope of the Work; has authority to approve budgets and adjustments thereto, as contemplated by Paragraph 2.2.3 within the Project Cost Estimate as established by the International Association of Fire Fighters; render decisions; and otherwise furnish information.

3.3 Architect - The City shall retain an Architect to provide design services and to prepare construction documents for the Project. The Architect's services, duties and responsibilities are described in the Construction Agreement between the City and the Architect, a copy of which will be furnished to the CM@R.

3.4 Professional Services - The City shall furnish such legal services as may be necessary for the Project, and such auditing services as it may require.

3.5 Documentation - The CM@R will be furnished, without charge, all copies of drawings and specifications reasonably necessary for the execution of the Work.

3.6 Defects - If the City becomes aware of any fault or defect in the Project or nonconformance with the Contract Documents, it shall give prompt written notice thereof to the CM@R. This provision shall not, however, charge the City with any obligation to make inspections and shall in no manner be construed to discharge or modify the CM@R's obligations to supervise, inspect and to otherwise complete the Project in accordance with the Contract Documents.

3.7 Surveys and Special Testing - So far as the Project contemplated by this Construction Agreement may require, the CM@R shall be entitled to information giving a complete and accurate survey of the site and the existing grades and lines of streets, pavements and adjoining properties; information as to the rights, restrictions, easements, surface water courses, boundaries and contours of the building site; and full information as to existing sanitary sewer, storm sewer, water, gas and electrical services. The City, at its expense, shall furnish all such data, upon request. The City likewise shall pay for all borings or test pits and for any mechanical, chemical or other tests as well as professional verifications and inspections incident

to proper appraisal of the site for the contemplated structure. A copy of all reports of such tests and borings shall be filed with the City and shall be available to the CM@R upon request.

3.8 City's Expenses - The services, information, surveys and reports required by Paragraphs 3.3 through 3.5 and 3.7, shall be furnished at the City's expense.

4.0 Subcontracts

4.1 Bidding - Unless City provides written approval otherwise, the Work, except that portion commonly referred to as "General Condition Costs" set forth in Paragraph 8.2.1, shall be competitively bid pursuant to procedures acceptable to the City. CM@R shall include miscellaneous scopes of work not being bid in periodic budget estimates, as well as the proposed GMP prepared by the CM@R. Such scopes shall be approved by City at the time of GMP execution.

4.2 Award - The CM@R shall request and receive proposals from subcontractors and subcontracts will be awarded by the CM@R after the proposals are reviewed by the CM@R with the Architect and City. The CM@R shall be authorized to submit proposals for portions of the Work only with the prior written consent of the City.

4.3 Substitution - If the City refuses to accept a subcontractor recommended by the CM@R, the CM@R shall recommend an acceptable substitute. The Guaranteed Maximum Price, if applicable, shall be increased or decreased by the difference in cost occasioned by such substitution and an appropriate Change Order shall be issued.

5.0 Contract Time Schedule

5.1 Schedule - The services and work to be performed under this Contract shall be in general accordance with the Contract Time Schedule attached hereto as Exhibit 3.

5.2 Time of Completion - This date shall be established at the time a Guaranteed Maximum Price is established or prior to the award of any subcontracts if a Guaranteed Maximum Price is not established.

5.3 Revision - At the time a Guaranteed Maximum Price is fixed, as provided for in Paragraph 6, a new Contract Time Schedule shall also be established.

5.4 Delays and Extension of Time - If the CM@R is delayed at any time in the progress of the Work by any act or neglect of the City or the Architect or by any employee of either; or by any separate contractor employed by the City; or by changes ordered in the Work; or by labor disputes, fire unusual delay in transportation, unavoidable casualties or any causes beyond the CM@R's control; or by delay authorized by the City; the Contract Time Schedule shall be extended by Change Order for such reasonable time as the City may determine. All requests for extension of time or claims for extra costs occasioned by delays or neglect shall be subject to the City's approval and shall be made in writing to the City no more than seven (7) days after the

occurrence of the delay or event causing the extra costs, in accordance with section 17 of the General Conditions of the Construction Agreement; otherwise they shall be waived and barred.

5.5 Liquidated Damages – Not applicable

6.0 Guaranteed Maximum Price

6.1 Establishment – At such time as the City and CM@R agree the drawings and specifications are sufficiently complete the CM@R shall prepare and submit to City in writing a Guaranteed Maximum Price (“GMP”), guaranteeing the maximum cost to the City for the Cost of the Work (Article 8.0) and the CM@R’s Fees (Article 7.0). Such GMP will be guaranteed by the CM@R, subject only to modification for Changes in the Work as provided in the General Conditions of the Construction Agreement (Article 17.00 Changes in the Work) and for additional costs arising from delays caused by the City or the Architect. Following acceptance of the GMP by the City, the City and CM@R shall execute the Guaranteed Maximum Price Amendment, amending this Construction Agreement, a copy of which will be provided to the Architect.

6.2 Subcontracts - When the CM@R provides a GMP, the subcontracts will contain the necessary provisions to allow the CM@R to control the performance of the Work.

6.3 Savings – To the extent that the final Cost of the Work, as herein defined, and the CM@R’s Fees are less than the GMP, the savings shall accrue to the City.

7.0 Construction Manager/General Contractor’s Fee

7.1 Determination - In consideration of the performance of this Construction Agreement, the City agrees to pay the CM@R in current funds as compensation for his services a CM@R’s Fee as set forth in Paragraph 7.1.1 and 7.1.2.

7.1.1 Design Phase Fee (Preconstruction Services) - For the performance of the Design Phase services, as defined in Paragraph 2.2, a fee of Fifteen Thousand dollars and zero cents (\$15,000.00) which shall be paid monthly, in equal proportions, based on the scheduled Design Phase time.

7.1.2 Construction Phase Fee - For work or services performed during the Construction Phase, as defined in Paragraph 2.2, a fee of Six hundred twelve thousand nine hundred twelve dollars and no cents (\$612,912.00) shall be paid proportionately to the ratio the monthly payment for the Cost of the Work bears to the total Cost of the Work. Any balance of this fee shall be paid the time of final payment.

7.2 Adjustments - Adjustments in Fee shall be made as follows:

7.2.1 Change in Scope - The CM@R fee shall be adjusted only for City approved changes which involve a change in the scope of Work. The CM@R Construction Change Order Markup, insurance, and fee, shall be adjusted Four point six percent (4.6%) of the Cost of the Work for changes in the scope of the Work.

7.2.2 Delays - For delays in the Work, other than for weather and which are not the responsibility of the CM@R, there will be an equitable adjustment in the Fee to compensate the CM@R for verified and documented increased expenses.

7.3 Items Included in Fee - Included in the CM@R's Fee for the Construction Phase are the following:

7.3.1 Profit - Before tax profit.

7.3.2 Overhead - Off-site costs for general management of the Project including:

7.3.2.1 Salaries or other compensation of the CM@R's employees at the principal office (except for those included in the General Conditions) and branch offices who provide support in scheduling the Work, cost estimating, cost accounting, processing payment requests, processing Change Orders, processing shop drawings/samples, etc.

7.3.2.2 General operating expenses of the CM@R's principal and branch offices other than the field office.

7.3.2.3 Any part of the CM@R's capital expenses, including interest on the CM@R's capital employed for the Work.

7.3.2.4 Costs due to the negligence of the CM@R, any subcontractor, anyone directly or indirectly employed by any of them, or for whose acts any of them may be liable, including but not limited to, the correction of defective or nonconforming Work, disposal of materials and equipment wrongly supplied, or making good any damage to property.

7.3.2.5 Overhead or general expenses of any kind, except as may be expressly included in Paragraph 8.

7.3.2.6 Costs in excess of the GMP, if any, as set forth in Paragraph 6 and adjusted pursuant to the General Conditions of the Construction Agreement, 7.2.1 Changes in the Work.

8.0 Cost of the Work

8.1 Definition - The term Cost of the Work shall mean costs necessarily incurred in the proper performance of the Work during either the Design or Construction Phase, and paid by the CM@R. Such costs shall be at the lowest responsible competitive rates not higher than the standard paid in the locality of the Work except with prior written consent of the City, and shall include the items set forth below in this Article. The City agrees to pay the CM@R for the Cost of the Work as defined in this Article 8. Such payment shall be in addition to the CM@R's Fee stipulated in Article 7.

8.2 Cost Items Included - On-site costs of the Work including General Conditions and the aggregate cost of subcontracts.

8.2.1 General Condition Costs - Those costs for Work outlined in the General Conditions of the Construction Agreement that are the responsibility of the CM@R unless specific items of Work are included in subcontract work. Reference Exhibit 2 Scope and Fee Matrix for CM@R's estimated General Condition Costs, Allowances and Clarifications. Exhibit 2 shall supersede in the case of conflicting contract language. All CM@R items in Exhibit 2 that are not clarified as CM@R Preconstruction, OH&P or General Conditions will be defined as other costs of the Work and not included in the General Conditions Cost.

8.2.1.1 Wages paid for labor in the direct employ of the CM@R in the performance of the Work under applicable collective bargaining agreements, or under a salary or wage schedule agreed upon by the City and CM@R and including such welfare or other benefits, if any, as may be payable with respect thereto. Listed below are the names, position and estimated cost of each position for the duration of the construction that are anticipated to be assigned to this Project.

8.2.1.2 Cost of ordinary employee benefits and taxes, such as pension contributions, hospitalization, vacations, medical insurance, assessments or taxes for such items as unemployment compensation and Social Security, insofar as such cost is based on wages, salaries or other remuneration paid to employees of the CM@R and included in the Cost of the Work.

8.2.1.3 The proportion of reasonable transportation, traveling and hotel expenses of the CM@R or of his officers or employees incurred in discharge of duties connected with the Work, when the necessity for such expenditures is approved in advance by the City.

8.2.1.4 Cost of all materials, supplies and equipment incorporated in the Work, including costs of transportation thereof.

8.2.1.5 Cost, including transportation and maintenance, of all materials, supplies, equipment and hand tools not owned by the workmen employed by the CM@R, which are employed or consumed in the performance of the Work and cost less salvage value on such items used but not consumed which remain the property of the CM@R.

8.2.1.6 Rental charges of all necessary machinery and equipment, exclusive of hand tools, used at the site of the Work, whether rented from the CM@R or other, including installation, repairs and replacements, dismantling, removal, costs of lubrication, transportation and delivery costs thereof, at rental charges consistent with those prevailing in the area. All equipment which the CM@R intends to rent to the City and the rates therefor must be approved by the City in writing prior to use.

8.2.1.7 Cost of the premiums for all bonds and insurance which are required by the Contract Documents.

8.2.1.8 Sales taxes, if approved in writing in advance by the City.

8.2.1.9 Permit fees, licenses, tests and royalties.

8.2.1.10 Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

8.2.1.11 Cost of removal of all debris, snow removal, interim and final cleaning.

8.2.1.12 Costs incurred due to an emergency affecting the safety of persons or property, to the extent not compensated by insurance or otherwise, and not attributable to the fault of the CM@R or his subcontractor.

8.2.1.13 Cost of site security during construction, if requested by the City, and the cost of site safety measures, such as fences, signs, and barricades.

8.2.1.14 Cost of computer services as required at the field office.

8.2.1.15 Cost of construction support activities such as Work items included in the General Conditions of the Contract and in the specifications unless they are provided by subcontractors.

8.2.1.16 The cost of adequate, weatherproofed, heated and well lighted office space with telephone service at the site of the Work for the use of the CM@R and the Architect and City representatives.

8.2.1.17 The cost of providing and maintaining neat, sanitary and adequate temporary toilet facilities for all personnel at the construction site.

8.2.1.18 The cost of providing suitable temporary facilities and quarters for workmen and of maintaining on premises water tight storage sheds and tool houses for storage of building materials and tools.

8.2.1.19 The cost of providing temporary facilities required to supply all the power, light, water and heat needed for the proper execution and completion of the Work. Unless provided by subcontractors, the cost of all power, light, water and heat for the duration of the Work. Notwithstanding the foregoing, the costs of temporary facilities needed for the relocation of students and food services is not included in the Cost of the Work.

8.2.1.20 The cost of providing temporary heating as required for the expeditious prosecution of the Work.

8.2.1.21 Other costs incurred in the performance of the Work if and to the extent approved in advance in writing by the City.

8.2.1.22 All costs directly incurred in the performance of the Work and not included in the CM@R Fee as defined in Article 7.

8.2.2 Subcontracts - The cost of Work performed by subcontractors.

8.2.3 Estimates - The CM@R shall include a detailed and itemized estimate of General Condition costs as a part of each estimate for the Cost of the Work. After the Contract Documents have been completed and before Work is released for bidding, the CM@R shall prepare an estimate of the Cost of the Work that provides a subtotal of costs for each subcontract package and includes the costs for General Conditions.

8.2.4 Contingency - The CM@R shall include in the GMP proposal its contingency for the CM@R's exclusive use to cover those costs considered reimbursable as the Cost of the Work but not included in a Change Order.

9.0 NO WAIVER OF GOVERNMENTAL IMMUNITY. The City, its elected officials, officers and employees are relying upon, and do not waive or intent to waive by any provision of this Agreement, the monetary limitations or any other rights, immunities and protections provided by the Colorado Governmental Immunity Act, C.R.S. Sec. 24-10-101 et seq. as amended or otherwise available to the City. Nothing herein shall operate as a waiver of any right the City has of governmental immunity under Colorado law which is specifically herein reserved.

10.0 Miscellaneous Provisions

10.1 Independent Contractor - The CM@R understands and acknowledges that an employee-employer relationship does not exist between the CM@R and the City. The CM@R shall perform all Work, using independent judgment and expertise, as an independent CM@R and not as an employee of the City. Neither the CM@R nor any agent, employee or subcontractor of the CM@R shall be an agent or employee of the City nor shall any of them have any authority, express or implied, to bind the City to any agreement or incur any liability or obligation attributable to the City. The CM@R acknowledges that it is not entitled to workers' compensation or other benefits from the City and that the CM@R is obligated to pay federal and state income tax on any moneys earned from the City pursuant to this Construction Agreement.

10.2 Binding Effect - This Construction Agreement shall be binding upon the heirs, personal representatives, successors and assigns of the respective parties.

10.3 Governing Law - Contractor agrees to comply with all local, state and federal laws in its performance of work under this Agreement. This Agreement shall be governed by the laws of the State of Colorado. All parties agree that any dispute regarding enforcement of this Agreement shall be filed in Weld County District Court after first attempting in good faith to

submit the dispute to mediation. Submission of any dispute to mediation shall be a condition precedent to filing litigation in this matter, other than the request for injunctive relief.

10.4 Waiver - Any failure of the City or the CM@R to require strict performance or any waiver of any provision herein shall not be construed as a consent or waiver to any other breach of the same or any other provision.

10.5 Severability - In the event any portion of this Agreement is held to be unenforceable, the unenforceable portion of this Agreement will be deleted and the remaining provisions of the Agreement shall continue in full force and effect.

10.6 Notices - Any notices required or permitted under this Construction Agreement shall be deemed given when personally delivered or deposited in the United States Certified Mail, postage prepaid and addressed to City and copied to the Owner's Representative:

Attention: Fort Lupton Public & School Library
Attn: Sarah Frank
425 S. Denver Ave
Fort Lupton, CO 80621

Attention: Wember, Inc.
Attn: Dan Spykstra
7525 South Jasmine Court
Centennial, Colorado 80112
dspekstra@wemberinc.com

10.7 Counterparts - This Construction Agreement may be executed in several counterparts. Each counterpart shall be deemed an original but all counterparts together shall constitute one and the same instrument.

This Construction Agreement is effective the day and year first written above upon the signatures of the undersigned parties.

14. **INDEMNIFICATION BY CONTRACTOR.** Contractor shall indemnify and hold the City harmless from any damages, including but not limited to any loss, liability, expenses, suit or claim, or claim for injury to persons or damage to property arising the negligence or other fault of Consultant or its Consultants pursuant to this Agreement. Expenses shall include all out of pocket expenses, attorney fees, expert costs and related litigation fees.

APPROVAL REQUIRED. This Agreement is subject to the final approval of the Fort Lupton City Council and signature by the Mayor of Fort Lupton.

**GENERAL CONDITIONS OF THE
CONSTRUCTION MANAGER AT RISK AGREEMENT**

INDEX TO THE ARTICLES

	<u>Article</u>	<u>Page</u>
ACCEPTANCE AND FINAL PAYMENT	GC-51.00	38
ACCESS TO WORK	GC-15.00	13
APPROVAL OF SUBSTITUTIONS	GC-35.00	33
ARCHITECT'S STATUS AND INSPECTIONS	GC-29.00	30
ASSIGNMENT	GC-44.00	36
BENCHMARKS, MONUMENTS, STAKES, AND MEASUREMENTS	GC-13.00	11
BLASTING	GC-40.00	35
CHANGED CONDITIONS	GC-19.00	17
CHANGES IN THE WORK	GC-17.00	14
CLAIMS FOR EXTRA COST OR ADDITIONAL TIME	GC-18.00	16
CLEANING UP	GC-32.00	32
CONSTRUCTION SCHEDULE AND PROGRESS REPORTS	GC-24.00	22
CONTRACT DOCUMENTS	GC- 1.00	1
CONTRACTORS' MUTUAL RESPONSIBILITY	GC-46.00	37
CONTRACTOR'S PROJECT GUARANTEE AFTER COMPLETION	GC-53.00	40
CONTRACTOR'S SUPERINTENDENT AND SUPERVISION	GC-16.00	14
CORRECTION OF WORK	GC-20.00	17
CUTTING, PATCHING, AND EXCAVATING	GC-31.00	31
DAMAGE TO UTILITIES	GC-38.00	34
DEFINITIONS	GC- 2.00	1
DRAWINGS AND SPECIFICATIONS	GC- 7.00	5
EMPLOYEES	GC-10.00	9
EXECUTION, CORRELATION, INTENT, AND INTERPRETATION OF CONTRACT DOCUMENTS	GC- 6.00	3
EXPEDITING MATERIALS	GC-56.00	41
HAZARDOUS MATERIALS	GC-37.00	33
HISTORICAL DATA	GC-41.00	35
INDEMNIFICATION	GC-49.00	38
INSURANCE	GC-25.00	23
ITEMS COVERED BY CONTRACT PRICE	GC- 5.00	3
LABOR DISPUTES	GC-59.00	42
LIENS	GC-47.00	37
LIMITATION OF ACTIONS	GC-54.00	40
LIQUIDATED DAMAGES FOR DELAY IN COMPLETION	GC-50.00	38
MATERIALS, LABOR, FACILITIES, AND STORAGE	GC- 9.00	8

MISCELLANEOUS KEYS, SWITCHES, ETC.	GC-57.00	41
NONDISCLOSURE OF CONFIDENTIAL INFORMATION	GC-61.00	43
OCCUPANCY	GC-36.00	33
ORAL STATEMENTS	GC- 3.00	3
OWNER'S INSPECTION OF CONTRACTOR'S RECORDS	GC-60.00	42
OWNER'S RIGHT TO CARRY OUT WORK	GC-21.00	19
OWNER'S RIGHT TO TERMINATE CONTRACT	GC-22.00	19
PAYMENT	GC-23.00	20
PERFORMANCE AND PAYMENT BONDS	GC-26.00	27
PREFERENCE FOR COLORADO LABOR, MATERIALS, AND RESIDENT BIDDERS	GC-58.00	41
PROJECT SIGN	GC-39.00	35
PROTECTION OF PERSONS, WORK AND PROPERTY	GC-14.00	12
RELATIONS OF CONTRACTOR AND SUBCONTRACTOR	GC-28.00	28
REFERENCE STANDARDS	GC- 4.00	3
ROYALTIES AND PATENTS	GC-11.00	10
SALES AND USE TAX	GC-34.00	32
SEPARATE CONTRACTS	GC-45.00	36
SHOP DRAWINGS AND SAMPLES	GC- 8.00	6
SOIL TEST REPORT	GC-55.00	41
STATUTES, ORDINANCES, AND REGULATIONS	GC-33.00	32
SUBCONTRACTORS	GC-27.00	27
SURVEYS, PERMITS, LAWS, REGULATIONS, AND TAXES	GC-12.00	10
TEMPORARY OR TRIAL USAGE	GC-43.00	36
TESTING OF PROJECT BUILDING SYSTEMS	GC-42.00	35
USE OF PREMISES	GC-30.00	31
WARRANTIES ON PORTIONS OF THE WORK	GC-52.00	39
WORK IN EXISTING BUILDINGS	GC-48.00	37
VENUE; CHOICE OF LAW	GC-61.00	43

GC-1.00 CONTRACT DOCUMENTS

All Work under the Construction Agreement shall be accomplished in accordance with the Contract Documents, which shall consist of the Proposal, Notice of Award, Notice to Proceed, Performance Bond, Labor and Material Payment Bond, Construction Agreement or Construction Manager At-Risk Agreement, the General Conditions of the Construction Manager At-Risk Agreement ("General Conditions"), Supplementary General Conditions, Drawings and Specifications, approved Change Orders, Contractor's Requests for Payment, Architect's Certificates, and all addenda issued by the Owner or Architect prior to execution of the Construction Manager At Risk Agreement ("Construction Agreement") and all modifications issued by the Owner or Architect after execution of the Construction Agreement.

GC-2.00 DEFINITIONS

With respect to the Contract Documents, the following definitions and understandings shall control:

2.01 "Contract" or "Contract Documents" shall include all of the items enumerated in GC-1.00 above. The term "Construction Agreement," as used in the Contract Documents shall be deemed to also mean the Construction Manager At Risk Agreement in those cases where the Owner uses the Construction Manager At Risk Agreement ("CM@R") method of construction.

2.02 "Owner" shall mean International Association of Fire Fighters and shall include its duly authorized representatives.

2.03 "Contractor" shall mean the corporation, company, partnership, firm, entity, or individual named and designated as such in the Construction Agreement or named as the CM@R in the Construction Manager At Risk Agreement, and any persons or entities acting on its behalf.

2.04 "Subcontractor" shall mean any corporation, partnership, entity, or individual having a direct contract with the Contractor or another subcontractor for performing Work and/or furnishing labor or material on the Project covered by the Contract.

2.05 "Architect" shall mean the corporation, partnership, entity or individual named and designated as "architect" or "engineer" in the Construction Agreement, and any persons or entities acting on the Architect's behalf and within the scope of the particular duties properly entrusted to them in each case.

2.06 "Notice to Contractor" shall be deemed to have been duly served if made in writing and delivered in person to the individual or to a member of the firm or to an officer of the corporation for which it is intended, or if sent by registered or certified mail, to Contractor's last known business address.

2.07 "The Work" shall mean the construction and services required by the Contract Documents for completion of the Project, and includes all labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations, whether on or

off the Project site, and all labor, materials equipment and services provided or to be provided by subcontractors, sub-subcontractors, or any other entity for whom the Contractor is responsible.

2.08 "The Project" is the total construction designed by the Architect of which the Work performed under the Contract Documents may be the whole or a part.

2.09 The "date of final completion" and "finally completed" shall mean the date when construction is certified by the Architect to be finally completed in accordance with the Contract Documents, as modified by any Change Orders processed under the terms of GC-17.00 below and when the Owner has fully accepted the Project for the use for which it was intended. Such date will be set forth on a letter of acceptance issued by the Owner.

2.10 "Drawings" or "plans" shall mean all (a) drawings furnished by the Owner and/or Architect as a basis for the award of Contract and for construction of the Project; (b) supplementary drawings furnished by the Owner and/or Architect to clarify and to define in greater detail the intent of the Contract drawings and specifications; (c) drawings submitted by the Contractor as may be required after the Contract is awarded; (d) drawings furnished by the Owner and/or Architect to the Contractor during the progress of the Work; and (e) engineering data and drawings submitted by the Contractor during the progress of the Work, provided such drawings are acceptable to the Architect.

2.11 "Specifications" are the written technical information concerning materials, components, systems, equipment, and manner of installation as indicated on the drawings or plans and which state the quality, performance, and characteristics to be achieved by application of construction methods.

2.13 "Change Order" shall mean a written order to the CM@R signed by the Owner or its authorized agent issued after the execution of the Construction Agreement, authorizing a change in the Work and/or adjustment in the Guaranteed Maximum Price ("GMP") or the contract time schedule. Each adjustment in the GMP resulting from a Change Order shall clearly separate the amount attributable to the Cost of the Work and the CM@R's Fee.

GC-3.00 ORAL STATEMENTS

It is understood and agreed that the written terms and provisions of the Contract Documents shall supersede all oral statements of the Owner, Architect, Contractor and their representatives, and that oral statements shall not be effective or be construed as being a part of this Contract.

GC-4.00 REFERENCE STANDARDS

Reference to the standards of any technical society, organization, or association, or to codes of local or state authorities, shall mean the latest standard, code, specification, or tentative standard adopted and published as of the date of execution of the Construction Agreement, unless specifically stated otherwise.

GC-5.00 ITEMS COVERED BY CONTRACT PRICE

Unless specifically stated otherwise, the Contractor shall accept the compensation stated in the Construction Agreement as full payment for furnishing all the materials, transportation, apparatus, temporary structures, equipment, services, fuel, energy, light, water, labor and tools, and all other things necessary for the complete and proper execution of the Work contemplated by or reasonably implied from the Contract Documents, within the time limits indicated therein. All other amounts necessary for completing the Work pursuant to the Contract Documents within the time limits indicated therein. Costs associated with conformance to Program requirements shall be covered by the contract price.

GC-6.00 EXECUTION, CORRELATION, INTENT, AND INTERPRETATION OF CONTRACT DOCUMENTS

6.01 Execution. The Construction Agreement and other Contract Documents shall be signed in multiple copies as directed by the Owner. Within ten (10) days of Notice of Award, the Contractor shall submit to the Owner a minimum of five (5) fully executed original sets of the Construction Agreement; and certificates of required insurance coverage. The date of the Contract for purposes of these documents shall be the date of the Notice of Award letter. The Owner shall execute the Construction Agreement, assemble all copies, and distribute the Contract Documents. The Contractor shall not commence the Work until it receives the Notice to Proceed. All bonds and insurance certificates shall be submitted to the Owner prior to the award of the first subcontract.

6.02 Correlation. By executing the Construction Agreement, the Contractor represents that it has visited the Project site, familiarized itself with the local conditions under which the Work is to be performed, and correlated its observations with the requirements of the Contract Documents.

6.03 Intent. The intention of the Contract Documents is to include all labor and materials, tools, equipment, construction equipment, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of the Work. Materials or Work described in words that, as applied, have a well-known technical or trade meaning shall be held to refer to such recognized meaning. The organization of the specifications into divisions, sections, and articles, as the case may be, and the arrangement of drawings shall not control the Contractor in dividing the Work among subcontractors or in establishing the extent of Work to be performed by any trade. It is intended that even though Work is not covered under any heading, division, section, article, branch, class, or trade of the specifications, it shall nevertheless be supplied if it is required elsewhere in the Contract Documents or is reasonably inferable therefrom as being necessary to produce the indicated results. The specifications and drawings are intended to supplement but not necessarily duplicate each other. Any Work exhibited in the one and not in the other shall be executed as if it had been set forth in both, so that the Work will be constructed according to the complete design as determined by the Architect.

6.04 Interpretation. Should anything necessary for a clear understanding of the Work be omitted from the specifications and drawings, or should the requirements appear to be in conflict, the Contractor shall secure written interpretations or instructions from the Architect before

proceeding with the Work affected thereby. The Contractor shall secure written interpretations or instructions by submitting the Owner's form Request for Interpretation to the Architect. Oral requests shall not be acknowledged by the Architect or Owner. Additional costs incurred by the Owner as a result of unnecessary requests made by the Contractor, as determined by the Owner, shall be the responsibility of the Contractor.

6.05 Conflict in Interpretation. In the case of discrepancy or in the event of a conflict between the different Contract Documents, the documents shall take precedence in the following order:

- a. Change Orders;
- b. Written Amendments to Construction Agreement (including the GMP);
- c. Construction Agreement, including these General Conditions;
- d. Drawings and specifications; and
- e. Bid Documents.

Where two or more of the Contract Documents are complementary, the more detailed provision shall control over the more general provision.

6.06 Time is of the Essence. All time limits stated in the Contract Documents are of the essence of the Contract.

GC-7.00 DRAWINGS AND SPECIFICATIONS

7.01 Copies Furnished. Unless otherwise provided in the Contract Documents, the Contractor shall be furnished, free of charge, all copies of drawings and specifications reasonably necessary for the execution of the Work.

7.02 Ownership of Drawings. All drawings, specifications, and copies thereof furnished by the Architect are the property of the Architect and the Owner, whether or not the Work for which they are made is performed, and are not to be used on other Work except by written agreement with the Architect and the Owner.

7.03 Drawings and Specifications Available on the Site. The Contractor shall maintain at the Project site for the Owner and the Architect one copy of all drawings, specifications, addenda, approved shop drawings, Change Orders, and other modifications, in good order and marked to record all changes made during construction. The Contractor shall also keep on the Project site all applicable standards, codes, and manufacturer's or other specifications referenced in the Contract Documents. The drawings, marked to record all changes made during construction, shall be delivered to the Architect for the Owner upon completion of the Work.

7.04 Figured Dimensions to Govern. Dimensions and elevations shown on the drawings shall be accurately followed. No Work shown on the drawings, the dimensions of which are not indicated, shall be executed until necessary dimensions have been obtained from the Architect.

7.05 Contractor to Check Drawings and Schedules. The Contractor shall check and verify, dimensions, elevations, and quantities shown on the drawings and furnished to it by the Architect, and shall notify the Architect of any discrepancy between the drawings and the conditions on the ground, or any error or omission in drawings, or in the layout as given by stakes, points, or instructions that it may discover. Before ordering any material or doing any Work, the Contractor shall verify, measurements concerning the Project. Any difference that may be found shall be submitted to the Architect for consideration and written determination before proceeding with the Work. Full written instructions shall be furnished by the Architect should such error or omission be discovered.

7.06 Detail Drawings and Instructions. The Architect shall furnish with reasonable promptness additional instructions, by means of drawings or otherwise, necessary for the proper execution of the Work. All such drawings and instructions shall be consistent with the Contract Documents. The Work shall be executed in conformity with the Architect's drawings and instructions, and the Contractor shall do no Work without proper drawings and instructions.

7.07 Project Record Drawings. The Contractor shall maintain a Project record set of drawings at the Project site with all changes or deviations from the original drawings neatly marked thereon in a contrasting color. The Contractor shall also maintain a Project record set of specifications at the Project site, noting therein by appropriate section the names, models, and other distinguishing characteristics of the materials actually incorporated into the Work. This Project record set of drawings and specifications shall be updated daily as the Project progresses and shall be made available to the Owner and Architect for inspection at all times. Upon final completion of the Work and before final payment, this Project record set of drawings and specifications shall be delivered to the Architect for the Owner.

GC-8.00 SHOP DRAWINGS AND SAMPLES

8.01 Shop Drawings. Shop drawings are drawings, diagrams, illustrations, schedules, performance charts, brochures, manufacturer's literature, and other data that are prepared by the Contractor or any subcontractor, manufacturer, supplier, or distributor, and that illustrate some portion of the Work.

8.02 Samples. Samples are physical examples furnished by the Contractor to the Owner and/or Architect to illustrate materials, finishes, equipment, or Workmanship, and to establish standards by which the Work will be judged.

8.03 Contractor's Obligations. The Contractor shall require each subcontractor to prepare, stamp with its approval, and submit to the Contractor with reasonable promptness and in orderly sequence so as to cause no delay in the Work or in the Work of any other subcontractor, all shop drawings and samples of all shop fabricated items and of all matters required by the Contract Documents. Shop drawings and samples shall properly identify specified items. At the

time of submission, the subcontractor shall inform the Contractor and the Architect in writing of any deviation in the shop drawings or samples from the requirements of the Contract Documents. Substitutions will be allowed only in accordance with the provisions of GC-35.00 below.

a. The Contractor shall also require each subcontractor to prepare and transmit sufficient copies of all shop drawings that are specially drawn for the Project, including detailed fabrication and erection drawings, setting drawings, diagrammatic drawings, material schedules, and samples to the Contractor to meet the Project construction schedule and the subcontractors' contract schedule, or shall present, in writing, valid reasons for any delay.

b. All shop drawings for all equipment in a given system shall be submitted at one time, each complete set in a separate brochure. Complete maintenance/warranty data are to be submitted to the Contractor and Architect for review and for submission to the Owner at the completion of the Work and prior to final settlement.

c. Each sheet of shop drawings shall identify the Project, subcontractor, and fabricator or manufacturer, and the date of the drawings. All shop drawings shall be numbered in sequence and each sheet shall indicate the total number of sheets in the set.

d. The shop drawings shall indicate types, gauges, and finish of all materials. Where a shop coat of paint is required, its brand name, manufacturer's identification number, and type shall be indicated. Sufficient data in each set of shop drawings shall be included to permit a detailed study of the system submitted and its conformance to the Contract Documents and design intent.

e. The Contractor shall review, approve, stamp, and then submit the prints of shop drawings, and samples to the Architect for approval, with copies to the Owner. After review, the Architect shall have prints made for its own use and shall then return the original drawings to the Contractor with the Architect's appropriate comments. Those returned for correction shall be corrected and resubmitted. Upon receiving the approved sets from the Architect, the Contractor shall make requested sets of prints for distribution to appropriate subcontractors, fabricators, manufacturers, and suppliers who require them for coordination of their Work.

8.04 Verification. By approving and submitting shop drawings and samples, the Contractor thereby represents that it has determined and verified field measurements, field construction criteria, dimensions, elevations, quantities, materials, catalog numbers, and similar data, as shown on the drawings and specifications furnished by the Architect, or will do so, and that it has checked and coordinated each shop drawing and sample with the requirements of the Work and of the Contract Documents.

8.05 Architect Review. The Architect shall review and approve shop drawings and samples with reasonable promptness so as to cause no delay, but only for conformance with the design concept of the Project and with the information given in the Contract Documents. The Architect's approval of a separate item shall not indicate approval of any assembly in which the item functions. Upon the final completion of the Work, the Contractor shall furnish to the

Architect two corrected copies of all shop or setting drawings showing the as-built condition of the Work. The Architect, after review, shall submit one of these copies to the Owner.

8.06 Corrections. The Contractor shall make any corrections required by the Architect and shall resubmit the required number of corrected copies of shop drawings or new samples until approved by the Architect. The Contractor shall direct specific attention in a separate writing or on resubmitted shop drawings to revisions other than the corrections requested by the Architect on previous submissions.

8.07 Contractor's Responsibility. The Architect's approval of shop drawings or samples shall not relieve the Contractor of responsibility for any deviation from the requirements of the Contract Documents unless the Contractor has informed the Architect in writing of such deviation at the time of submittal and the Architect has given written approval of the specific deviation. The Architect's approval shall also not relieve the Contractor from responsibility for errors or omissions in the shop drawings or samples.

8.08 Architect Approval Required. No portion of the Work requiring the submission of a shop drawing or sample shall be commenced until such submittal has been approved in writing by the Architect. All such portions of the Work shall be in accordance with approved shop drawings and samples. All material finishes and samples shall be approved at one time. The Contractor shall submit all items requiring approval of finishes, color, material, etc., with sufficient lead time to allow simultaneous consideration and preparation of complete finish color schedule. No approvals of single items shall be considered.

GC-9.00 MATERIALS, LABOR, FACILITIES, AND STORAGE

9.01 Contractor's Responsibility. Unless otherwise agreed in writing, the Contractor shall provide and pay for all materials, labor, tools, equipment, machinery, transportation, and other facilities necessary for the proper execution and completion of the Work. The Contractor shall provide and pay for all the temporary facilities required to supply all the power, light, water, and heat needed by it and its subcontractors for their Work and shall install and maintain all such facilities in such manner as to protect the public and workers and to conform with any applicable laws and regulations. If temporary heat and/or protection is required for the expeditious prosecution of the Work and before the permanent heating apparatus is available for use, the temporary heating apparatus shall be installed and operated in such a manner that the finish Work and/or construction will not be damaged thereby. Unless otherwise specified, the Contractor shall pay for all the power, light, and water used by it and its subcontractors, without regard to whether such items are metered by temporary or permanent meters. The cutoff date on permanent meters shall be either the agreed date of full occupancy by the Owner or the date of final completion of the Project, whichever shall be the earlier date. Upon completion of the Work, the Contractor shall remove all such temporary facilities from the Project site.

9.02 Materials. Unless otherwise specified, all materials shall be new and both Workmanship and materials shall be of the highest quality. The Contractor shall furnish satisfactory evidence to the Owner as to the kind and quality of materials. Samples shall be

furnished, when specified, and the Work shall be in accordance with those samples that have been approved.

9.03 Toilet Facilities. The Contractor shall provide and maintain, in a neat and sanitary condition, adequate temporary toilet facilities for the use of any and all employees engaged on the Work, in strict compliance with the requirements of all applicable codes, regulations, laws, and ordinances. In no event may present toilet facilities of any existing building at the site of the Work be used by employees of the Contractor or its subcontractors. Upon final completion of the Work, the Contractor shall remove all such temporary facilities from the site and disinfect the premises.

9.04 Facilities and Storage. The Contractor shall provide suitable temporary facilities and quarters for workers, as needed, and shall maintain on premises water-tight storage sheds or tool houses for storage of building materials and tools that could be damaged by weather. The Contractor shall allow space for the erection of sheds and provide similar facilities for storage by subcontractors of their materials and tools. Storage of materials shall be confined to the site. These facilities or quarters shall further provide for protection against theft and damage of building materials and tools. Upon final completion of the Work, the Contractor shall remove all such temporary facilities from the site.

GC-10.00 EMPLOYEES

10.01 Qualifications. The Contractor and its subcontractors shall at all times enforce strict discipline and good order among their employees, and shall not employ any persons on the Project considered by the Architect or the Owner to be unfit or not skilled in the work assigned to them. The Contractor shall also keep its employees and those of its subcontractors from socializing on the Project site before and after working hours and from fraternizing at any time with staff, students, parents, and other persons who are at the school or the Project site.

10.02 Equal Employment. During the performance of this Contract, the Contractor agrees not to discriminate against any employee or applicant for employment because of religion, race, creed, color, sex, sexual orientation, national origin, disability, age or other protected status. The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their religion, race, creed, color, sex, sexual orientation, national origin, disability, age or other protected status. Such action shall include, but not be limited to, employment, promotion, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause. The Contractor shall state, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, that all qualified applicants will receive consideration for employment without regard to religion, race, creed, color, sex, sexual orientation, national origin, disability, age or other protected status.

10.03 Responsibility for Employees. The Contractor shall be responsible to the Owner for the acts and omissions of all its agents and employees. The Contractor shall also be responsible

for the acts and omissions of all its subcontractors and their agents and employees, and all other persons acting on behalf of the Contractor or subcontractors as set forth herein.

GC-11.00 ROYALTIES AND PATENTS

The Contractor shall pay all royalties and license fees. The Contractor's work product, including without limitation, Contractor's notes, memoranda, photographs, spreadsheets, data, designs, plans, drawings, submittals, redlines and revisions made thereto, and any other documents produced throughout the Project (collectively "Work Product"), shall be delivered to the Owner within the time frame(s) contemplated by the Construction Agreement or at the latest upon the date of final completion, shall become the property of the Owner, and may be used by the Owner for any purpose. The Contractor shall defend all suits or claims for infringement of any alleged patent rights, copyright, or trade secrets arising out of Owner's ownership or use of Contractor's Work Product and shall indemnify and hold harmless the Owner from any and all liability or loss on account thereof and shall pay any judgments or fees resulting therefrom, including, but not limited to, royalties, license fees, and attorneys' fees. If the Contractor has information that the process or article specified involves the infringement of a patent, it shall be responsible for any and all liability or loss resulting therefrom unless it promptly furnishes such information to the Architect in writing.

GC-12.00 SURVEYS, PERMITS, LAWS, REGULATIONS, AND TAXES

12.01 Surveys. As provided by the Owner, the Contractor shall obtain from the Architect a copy of all surveys describing property lines, elevation benchmarks, physical characteristics, and utility locations.

12.02 Permits and Licenses. Any permits, governmental fees, and licenses necessary for the proper execution and completion of the Work shall be secured and paid for by the Contractor. Easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the Owner, unless otherwise specified in writing. The Contractor shall secure such permit from the proper governmental agency. The Owner shall negotiate and provide for all electrical, gas, water, and sewer mains for the Contractor's connections. The Contractor shall arrange with the utility company for actual connection, make necessary connections, and pay for all associated inspection fees and permits as required by any government agency. In addition, the Contractor shall furnish all material and items required to complete all connections. The Contractor shall call for all inspections on a timely basis by any agency having jurisdiction over the Work.

12.03 Laws and Regulations. The Contractor shall give all notices and comply with all laws, ordinances, rules, and regulations bearing on the conduct of the Work as drawn and specified. If the Contractor observes that the drawings and specifications are at variance therewith, it shall promptly notify the Architect in writing, and any necessary adjustments shall be made as provided in the Contract for changes in the Work. If the Contractor performs any Work knowing it to be contrary to such laws, ordinances, rules, or regulations without giving the required notice to the Architect and receiving a written directive to proceed, it shall bear all costs arising therefrom and to correct and/or remedy same.

GC-13.00 BENCHMARKS, MONUMENTS, STAKES, AND MEASUREMENTS

13.01 Benchmarks. The Contractor shall properly stake out the Work and provide and rigidly set benchmarks and batter boards as necessary for the proper performance of the Work. The Contractor shall remain responsible for their maintenance and their accuracy. A permanent benchmark, approved as to location and type by the Architect, from which all grades are to be taken, shall be established near the site of the Work by the Contractor. From this benchmark the Contractor shall ascertain all grades and levels to Project buildings as needed. The Contract Documents shall include all necessary information to establish the benchmark.

13.02 Preservation of Monuments and Stakes. The Contractor shall carefully preserve all monuments, benchmarks, property markers, reference points, and stakes. In case of the destruction thereof, the Contractor shall be charged with the expense of replacement and shall be responsible for any mistake or loss of time that may be caused. Permanent monuments and/or benchmarks that must be removed or disturbed shall be protected until properly referenced for relocation. The Contractor shall furnish all materials, labor and assistance for the proper replacement of such monuments and benchmarks.

13.03 Measurements. Before ordering any material or performing any Work, the Contractor shall verify all measurements on the Project and shall be responsible for the accuracy of same. No extra charge or compensation shall be allowed because of any difference between actual dimensions and the measurements indicated in the drawings or specifications. Any discrepancies shall be submitted to the Architect and Owner for consideration before proceeding with the Work.

GC-14.00 PROTECTION OF PERSONS, WORK AND PROPERTY

14.01 Building Exits and Barricades. During the course of construction, the Contractor shall keep all required building exits free and unimpeded. Such exits shall not be closed at any time for any reason while the building is occupied or at any time when the building is unoccupied, except after written approval is given by the Owner and proper warning and directional signs are posted. Barricades shall be erected so that traffic is separated and protected from the construction.

14.02 Precautions. The Contractor shall take all necessary precautions to ensure the safety of all employees and other persons on the Project or who may be affected by the Contractor's Work thereon. The Contractor shall also take all necessary precautions to protect the Work and all temporary facilities, as well as materials, tools, and equipment incorporated therein or to be incorporated therein from damage or destruction, whether in storage on or off the Project site and whether in the custody or control of the Contractor or any of its subcontractors. The Contractor shall also take all necessary precautions to protect all property at the Project site and adjacent thereto not designated for removal, relocation or replacement, including trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities.

14.03 OSHA Compliance. The Contractor shall comply with all applicable provisions of the Occupational Safety and Health Administration ("OSHA") and all laws, ordinances, rules,

regulations, and orders of all governmental agencies or authorities having jurisdiction to protect the safety of employees and/or other persons who may be affected by the Work. The Contractor shall erect and maintain all necessary safeguards to protect workers on the Project site and the owners and users of adjacent property, and shall post danger signs and other warnings against hazards created by the Work including but not limited to protruding nails, hoists, well holes, elevator shafts, hatchways, scaffolding, window openings, stairways, excavations, and falling materials. The Contractor shall designate a responsible employee at the Project site as a safety officer to ensure the Contractor's compliance with this section. Said employee shall be the Contractor's superintendent unless otherwise designated in writing by the Contractor to the Owner and the Architect.

14.04 Contractor's Liability. The Contractor shall be liable for all injury, damage or loss to any person or property caused in whole or in part by the Contractor, any of its subcontractors, or any person employed by or under the direction of the Contractor or any of its subcontractors. To the extent possible and unless otherwise directed by the Owner or Architect, the Contractor shall promptly repair, pay for or otherwise remedy any such injury, damage or loss and shall indemnify and hold harmless the Owner against any and all liability, claims, damages, losses and expenses arising therefrom. The terms of this section shall not apply in the case of injury, damage or loss proximately caused by the acts or omissions of the Owner and/or Architect and not attributable to any fault or negligence of the Contractor.

14.05 Emergencies. In the event of an emergency that threatens the safety or life of any person or threatens to damage or destroy the Project and/or any Work, materials, equipment or property thereon or to be used thereon, the Contractor shall act at its discretion to prevent such injury, death, damage or destruction. The Contractor shall immediately notify the Owner and Architect in writing of any such emergency and any action taken by the Contractor in response thereto. Any compensation due the Contractor for such emergency action shall be determined by agreement of the Contractor, Owner and Architect, and an appropriate Change Order shall be issued therefore.

GC-15.00 ACCESS TO WORK

15.01 Access. The Architect, the Owner, and their representatives shall at all times have access to the Work wherever it is in preparation or progress, and the Contractor shall provide proper facilities for such access so that the Architect may perform its functions under the Contract Documents.

15.02 Inspection. If the specifications, the Architect's instructions, laws, ordinances, or any public authority require any Work to be specially tested or approved, the Contractor shall give the Architect timely notice of its readiness for such testing or approval by the Architect or inspection by another authority, and if the inspection is by another authority, of the date fixed for such inspection. All required certificates of inspection shall be secured by the Contractor. If any Work is covered up without approval or consent of the Architect, it must, if required by the Architect, be uncovered for examination at the Contractor's expense.

15.03 Reinspection. Reinspection of questioned Work may be ordered by the Owner, and if so ordered, the Work must be uncovered by the Contractor. If such Work is found to be in accordance with the Contract Documents, the Owner shall pay the cost of reinspection and replacement. If such Work is found not to be in accordance with the Contract Documents, the Contractor shall pay such cost.

15.04 Testing. Materials incorporated into the Project shall be subject to routine tests as required to ensure their compliance with the specifications. Such tests may include, but shall not necessarily be restricted to, the following: concrete (primary mix design, slump tests, cylinder compressions tests, and air entrainment tests); steel (tensile tests); welds (field inspection and x-ray examination); soils (sub-soil investigation, physical analysis, and compaction tests); asphalt pavement (physical analysis and compaction tests); and roofing samples cut from in-place built-up roof. Any other basic materials for which standard laboratory test procedures have been established may also be included if doubt as to their quality should arise. Any testing contemplated by this section shall be done at the discretion of the Owner, who shall bear all costs, unless otherwise provided in the Contract Documents. The Contractor shall be held responsible for providing samples of sufficient size for test purposes and for cooperating with the Owner or its representative in obtaining and preparing samples for tests. All tests shall be in accordance with standard test procedures and shall be performed by persons or firms selected by the Owner.

GC-16.00 CONTRACTOR'S SUPERINTENDENCE AND SUPERVISION

16.01 Superintendent. During the progress of the Work, the Contractor shall ensure that a competent superintendent and any necessary assistants, all satisfactory to the Architect and the Owner, are on the Project site at all times while Work is in progress. The superintendent shall not be changed by the Contractor except with the written consent of the Architect and the Owner, unless the superintendent ceases to be in the Contractor's employ. The superintendent shall represent the Contractor on the Project and all directions given to him/her shall be as binding as if given to the Contractor. The Architect and the Owner shall not be responsible for the acts or omissions of the superintendent or his/her assistants.

16.02 Supervision. The Contractor shall provide full-time, qualified, and efficient supervision of the Work, using competent skill and attention. The Contractor is responsible for determining and supervising all temporary and permanent erection and construction sequences, techniques, means, or methods. The Contractor shall direct, schedule, coordinate the Work to ensure that all parts fit together properly and in accordance with the Contract Documents. The Contractor shall carefully study and compare all Contract Documents and other instructions and shall at once report to the Architect and the Owner any error, inconsistency, or omission that Contractor may discover.

16.03 Additional Supervision Duties. The Contractor shall see that the Work is carried out in accordance with the Contract Documents and in a thorough and first-class manner in every respect. The Contractor shall provide engineering, surveying, and coordination to accurately establish all lines, levels, and marks necessary to facilitate the operations of all parties involved in the Contractor's Work. The Contractor shall lay out the Work in a manner satisfactory to the Architect, making permanent records of all lines and levels required for excavation, grading, and

foundations, and for all other parts of the Work. The Contractor shall be responsible for the commencement and the proper completion of the various stages and sequences of construction.

GC-17.00 CHANGES IN THE WORK

17.01 Change Orders. The Owner, without invalidating the Agreement, may order changes in the Work within the general scope of the Project consisting of additions, deletions, or other revisions. Under such circumstances, the GMP, if established, and the Contract Time Schedule shall be adjusted accordingly. All such changes in the Work shall be authorized by Change Order. Any claim of the Contractor for adjustment under this section must be asserted in writing within ten (10) days from the date of the Contractor's receipt of the Change Order.

17.02 Minor Changes. The Architect shall have authority to order minor changes in the Work not involving an adjustment in the GMP or an extension of the Contract Time Schedule and not inconsistent with the intent of the Contract Documents. Such changes may be effected by field order or by other written order. Such changes shall be binding on the Owner and the Contractor. In any emergency affecting the safety of persons or property, the Contractor shall act, at his discretion, to prevent threatened damage, injury or loss. Any additional compensation or extension of time claimed by the Contractor on account of emergency work shall be determined as provided in this Article.

17.03 Price Differential. The cost or credit resulting from a change in the Work shall be determined in one or more of the following ways:

a. By estimate, with a detailed cost breakdown as set forth in GC-17.03(c) below, and acceptance in a lump sum, with a maximum markup to the Owner, for the Contractor five percent (5%) and all affected subcontractors, not to exceed a total of fifteen percent (15%).

b. By unit prices named in the Contract or subsequently agreed upon by Contractor and Owner.

c. If the parties are unable to agree on one of the above methods, then the amount shall be determined by force account under the following formula:

i. The actual cost of all direct labor performed (including foremen employed continuously on the Work, but not the salary, or any part thereof, of the Contractor's superintendent) and the actual materials furnished for and used in such Work, less all available cash, trade, or other discounts except due to advanced payments by contractor.

ii. Rental for the use of such items of equipment as have an individual value in excess of One Thousand Dollars (\$1,000); provided, however, that the amount of such rental charge and the length of time and probable cost of the use of such equipment shall have been authorized in writing by the Owner.

iii. All proportionate sums paid for royalties, permits, and inspection fees.

iv. All proportionate premiums for public liability insurance, workers' compensation, and other proper and necessary insurance, as well as all applicable payroll taxes.

v. Either a predetermined lump sum; fixed fee; or a percent fee as defined in 17.3.a, which fee shall be applied to the total of GC-17.03(c)(i), GC-17.03(c)(ii) and GC-17.03(c)(iii) only, and shall constitute full compensation to the Contractor and all its subcontractors for all costs and expenses, including all overhead and profit, which are not otherwise enumerated in this GC-17.03(c).

vi. The Contractor shall keep and present, in such manner as the Owner may direct, an accurate accounting of all the fees and costs described in this GC-17.03(c), together with all supporting vouchers and other documentation, all subject to audit by the Owner.

GC-18.00 CLAIMS FOR EXTRA COST OR ADDITIONAL TIME

18.01 Claims for Extra Cost or Time. If the Contractor claims that any instructions by drawings or otherwise, after the date of the Construction Agreement, involve extra costs under this Contract that were not included in the original bid, or require an extension in the construction schedule, the Contractor shall give the Owner and the Architect written notice thereof no later than ten (10) days after the receipt of such instructions, and in any event before proceeding to execute the Work, except in an emergency endangering life or property, and the procedure shall then be as provided for changes in the Work. No such claim shall be valid unless so made. Any change in the Contract amount or construction schedule must be authorized by Change Order.

18.02 Delays and Extensions of Time. If the Contractor is delayed at any time in the progress of the Work by the acts of the Owner or the Architect, or by any employee of either, or by any separate contractor employed by the Owner, or by changes ordered in the Work, or by any other cause that the Owner determines may justify the delay, then the completion date shall be extended by Change Order for such reasonable time as the Owner may determine.

a. Extension of the Contract completion time will be considered for delays due to weather conditions only when such conditions have had a material, adverse impact upon the critical path of the construction schedule, are more severe and extended than those reflected by the ten (10) year average for the month as evidenced by climatological data, U.S. Department of Commerce, for the area where the Project is located, and only if a request for such an extension of time is received within seven (7) days of the first date of each delay. Extensions of time due to weather or other allowable reasons will be granted on the basis of 1.4 calendar days' credit for every working day lost with each separate extension figured to the nearest whole calendar day.

b. All Contractor requests for extension of time shall be subject to the Owner's approval and shall be made in writing to the Owner no more than seven (7) days after the occurrence causing the delay; otherwise they shall be deemed waived. Any request for extension of time for a change in the Work or for any occurrence allegedly causing a delay as provided for herein must be substantiated by demonstrating the effect of the change or occurrence on the critical path of the construction schedule.

c. If no schedule or agreement is made stating the dates upon which written interpretations or detail drawings shall be furnished, then no claim for delay shall be allowed on account of failure to furnish such interpretations or detail drawings and then only if such claim is reasonable.

d. Should the time for completion of the Contract be extended, the Owner reserves the right to occupy any part of the structure upon written notice to the Contractor from the Architect or the Owner, but only after the Architect has made a thorough inspection, accompanied by the Contractor's superintendent, to note any defects in workmanship or materials that are the responsibility of the Contractor. Such inspection shall not be deemed to modify any other Contract requirements or provisions relating to observations, inspections or acceptance of the Work. Any such partial occupancy shall not be deemed a waiver of any provision for liquidated damages for delay in final completion.

e. When the whole or a portion of the Work is suspended for any reason, the Contractor shall properly cover over, secure, and protect all Work as may be susceptible to damage in the absence of such action.

18.03 Article Not Exclusive. This GC-18.00 does not exclude the recovery of damages by the Owner for delay under other provisions of the Contract Documents.

GC-19.00 CHANGED CONDITIONS

The Contractor shall promptly, and before such conditions are disturbed, notify the Owner and the Architect in writing of: (1) sub-surface or latent physical conditions at the Project site differing materially from those indicated in the Contract Documents, or (2) unknown physical conditions at the Project site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in Work of the character provided for in the Contract Documents. The Owner and the Architect shall promptly investigate the conditions, and if the Owner finds that such conditions do so materially differ and cause an increase or decrease in the cost of or the time required for performance of the Work, an equitable adjustment shall be made and the Contract modified in writing accordingly. Any claim of the Contractor for adjustment hereunder shall not be allowed unless it has given notice as required.

GC-20.00 CORRECTION OF WORK

20.01 Correction of Work Before and After Completion. The Architect or Owner has the authority to reject Work that is defective or otherwise does not conform to the Contract Documents. The Contractor, following written demand, shall promptly correct all Work rejected by the Architect or Owner as defective or as otherwise failing to conform to the Contract Documents, whether observed before or after the date of final completion and whether or not fabricated, installed, or completed. The Contractor shall bear all costs of correcting such rejected Work, including the cost of the Architect's and/or Owner's consultant's additional services necessitated thereby. If the Contractor proceeds to build in or cover the item that has been rejected, the Contractor shall be totally responsible for the cost of removal and replacement of said item and removal and replacement of all necessary Work surrounding or covering the item.

20.02 Tests to Determine Conformance. Whenever in the opinion of the Architect or the Owner tests are essential to assure the professional evaluation of the Work that is subject to being rejected or condemned, the necessary number of tests shall be performed by consultants designated by the Owner. The recommendation of such consultants shall be final and all parties to the Contract shall comply with the methods and extent of the corrections submitted in writing to the Owner and the Architect by such consultants. The cost of the tests shall become the Contractor's responsibility when corrections of any nature are recommended by the consultant to the investigated Work; otherwise, the Owner shall pay for all tests performed. Should such special testing, inspection, or approval be caused by the Contractor's failure to follow the requirements of the Contract Documents or required tests under GC-15.04 indicating conditions not in conformance with the Contract Documents, the costs of such additional testing, inspection, or approval shall be borne by the Contractor, regardless of the results.

20.03 Removal of Rejected Work. The Contractor shall promptly remove from the Project site all Work rejected by the Architect or Owner as failing to conform to the Contract Documents, whether or not the Work is physically incorporated. Thereafter, the Contractor shall promptly replace and re-execute such Work in accordance with the Contract Documents and without expense to the Owner. The Contractor shall further bear the expense of making good all Work of other contractors and/or subcontractors destroyed or damaged by such removal or replacement, and shall bear the expense of making good all of its Work and the Work of its subcontractors found to be defective by such removal or replacement. If the Contractor does not remove such rejected Work within a reasonable time, fixed by written notice from the Owner through the Architect, the Owner may remove it and may store the material at the expense of the Contractor. If the Contractor does not pay the expenses of such removal and storage within ten (10) days' time thereafter, the Owner may, upon ten (10) days' written notice, sell such materials at auction or at private sale. In such case, the Owner shall account to the Contractor for the net proceeds thereof, after deducting all the costs and expenses that should have been borne by the Contractor, including compensation for additional Architect or consultant services. If the net proceeds of sale do not cover all costs that the Contractor should have borne, the difference shall be charged to the Contractor and an appropriate Change Order shall be issued. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner. In addition, the Owner shall have any other remedies that may be available to it.

20.04 Correction of Work After Final Payment. Neither the final estimate or payment, nor any provision in the Contract Documents, shall relieve the Contractor of responsibility for faulty materials or workmanship and, unless otherwise specified, the Contractor shall remedy any defects due thereto and pay for any damage to other Work or property resulting therefrom, which appear within a period of one (1) year from the date of final completion and acceptance. This warranty shall be in addition to and not in lieu of all other remedies available to the Owner.

20.05 Failure to Correct the Work. If the Contractor fails to correct defective or nonconforming Work, the Owner may correct it and otherwise proceed against the Contractor for the cost thereof in accordance with the provisions of these General Conditions.

20.06 Deductions for Uncorrected Work. If the Owner deems it inexpedient to correct Work that has been damaged, is defective or has not been done in accordance with the Contract Documents, then an appropriate deduction from the contract price shall be made and reflected by a Change Order or, if the amount is determined after final payment, it shall be paid by the Contractor.

20.07 Additional Obligations. The obligations of the Contractor to correct the Work shall be in addition to, and not in lieu of, any other obligations imposed upon it by law, special guarantees, warranties, or other rights of the Owner.

GC-21.00 OWNER'S RIGHT TO CARRY OUT WORK

If the Contractor should neglect to prosecute the Work properly or fail to perform any requirement of the Contract Documents, the Owner, after three (3) working days' written notice to the Contractor, may, without prejudice to any other remedy it may have, make good such deficiencies and may deduct the reasonable cost thereof from the payment then or thereafter due the Contractor. In the event such Work is performed by the Owner, the Owner's employees, or by persons other than the Contractor at the Owner's request, the Owner shall not be liable to the Contractor for inconvenience expense or subsequent cost of removal of such Work. The amount to be deducted as the cost of doing the Work shall include the cost of the Architect's additional services made necessary by such default. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.

GC-22.00 OWNER'S RIGHT TO TERMINATE CONTRACT

22.01 Termination for Cause. If the Contractor should be adjudged bankrupt; or if it should make a general assignment for the benefit of its creditors without approval of the Owner; or if a receiver should be appointed on account of its insolvency; or if it should refuse or should fail, except in cases for which extension of time is provided, to supply enough properly skilled workers, competent supervision and superintendence of the Work, proper materials, or competent management of the Project; or if it should fail to make prompt payment to subcontractors or materials or labor; or disregard any laws, ordinances, or the instructions of the Architect or Owner; or otherwise be guilty of a material violation of any provision of the Contract Documents; then the Owner, when in its sole opinion sufficient cause exists to justify such action, may, without

prejudice to any other right or remedy and after giving the Contractor, and its surety, if any, seven (7) days' written notice, terminate the employment of the Contractor and take possession of the premises and of all materials, tools, and appliances thereon and finish the Work by whatever method the Owner may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the Work is finally completed and accepted by the Owner. If the unpaid balance of the Contract amount exceeds the expense of completing the Work, including the cost of additional architectural, engineering, managerial, consultant, and administrative services, such excess shall be paid to the Contractor. If such expense exceeds such unpaid balance, the Contractor shall pay the difference to the Owner and the Owner shall be justified in withholding any unpaid amounts. The expense incurred by the Owner, as herein provided, and the damages incurred through the Contractor's default, shall be determined by the Owner. The Contractor will not be reimbursed for any anticipated profit.

22.02 Termination Without Cause

The owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

- a. Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall cease operations as directed by the Owner in the notice; take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontractors and purchase orders and enter into no further subcontracts and purchase orders.
- b. In case of such termination for the Owner's convenience, the Contractor shall be equitably paid for all Work properly completed, based upon the approved schedules of values.

22.03 Termination by The Contractor

If the Owner fails to make payment to the Contractor for a period of 30 days after payment is due as required by this Agreement, the Contractor may, upon seven days' written notice to the Owner, stop work until payment is made by the Owner. If the Contractor's work is stopped for 30 days, then the Contractor may, upon seven days' written notice to the Owner, terminate the Contract and recover from the Owner payment for Work executed and for proven losses with respect to materials, equipment, tools, and construction equipment and machinery, including reasonable overhead, profit and damages applicable to the Project.

GC-23.00 PAYMENT

23.01 Schedule of Values. Progress payments shall be made on the valuation of the Work done. Before any request for payment will be considered, the Contractor shall submit to the Architect and the Owner a complete, itemized schedule of the values of the various parts of the Work, aggregating the total sum of the Contract and separating material costs from other costs. Such schedule shall include as costs the material costs of all subcontractors under the Contractor and the costs of all materials to be taken from the Contractor's or subcontractors' own stocks of material. The schedule of values shall be submitted on forms supplied by the Owner and, if required, supported by such evidence as to its correctness as the Architect or the Owner may direct. Each item on the schedule of values shall include its proper share of overhead and profit. The schedule of values shall be used for the estimates and progress payments provided for in these

General Conditions. Along with such schedule of values, the Contractor shall submit a schedule of estimated monthly application amounts to be submitted over the course of the Project to assist the Owner in arranging payments.

23.02 Certificates for Payment. No request for payment shall be submitted to the Owner until and unless it has been certified by the Architect. No certificate for a progress payment, nor any progress payment, nor any partial or entire use or occupancy of the Project by the Owner shall constitute any acceptance of any Work not completed in accordance with the Contract Documents.

23.03 Payments to Contractor. Partial payments shall be made as the Work progresses within forty-five (45) days after the submittal of the properly prepared request for payment form submitted to and approved by the Architect and Owner. Requests for payment shall be submitted to the Architect on a regularly established monthly schedule approved by the Owner. The Owner reserves the right to withhold payments at any time regardless of the Architect's recommendations or issuance of certificate for payment. The request for payment shall be based on the same items as are shown in the schedule of values itemizing the material used and Work performed for which payment is claimed. In preparing estimates, material delivered and properly stored on the site and preparatory Work done may be taken into consideration. Notwithstanding anything to the contrary in the Contract Documents, including Section 23.02. The Contractor agrees to cooperate with the Owner in assembling all information necessary to file the form, including without limitation, back-up or supporting documentation.

a. If payments are made on account of materials not incorporated in the Work, but delivered and suitably stored at the Project site or at some other location agreed upon in writing, such payments shall be conditioned upon submission by the Contractor of bills of sale or such other procedures that will establish the Owner's interest, including applicable insurance and transportation to the Project site.

b. Payments shall be made in the full value of the Work performed and material stored, less five percent (5%) of such value which shall be retained until completion and acceptance of all Work unless otherwise agreed by Owner, and less the aggregate of any previous payments. Upon the certified completion of fifty percent (50%) of the Work as determined by the Architect and the Owner, and if satisfactory progress is being made in the Work as determined in the sole opinion of the Owner, then no retainage shall be made from further monthly payments, subject to any retainages withheld by the Owner from the final payment. The full Contract retainage may be reinstated if the manner of completion of the Work or the progress of the Work do not remain satisfactory to the Owner.

c. Under any Contract exceeding Eighty Thousand Dollars (\$80,000) pursuant to which sums are withheld to assure satisfactory performance, the Contractor may withdraw the whole or any portion of such sums withheld if the Contractor deposits acceptable securities with the Owner in an amount at all times at least equal to the amount withdrawn. All such withdrawals shall be on the Owner's approved forms and shall require that the acceptable securities be endorsed in favor of the Owner, authorizing the Owner to negotiate the acceptable securities and to receive the payments due.

d. The Contractor warrants and guarantees that title to all Work, materials, and equipment covered by a request for payment, whether incorporated in the Project or not, shall pass to the Owner upon the receipt of such payment by the Contractor, free and clear of all liens, claims, security interests, or encumbrances; and that no Work, materials, or equipment covered by a request for payment shall have been acquired by the Contractor or by any other person performing the Work at the site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person. This provision shall not be construed as relieving the Contractor from the sole responsibility for all materials and Work upon which payments have been made or the restoration of any damaged Work, or as a waiver of the right of the Owner to require the fulfillment of all the terms of the Contract.

e. After the date of final completion of the Work, final settlement for the Project shall be advertised in accordance with Colorado law.

f. On the date of final settlement, as advertised, and after the Contractor has submitted a written notice to the Owner that no claims have been filed, final payment shall be made in full. Notwithstanding the foregoing, if any unpaid claim for labor, materials, supplies or equipment is filed with the Owner before payment in full of all sums due the Contractor on the final settlement date, the Owner shall withhold from the Contractor sufficient funds, if available, to ensure the payment of such claim, until the same is paid or withdrawn. Such payment or withdrawal shall be evidenced by filing with the Owner a receipt of payment in full or an order authorizing withdrawal signed by the claimant or its duly authorized agent or assignee. Such funds shall ordinarily not be withheld longer than ninety (90) days following the date fixed for final settlement with the Contractor as set forth in the published notice of final settlement, unless an action at law has been commenced within that time to enforce such unpaid claim and a notice of lis pendens has been filed with the Owner. At the expiration of the ninety (90) day period, the Owner shall release to the Contractor all funds that are not the subject of such action at law. Notwithstanding the provisions in this section, in the event the Colorado statutory procedure as set forth herein is amended during the term of the Construction Agreement, such amended procedure shall be substituted accordingly.

23.04 Payments Withheld. The Owner may withhold payment or the Architect may decline to issue a certificate for payment in whole or in part, or the Architect may withhold or nullify the whole or any part of any certificate previously issued, because of subsequently discovered evidence or subsequent inspections, for such an amount or to such extent as may be necessary in the opinion of either the Owner or the Architect to protect the Owner from loss on account of:

- a. defective Work not remedied;
- b. claims filed or reasonable evidence indicating probable filing of claims;
- c. failure of the Contractor to make payments properly to subcontractors or for material or labor;

- d. a reasonable doubt that the Contract can be completed for the balance then unpaid;
- e. damage to another contractor;
- f. failure of the Contractor to perform any portion of the Work in a timely manner or in compliance with any approved schedules; or
- g. failure of the Contractor to submit on a timely basis any documentation required by the Contract Documents, including without limitation monthly progress reports, schedule of values, or request for approval of subcontractors.

23.05 Recordkeeping. As further described in GC-60.00, the Contractor shall keep complete and accurate records, accounts and books with regard to all materials, equipment and labor involved in the performance of the Work in accordance with generally accepted accounting principles. The Owner and Architect shall have access to the Contractor's accounting records at all reasonable times, and the Contractor agrees to make any changes to its system of keeping these records as the Owner may reasonably request in writing. All such records shall be preserved and the Owner shall have access to them for six (6) years after final payment to the Contractor.

GC-24.00 CONSTRUCTION SCHEDULE AND PROGRESS REPORTS

24.01 Construction Schedule. The Contractor shall submit with the GMP, in a format acceptable to the Owner, an overall timetable of the construction schedule for the Project. This schedule shall start with the date of the Notice of Award, and the completion date shall be a date that will enable the Owner to accept the Work on the date specified in the Construction Agreement. The schedule shall portray fully a timetable representing the various elements in the schedule of values and shall provide for the expeditious and practicable execution of the Work. The time shown between the starting and completion dates of the various elements within the schedule shall represent one hundred percent (100%) completion of each element. Additional detailed schedules of separate elements of the Work may be requested at the Owner's discretion. No request for payment shall be accepted by the Owner until this schedule has been submitted as required herein. This schedule shall be revised from time to time during the course of the Work when the actual progress, in the opinion of the Architect or the Owner, varies materially from that previously approved.

24.02 Monthly Progress Reports. The Contractor shall submit monthly progress reports with each request for payment. Basically, these reports shall reflect the Contractor's "Work in place" progress and shall be certified by the Contractor as to the date and contents of such "Work in place" progress report. If requested by the Owner, the monthly progress reports shall also include representative photographs of the actual Work in place. Such reports shall depict progress and percentage of completion, consistent with the values and amounts contained on the counterpart request for payment. The subcontractors shall be supplied copies of the Contractor's approved schedule. These subcontractors shall develop a similar schedule based on their respective Work. Failure to submit an approved schedule or monthly progress report shall be deemed cause to reject requests for payment.

24.03 Scheduling. The Contractor shall schedule all Work so as to reduce to a minimum any disruption in the use of the existing facilities and interruptions of utility service of any type. Where electrical or mechanical Work performed under this Contract will necessitate interruptions of service to existing facilities, the Contractor shall furnish and install temporary service to such facilities or perform such Work at such times when said existing utilities are not in normal use. The Contractor shall bear the cost of all overtime or inconvenience resulting therefrom.

GC-25.00 INSURANCE

25.01 General Terms of Coverage. The Contractor, at its expense, shall procure and maintain in effect at all times throughout the duration of the Project, including the one-year warranty period, all insurance requirements and limits as set forth below. The Contractor shall continue to provide evidence of such coverage to the Owner on an annual basis during the aforementioned period including all of the terms of the insurance and indemnification requirements of this Construction Agreement. Completed certificates of insurance shall be filed with the Owner within ten (10) days after the date of the Notice of Award. Such certificates shall specifically state the inclusion of the coverages and the provisions set forth herein and shall state whether the coverage is "claims made" or "per occurrence".

a. **Workers' Compensation Insurance.** The Contractor shall procure and maintain workers' compensation insurance at its own expense during the term of the Construction Agreement, including occupational disease provisions for all employees per statutory requirements. Such policy shall contain a waiver of subrogation in favor of the Owner. The Contractor shall also require each subcontractor to furnish workers' compensation insurance, including occupational disease provisions for all of the latter's employees, and to the extent not furnished, the Contractor accepts full liability and responsibility for subcontractor's employees. In cases where any class of employees engaged in hazardous work under this Construction Agreement at the site of the Project is not protected under the Workers' Compensation statute, the Contractor shall provide, and shall cause each subcontractor to provide, adequate and suitable insurance for the protection of employees not otherwise protected.

b. **Commercial General Liability Insurance.** The Contractor, at its own expense, shall procure and maintain commercial general liability insurance to protect the Contractor from all claims for bodily injury, including death and all claims for destruction of or damage to property including the loss of use therefrom (other than the Work itself), arising out of or in connection with any operations under this Construction Agreement, whether such operations be by the Contractor or by any subcontractor under it or anyone directly or indirectly employed by the Contractor or by a subcontractor. All such insurance shall be written with limits and coverages as specified below and shall be written on an occurrence form:

General Aggregate	\$4,000,000
Products - Completed Operations Aggregate	\$4,000,000
Each Occurrence	\$2,000,000
Personal Injury	\$2,000,000

The Contractor shall maintain general liability coverage including Products and Completed Operations insurance, and the Additional Insured with primary and non-contributory coverage as specified in this Agreement for one (1) year after completion of the Project.

c. Comprehensive Automobile Liability Insurance. The Contractor shall maintain comprehensive automobile liability insurance, including coverage for liability arising out of any auto (including owner, hired, and non-owned autos), with a combined single limit of \$1,000,000/person, \$1,000,000/accident, and \$1,000,000/property damage.

d. Umbrella Liability Insurance (for projects exceeding \$10,000,000). The Contractor shall maintain umbrella/excess liability insurance on an occurrence basis in excess of the underlying insurance described in Subsections (a) through (c) above. Coverage shall follow the terms of the underlying insurance, included the additional insured and waiver of subrogation provisions. The amounts of insurance required above may be satisfied by the Contractor purchasing coverage for the limits specified or by any combination of underlying and umbrella limits, so long as the total amount of insurance is not less than the limits specified in each section previously mentioned.

Each occurrence	\$5,000,000
Aggregate	\$5,000,000

f. Builder's Risk Insurance. The Contractor shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial contract sum, plus the value of subsequent contract modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made or until no person or entity other than the Owner has an insurable interest in the property, or the Date of Notice specified on the Notice of Acceptance. This insurance shall include interests of the Owner, the Contractor, subcontractors and subsubcontractors in the Project as named insureds. All associated deductibles shall be the responsibility of the Contractor and a Cost of Work. Such policy may have a deductible clause but not to exceed ten thousand dollars (\$10,000.00). Property insurance shall be on an "all risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss. Contractor shall maintain Builders Risk coverage including partial use by Owner. The Contractor shall waive all rights of subrogation as regards the Owner, all while acting within the scope and course of their employment for damages caused by fire or their causes of loss to the extent covered by property insurance obtained pursuant to this Section or other property insurance applicable to the Work. The Contractor shall require all subcontractors at any tier to similarly waive all such rights of subrogation and shall

expressly include such a waiver in all subcontracts. Upon request, the amount of such insurance shall be increased to include the cost of any additional work to be done on the Project, or materials or equipment to be incorporated in the Project, under other independent contracts let or to be let. The Owner and Contractor shall have the power to adjust and settle any loss. Unless it is agreed otherwise, all monies received shall be applied first on rebuilding or repairing the destroyed or injured work.

25.02 Not Used

25.03 Additional Miscellaneous Insurance Provisions. Certificates of insurance and/or insurance policies required under this Agreement shall be subject to the following stipulations and additional requirements:

a. Any and all deductibles or self-insured retentions contained in any insurance policy shall be assumed by and at the sole risk of the Contractor;

b. If any of the said policies shall fail at any time to meet the requirements of the Contract Documents as to form or substance, or if a company issuing any such policy shall be or at any time cease to be approved by the Division of Insurance of the State of Colorado, or be or cease to be in compliance with any stricter requirements of the Contract Documents, the Contractor shall promptly obtain a new policy, submit the same to the Owner and State of Colorado for approval if requested, and submit a certificate of insurance as hereinbefore provided. Upon failure of the Contractor to furnish, deliver and maintain such insurance as provided herein, this Agreement, in the sole discretion of the State of Colorado, may be immediately declared suspended, discontinued, or terminated. Failure of the Contractor in obtaining and/or maintaining any required insurance shall not relieve the Contractor from any liability under the Contractor Agreement or these General Conditions, nor shall the insurance requirements be construed to conflict with the obligations of the Contractor concerning indemnification;

c. All requisite insurance shall be obtained from financially responsible insurance companies, authorized to do business in the State of Colorado and acceptable to the Owner;

d. Receipt, review or acceptance by the Owner of any insurance policies or certificates of insurance required by the Contractor Agreement shall not be construed as a waiver or relieve the Contractor from its obligation to meet the insurance requirements contained in these General Conditions.

GC-26.00 Not Used

GC-27.00 SUBCONTRACTORS

27.01 Subcontractors and Suppliers. The Contractor shall include with its GMP proposal, on the forms provided, the names of its subcontractors and suppliers of labor and materials. The Contractor shall, before awarding any subcontracts, reverify to the Owner and Architect in writing

on the standard form "Request of Approval of Subcontractors" the names of subcontractors proposed for the Project. Any deviation from the original subcontractor and supplier list shall not be allowed unless justification is submitted in writing to the Owner by the Contractor that the subcontractor or supplier is deemed unfit or unable to perform the specified Work, is unwilling to enter into a subcontract, or is not in compliance with the Contract Documents. The Contractor shall not employ any subcontractors that the Owner or Architect may, within a reasonable time, object to as incompetent, unfit, or otherwise undesirable. Substitutions of subcontractors listed in the executed proposal form may not be made without written approval of the Owner. If, before or after the execution of the Contract, a change of any subcontractor on such list is required by the Architect or by the Owner prior to the award of the relevant contract, the contract price may be increased or decreased by the difference in cost occasioned by such change and an appropriate Change Order shall be issued.

27.02 Obligations. The Owner shall, on request, furnish to a subcontractor, wherever practicable, evidence of the amounts certified on the subcontractor's account. The Contractor agrees that it is as fully responsible to the Owner for the acts and omissions of its subcontractors and of persons either directly or indirectly employed by them, as it is for the acts and omissions of persons directly employed by it.

27.03 Final Listing. The Contractor, at the conclusion of the Work and before final payment is made, shall furnish to the Owner a listing of the names, contact persons, addresses, and telephone numbers of all subcontractors and material suppliers who furnished labor and materials on the Project, with identification of the services rendered and materials provided.

27.04 No Contractual Relationship. Nothing contained in the Contract Documents shall create any direct contractual relationship between any subcontractor and the Owner.

GC-28.00 RELATIONS OF CONTRACTOR AND SUBCONTRACTOR

28.01 Written Agreement. Unless specifically noted to the contrary in a subcontract approved in writing as adequate by the Owner, the Contractor agrees to bind each of its subcontractors by a written agreement and require in such agreements that every subcontractor be bound by the terms of the Construction Agreement, these General Conditions, any Supplementary General Conditions, and the drawings and specifications as far as applicable to the subcontractor's Work.

28.02 Subcontractor's Agreement. Each subcontractor shall agree:

a. To be bound to the Contractor by the terms of the Construction Agreement, these General Conditions, the Supplementary General Conditions, the drawings and specifications, and any other Contract Documents, and to assume toward the Contractor all the obligations and responsibilities that the Contractor, by those documents, assumes toward the Owner.

b. To preserve and protect the rights of the Owner and the Architect under the Contract with respect to the Work to be performed under the subcontract so that the subcontracting thereof will not prejudice such rights.

c. To perform all Work in accordance with the requirements of the Contract Documents.

d. To submit to the Contractor applications for payment in such reasonable time as to enable the Contractor to apply for payment as specified in the General Conditions.

e. To make all claims for extras, for extensions of time, and for damages for delays or otherwise, to the Contractor in the manner provided in the General Conditions of the Contract and the Supplementary General Conditions for like claims by the Contractor upon the Owner, except that the time for making claims for extra cost is one week.

f. To purchase and maintain for the duration of the Project and completion of the Work and any warranty periods such insurance as required by Contractor in Article GC-25.00.

28.03 Contractor's Agreement. The Contractor agrees:

a. To be bound to the subcontractor by all the obligations that the Owner assumes to the Contractor under the Construction Agreement, these General Conditions, any Supplementary General Conditions, the drawings and specifications, and by all the provisions thereof affording remedies and redress to the Contractor from the Owner.

b. To pay the subcontractor not later than fourteen (14) calendar days immediately following the payment of each certificate issued under the schedule of values described in these General Conditions, the amount allowed to the Contractor on account of the subcontractor's Work to the extent of the subcontractor's interest therein providing all requirements for payment stipulated in the Contractor's subcontract agreement are met by the subcontractor.

c. To pay the subcontractor a just share of any insurance payment received by the Contractor, applicable to Work performed by such subcontractor.

28.04 Verified Documentation. The Owner may require the Contractor to submit verified documentation evidencing that full and timely payments have been made to its subcontractors and suppliers, and/or that legal justification exists for withholding payments. In addition, the Owner may contact the subcontractors and suppliers directly to obtain verification that payments have been made as required by law or the Contract Documents.

28.05 No Obligation. Nothing in this GC-28.00 shall create any obligation on the part of the Owner to pay or to see to the payment of any sums to any subcontractor, nor shall it form the basis for any action by the subcontractor against the Owner on any contractual theories.

28.06 Meeting with Architect. The Contractor shall arrange for the foreman of each subcontractor (mechanical, electrical, masonry, plastering, painting, etc.) on the job to meet with the Architect at the job prior to any Work being started by the subcontractor so that phases of the

subcontractor's Work can be thoroughly discussed and the quality of materials and workmanship expected can be completely understood and agreed upon.

GC-29.00 ARCHITECT'S STATUS AND INSPECTIONS

29.01 Authority. The Architect shall be the Owner's representative during construction and until the expiration of the warranty period. The Architect shall have authority to act on behalf of the Owner only to the extent expressly provided in the Contract Documents or otherwise in writing. The Architect, with written approval of the Owner, shall have authority to stop the Work whenever such stoppage may be reasonably necessary in its opinion to ensure the proper execution of the Contract.

29.02 Decisions. The Architect shall be, in the first instance, the interpreter of the conditions of the Contract and the judge of its performance, although the Owner shall retain the final authority in decisions regarding such matters. The Architect shall, within a reasonable time, make recommendations on all claims of the Contractor and on all other matters relating to the execution and progress of the Work. All such decisions shall be subject to review by the Owner. The Architect's decisions in matters relating to artistic effect, after consultation with the Owner, shall be final, if within the terms of the Contract Documents.

29.03 Inspections. The Contractor shall provide timely notice to the Architect when inspections are desirable or required by the terms of the Contract Documents or the Architect's Agreement with the Owner. Such notice shall be given in order to allow for the following reviews and inspections, among others:

- a. Reviewing and approving shop drawings, samples and other submissions for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents.
- b. Inspection of load-bearing surfaces or excavations before footings are poured.
- c. Inspection of reinforcing steel after installation and before concrete is poured.
- d. Inspection of structural and architectural concrete before, during, and after pouring.
- e. Evaluation of all laboratory reports.
- f. Inspection of structural steel after erection and prior to its being covered or enclosed.
- g. Inspection of mechanical work following its installation and prior to its being covered or enclosed.

h. Inspecting of electrical work following its installation and prior to its being covered or enclosed.

i. Inspection of exposed surfaces for compliance with the Contract Documents.

GC-30.00 USE OF PREMISES

The Contractor shall confine its equipment, the storage of materials, and the operations of its workers to locations indicated by law, ordinances, permits, and the Contract Documents, and shall not unreasonably encumber the Project site with its materials. The Contractor shall not load or permit any part of a structure to be loaded with a weight that will endanger the safety of persons or property. The Contractor shall enforce all Owner instructions and other regulations regarding signs, advertisements, fires, and smoking and shall not allow the possession or consumption of alcohol or drugs on the Project site by its or any subcontractor's workers.

GC-31.00 CUTTING, PATCHING, AND EXCAVATING

31.01 Standards. The Contractor shall do all cutting, fitting, and patching that may be required to make the several parts of the Work come together properly and receive or be received by Work of other contractors or subcontractors shown upon, or reasonably implied by, the drawings and specifications for the completed Project.

31.02 Responsibility. Any cost caused by defective or improperly timed Work shall be borne by the party responsible therefore. The Contractor shall not endanger any Work by cutting, excavating, or otherwise altering the Work and shall not cut or alter the Work of any subcontractor except with the consent of the Architect.

31.03 Cutting and Sizing. The Contractor and each subcontractor shall leave all chases, holes, or openings straight, true, and of proper size in its own Work, or cut the same in existing Work as may be necessary for the proper installation of its own or another contractor's or subcontractor's Work, consulting with the Architect regarding proper location and size of same. In case of a failure to leave or cut said chases, holes, or openings in the proper place, the Contractor or subcontractors shall cut them afterward at their own expense. No excessive cutting shall be permitted, nor shall any piers or other structural members be cut or modified in the field without the written consent of the Architect. After such Work has been installed, the Contractor and subcontractors shall carefully fit around, close up, repair, patch, and point up same as directed to the entire satisfaction of the Architect. Each section of this specification shall include all cutting, patching, and excavating for that trade division unless specifically stated to the contrary.

GC-32.00 CLEANING UP

32.01 Contractor's Responsibilities. The Contractor shall at all times keep the Project site free from accumulations of waste material and rubbish caused by its employees or Work, and shall remove all rubbish as often as it deems necessary or as directed by the Owner or the Architect. Upon completion of the Work, the Contractor shall remove all its rubbish, tools, scaffolding, and surplus materials from and about the Project site, and shall wash all glazing and window frames inside and outside throughout the Project building(s), removing all stains, paint, etc., from same. Care shall be taken not to scratch the glazing in this clean up.

32.02 Standards. All floors and wall coverings shall be left thoroughly clean and finished; all walls and ledges shall be dusted; all plumbing fixtures shall be cleaned; all hardware shall be free of all labels, paint, stains, dust, dirt, and the like; all marks, stains, fingerprints, oil, and dirt shall be removed from painted, decorated, or natural finish Work and the Project building(s) shall be ready for occupancy except for being further equipped by the Owner. In case of dispute, the Owner may perform such cleaning up as may be required and charge the cost to the Contractor.

GC-33.00 STATUTES, ORDINANCES, AND REGULATIONS

The Contractor and all subcontractors shall comply with all applicable federal and state statutes, rules, regulations, and directives of the State Department of Labor or other governmental body having jurisdiction over the Work to be performed. Cases of apparent conflict coming to the attention of any party shall immediately be called to the attention of the Owner. The Contractor shall strictly observe and comply with all federal and state laws pertaining to the employment and payment of labor.

GC-34.00 SALES AND USE TAX

The Contractor shall coordinate with the Owner to ascertain whether a sales or use tax may be collectible on the purchase of building materials, supplies, and equipment used on the Project by the Contractor. Some cities and municipalities will charge a sales or use tax on building materials, supplies, and equipment "picked up" and/or used within that city or municipality by a Contractor. The Owner is exempt from the payment of any state sales and use taxes for materials, supplies, and equipment used on the Project by the Contractor and subcontractors. For the purpose of exercising such exemption, the Contractor and all its subcontractors shall apply for and obtain a certificate of exemption for the Work from the Colorado Department of Revenue. Copies of such certificates shall be filed with the Owner before any materials are purchased or any Work commenced hereunder. No amounts paid to Contractor pursuant to the Construction Agreement shall include reimbursement for such taxes.

GC-35.00 APPROVAL OF SUBSTITUTIONS

The Contractor shall be held to have used in its base proposal and to furnish under the Contract those items of equipment and/or materials that are specifically identified in the plans and specifications by a manufacturer's name, model, or catalog number. Items of equipment and/or materials of the Contractor's choice may be offered as alternates to the items named in the plans

and specifications by submitting, with the proposal and on the form provided, identifying data on the articles proposed together with a statement of the amount of addition or deduction from the base bid if the bidder's alternate is accepted. Prior approval by the Architect is not required on items submitted as alternate bids. After execution of the Construction Agreement, substitution of equipment and/or materials of makes other than those specifically named in the Contract Documents may be approved by the Owner so long as the equipment or material proposed for substitution in the opinion of the Owner is just as suitable as the equipment and/or materials named in the plans and specifications so far as performance, construction, efficiency, and utility are concerned. A request for substitution shall ordinarily be required to be based upon one or more of the following grounds: the specified equipment or material is no longer available, a substitution will improve lead time, quality will be improved (documented detail required), or the Owner will incur substantial savings. All requests for substitution must be submitted in writing with supporting documentation by or through the Contractor to the Architect for initial review and recommendation before being submitted to the Owner for evaluation and final approval. In the absence of the Owner's written approval, no substitution of equipment or materials shall be allowed for any items specified in the Contract Documents. In case of a difference in price, occurring as a result of an approved substitution, the Owner shall receive all benefit of the difference in cost involved in the substitution. All approved substitutions shall be documented by the issuance of a formal Change Order as provided in these General Conditions.

GC-36.00 OCCUPANCY

The Contractor, upon the Owner's written request, shall allow the Owner to occupy portions of the Work and to place and install, subject to reasonable restrictions, as much equipment and furnishings during the progress of the Work as is possible without interfering with the progress of the Work. Such occupancy and the placing or installing of equipment and furnishings shall not in any way evidence the final completion of the Work or signify the Owner's acceptance of the Work, or any part of it. Equipment includes such things as kitchen equipment, etc. Furnishings include such things as lockers, benches, desks, etc. Prior to occupancy, when practicable, the Architect shall make a thorough inspection accompanied by the Contractor's superintendent to note any defects in workmanship or materials that are the responsibility of the Contractor. The provisions of this section shall not be in limitation of the Owner's rights set forth in GC-18.00.

GC-37.00 HAZARDOUS MATERIALS

37.01 Responsibility and Reporting. The Contractor shall have no responsibility for the presence, handling, removal or disposal of hazardous materials in any form at the Project site, including but not limited to asbestos, asbestos products, polychlorinated biphenyl (PCB) or other hazardous materials. Prior to its commencement or continuation of any portion of the Work, the Contractor shall provide notice to the Owner of the presence, location, amount and condition of any known or suspected hazardous materials that are discovered at the Project site. Such notice shall be in writing and shall be submitted no more than twenty-four (24) hours after the presence of such materials becomes known or suspected.

37.02 Contractor's Obligations. In the event hazardous materials become known or suspected by the Contractor as described in GC-37.01 above, the Contractor shall not proceed with

or continue the Work until it has received written authorization from the Owner. If the Contractor proceeds with the Work without said authorization, it assumes any and all responsibility and liability for contamination and cleanup at the Project site according to applicable federal and state laws, and for any death or personal injury, including but not limited to medical expenses that may be incurred by any individual as a result of exposure to hazardous materials on the Project site.

37.03 Owner's Obligations. In the event hazardous materials are identified or encountered during the course of the Project, the Owner at its expense shall take reasonable actions to properly and safely deal with such materials.

37.04 Management Plan. The Contractor acknowledges that it and its employees, agents and subcontractors have the responsibility of being fully informed of the Owner's Management Plan as it relates to buildings located at the Project site and shall consult with the Owner about how such Plan addresses suspected or active asbestos-containing material areas within such buildings.

GC-38.00 DAMAGE TO UTILITIES

38.01 Adequate Precautions. The Contractor shall take adequate precautions to protect existing utilities on and off the Project site and avoid damage thereto. The Contractor shall repair or replace or have repaired or replaced at its expense any damage to streets, water, sewer, light, power, cable, or telephone lines that are damaged by reason of the Contractor's Work.

38.02 Not Used

38.03 Protection from Damage. The Contractor shall adequately protect active underground utilities from damage, and if damaged shall immediately effect all necessary repairs. Removal or relocation of active underground utilities shall be done only as indicated on the drawings. If such utilities are in use, they shall be maintained in continuous service. If not indicated on the drawings or not known to exist, the Contractor shall report discovery of such utilities to the Architect and shall not proceed further until directed to do so.

38.04 Inactive or Abandoned Utilities. Inactive or abandoned utilities, whether or not they are indicated on the drawings, shall be recorded as to location and depth and shall be removed for a distance of not less than three (3) feet from the outside line of all concrete Work unless otherwise required by regulations. Ends shall be capped or plugged. There shall be no adjustment of the Contract amount for Work due to inactive or abandoned utilities.

GC-39.00 PROJECT SIGN

A permanent sign shall be installed in a prominent location within the memorial site that includes the following: Name of Project, contractor, architect, Owners Representative, Rendering etc. is provided it shall include the same language.

GC-40.00 BLASTING

No explosives of any nature except for those normally employed in powder actuated tools, .38 caliber or smaller, shall be employed or used on the Project site except with the express and specific prior written approval of the Architect and the Owner and any appropriate governmental authorities, in each instance. The Contractor shall notify the Architect of need for such approval three (3) days prior to the proposed use of such explosives.

GC-41.00 HISTORICAL DATA

In addition to the warranties, guarantees, operating instructions, etc., elsewhere specified in the Contract Documents, at the conclusion of the Work and before final payment is made, the Contractor shall furnish a listing of the principal's names, addresses, and telephone numbers of all subcontractors and suppliers that furnished labor and/or materials on the Project, with identification of the services and materials rendered by each. There shall be provided one (1) copy for the Architect and three (3) copies for the Owner. All copies shall be delivered to the Architect for review and distribution.

GC-42.00 TESTING OF PROJECT BUILDING SYSTEMS

The Contractor shall submit a written plan prior to final completion and acceptance of the Project, consistent with the Contract Documents and applicable codes, for the testing of all Project building systems. All such testing shall be of complete systems, before covering, or of individually separable larger portions of the systems, and shall be performed in the presence of the appropriate consultant and representative of the Owner. A written report shall be filed with the Owner, recording each test and signed by the Owner's consultant.

GC-43.00 TEMPORARY OR TRIAL USAGE

43.01 Not Evidence of Acceptance. Temporary or trial usage by the Owner of any mechanical device, machinery, apparatus, equipment, or any Work or material supplied under the Contract before final completion and written acceptance by the Architect shall not be construed as evidence of the Architect's or Owner's acceptance of same or the commencement of any warranty period, unless Contractor notifies the Owner to the contrary prior to the Owner's use.

43.02 Authorization. The Owner has the privilege of such temporary or trial usage, for such reasonable time as the Owner and the Architect deem proper. The Contractor shall make no claim for damage or injury to or breaking of any parts of such Work that may be caused by weakness or inaccuracy of structural parts or by defective material or workmanship. If the Contractor so elects, it may, without cost to the Owner, make such trial usage. However, trials shall only be conducted with the Architect's prior approval and under the Architect's observation.

43.03 Contractor's Responsibility. When heating, air conditioning, ventilation, exhaust, or items of electrical or other equipment are installed, it shall be the responsibility of the Contractor installing such equipment to operate it for a sufficient period of time as required by the Architect for proper testing of the equipment and instructing the Owner's operating personnel. All items of equipment, testing meters, testing instruments, and incidentals required for proper testing and for

instructing the Owner's operating personnel shall be provided by the Contractor responsible for providing and installing the equipment.

GC-44.00 ASSIGNMENT

The Contractor shall not assign its interests herein in whole or in part without the written consent of the Owner; nor shall the Contractor assign any moneys due or to become due to him hereunder, without the previous written consent of the Owner.

GC-45.00 SEPARATE CONTRACTS

45.01 Other Contracts. The Owner reserves the right to enter into other contracts in connection with the Work. The Contractor shall afford such other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their Work, and shall properly connect and coordinate its Work with theirs.

45.02 Duty to Inspect and Report. If any part of the Contractor's Work depends on proper execution or results upon the Work of any other contractor, the Contractor shall inspect and promptly report to the Owner through the Architect any defects in such Work that render it unsuitable for such proper execution and results. The Contractor's failure to so inspect and report shall constitute an acceptance of the other contractor's Work as fit and proper for the reception of the Contractor's Work, except as to defects that may subsequently develop in the other contractor's Work.

45.03 Duty to Measure. To ensure the proper execution of its subsequent Work, the Contractor shall measure Work already in place and shall immediately report to the Owner through the Architect any discrepancy between the executed Work and the Contract Documents.

GC-46.00 CONTRACTORS' MUTUAL RESPONSIBILITY

The entire Project may be covered by more than one contract and in such case there will of necessity be a certain overlapping of obligations and responsibilities. Each contractor shall, therefore, take due notice of the Work called for in contracts other than its own. If the Contractor causes damage to the Work of another contractor, the Contractor agrees, upon notice of said damage, to settle with such other contractor by agreement, if it will so settle. If such other contractor sues the Owner on account of any damage alleged to have been caused by the Contractor, the Owner may notify the Contractor who shall, at the Owner's option, defend such proceedings at the Contractor's expense or reimburse the Owner for the expenses incurred in its defense, and if any judgment against the Owner results therefrom, the Contractor shall pay or satisfy the judgment and pay all costs and expenses thereby incurred by the Owner.

GC-47.00 Not Used

GC-48.00 WORK ON EXISTING BUILDINGS

GC-49.00 INDEMNIFICATION

49.01 To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner, Owners Representative, Architect, Architect's consultants, and agents and employees of any of them and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributed to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 49.01.

49.02 In claims against any person or entity indemnified under this Section 49.00 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 49.01 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

GC-50.00 LIQUIDATED DAMAGES FOR DELAY IN COMPLETION

50.01 - Not Used

GC-51.00 ACCEPTANCE AND FINAL PAYMENT

51.01 Final Inspection. Within a reasonable time after final completion of the Work and before final acceptance thereof, a final inspection shall be made by the Architect, accompanied by the Owner, to determine whether the Work has been completed in accordance with the Contract Documents. A written report of inspection and detailed punch list, certified as to contents and date of inspection, shall be completed by the Owner and the Architect and delivered or mailed to the Contractor.

51.02 Acceptance. All prior requests for payment shall be subject to correction in the final request for payment. When all Work, including the punch list, has been certified by the Architect as finally and satisfactorily completed, and approved by the Owner's authorized representative, it shall be deemed accepted as of the date of the issuance of the Owner's letter of acceptance.

51.03 Final Settlement. Upon submission of the final request for payment, the time of final settlement for the Work shall be established and shall thereafter be advertised by two (2) publications of notice, the last of which shall appear at least ten (10) days prior to the time of final settlement. Final payment and settlement shall be made at the time of final settlement as advertised, or as soon thereafter as appropriate and practicable, in the judgment of the Owner.

51.04 Unpaid Claims. Neither the final payment nor any part of any sums withheld shall become due until the Contractor delivers to the Owner verified documentation showing full payment for all labor, materials, supplies, and equipment expended upon or incorporated in the Work under the Contract. If any unpaid claim for such labor, materials, supplies, or equipment is filed with the Owner before payment in full of all sums due the Contractor on the final settlement date, the Owner shall withhold from the Contractor sufficient funds, if available, to provide for the payment of such claim, until the same is paid or withdrawn. Such payment or withdrawal shall be evidenced by filing with the Owner a receipt for payment in full or an order authorizing withdrawal signed by the claimant or its duly authorized agent or assignee. Such funds shall ordinarily not be withheld longer than ninety (90) days following the date fixed for final settlement with the Contractor, as set forth in the published notice of final settlement, unless an action has been commenced within that time to enforce such unpaid claim and a notice of lis pendens has been filed with the Owner. At the expiration of the ninety (90) day period, the Owner shall release to the Contractor all funds that are not the subject of such action. Notwithstanding the provisions in this section, in the event the Colorado statutory procedure as set forth herein is amended during the term of the Construction Agreement, such amended procedure shall be substituted accordingly.

51.05 Unsatisfied Claims. If any claim for such labor, materials, supplies, or equipment remains unsatisfied after all payments are made by the Owner to the Contractor, the Contractor shall refund to the Owner all sums which the latter may for any reason be compelled to pay to satisfy such claim, including all costs and attorneys' fees incurred by the Owner as a result of the Contractor's default in such respect.

51.06 No Waiver. The making and acceptance of final payment shall not constitute a waiver of any claims by the Owner, including, among others, those arising from unpaid claims, from faulty Work that appears before or after final payment, or from any failure to comply with any requirements of the Contract Documents.

GC-52.00 WARRANTIES ON PORTIONS OF THE WORK

The Contractor shall, in case of Work performed or materials or equipment provided for which warranties are required by the Contract Documents, secure the required warranties and deliver copies thereof to the Architect and the Owner at the time that the Work is finally completed. All such warranties shall commence on the date set forth in the letter of acceptance of Substantial Completion and shall not in any way reduce the Contractor's responsibilities under the Contract. Notwithstanding the foregoing, the warranty period shall not begin with respect to any item that is not completed on the date set forth in the letter of acceptance until such item is finally completed. Whenever guarantees or warranties are required by the specifications for a longer period than one year, such longer period shall govern.

GC-53.00 CONTRACTOR'S PROJECT GUARANTEE AFTER COMPLETION

53.01 Warrant and Guarantee. The Contractor expressly warrants and guarantees that the Project will be constructed in a first-class, workmanlike manner; that it will be safe, free from structural and workmanship defects and defects in materials; and that the improvements will be suitable and fit for occupancy and for the purpose for which they were intended.

53.02 Unconditional Agreement to Remedy. Neither the Architect's approval of the final request for payment nor payment of any request for payment or of any sum previously withheld from the Contractor shall relieve the Contractor of responsibility for its warranty and guarantee hereunder or for faulty materials or workmanship or the faulty workmanship of its subcontractors, and, unless otherwise agreed, the Contractor unconditionally agrees to remedy any defects due thereto, and pay for any damages resulting therefrom, which shall appear within a period of one (1) year from the date set forth in the letter of acceptance of its Work.

53.03 Inspections. The Owner, the Architect, and the Contractor together shall make at least one (1) complete inspection of the Work after the Work has been accepted by the Architect and the Owner. This inspection shall be made approximately eleven (11) months after the acceptance of the Work. The Architect shall make a written report of these inspections, certified as to contents and date of inspection, and forward these reports by mail to the Owner and the Contractor within seven (7) days after completion of each inspection. The Contractor shall immediately initiate such remedial Work as may be necessary to correct any deficiencies or defective Work shown by this report, and shall promptly complete all such remedial Work in a manner deemed satisfactory to the Owner.

53.04 Owner's Remedies. If the Contractor fails to promptly correct all deficiencies and defects shown by the report, the Owner may do so, after giving the Contractor ten (10) days written notice of its intent to do so. The Owner shall be entitled to collect from the Contractor all costs and expenses incurred in correcting such deficiencies and defects, as well as all damages resulting from such deficiencies and defects. The guarantee and warranties of the Contractor provided for herein are in addition to and not in lieu of any other remedies available to the Owner.

GC-54.00 LIMITATION OF ACTIONS

Refer to State Statutes at time of execution of Agreement.

GC-55.00 Not Used

GC-56.00 EXPEDITING MATERIALS

The Contractor shall, immediately after receipt of the Notice of Award and approval of its list of subcontractors and material suppliers, place orders for all equipment, materials, and supplies required for the Work. The Contractor shall, when requested, submit to the Architect evidence that such orders have been placed. The Contractor shall exercise due diligence in seeing that all equipment, materials, and supplies are delivered well in advance of the time they are needed on the Project and shall properly store and protect same at its expense and in accordance with these General Conditions, either at the Project site or elsewhere as approved by the Architect.

GC-57.00 MISCELLANEOUS KEYS, SWITCHES, ETC.

Except as otherwise specifically required by the technical specifications, at the completion of the Project all loose keys for hose bibs, adjustment keys and wrenches for door closers and panic

hardware, keys for electric switches, electrical panels, and all other equipment shall be identified, accounted for and turned over to the Architect for transmittal to the Owner.

GC-58.00 Not Used

GC-59.00 **LABOR DISPUTES**

59.01 Pickets and Other Labor Disputes. Notwithstanding any other provision contained elsewhere in the Contract Documents and superseding any contrary term expressed in the Contract Documents, the Contractor agrees that in the event of any picket or other form of labor dispute at the Project site, whether such dispute or picket is in connection with the Contractor, subcontractor, or any other person or entity on the Project site, the Contractor shall continue to perform the Work required under the Contract Documents without interruption or delay. In the event the Contractor fails to continue the performance of the Work without interruption or delay because of such picket or other form of labor dispute, the Owner may terminate the services of the Contractor after giving seventy-two (72) hours' written notice of its intent to do so. The terminated Contractor may then be replaced at the discretion of the Owner and all extra costs involved in doing so shall be payable by the terminated Contractor.

59.02 Entrances and Work Times. During the performance of the Work required by the Contract Documents, the Contractor and its subcontractors and their employees, agents, and suppliers, shall use such entrance or entrances to the Project site as may be designated from time to time by the Owner. Further, the Contractor and its subcontractors, their employees and agents, shall perform the Work at such times of the day and days of the week as may be designated by the Owner from time to time.

GC-60.00 **OWNER'S INSPECTION OF CONTRACTOR'S RECORDS**

The Contractor's records and the records of any of the Contractor's affiliates, subsidiaries or parent companies shall be subject to inspection and audit in connection with the Contract. "Records" shall include, but not be limited to, accounting records (hard copy, as well as computer readable data), written policies and procedures, subcontract files (including proposals of successful and unsuccessful bidders, bid recaps, etc.), original estimates, estimating worksheets, correspondence, Change Order files (including documentation covering negotiated settlements), back charge logs and supporting documentation, general ledger entries detailing evidence reasonably deemed necessary by the Owner to substantiate charges related to the Contract. All of the foregoing shall be open to inspection and subject to audit and/or reproduction by the Owner or its agent or authorized representative to the extent necessary to adequately permit evaluation and verification of the cost of the Work, the appropriateness of the adjusted guaranteed maximum, the quality of the Work installed, and/or any invoices, Change Orders, payments or claims submitted by the Contractor or any of its payees pursuant to the execution of the Contract.

GC - 61.00 **NONDISCLOSURE OF CONFIDENTIAL INFORMATION**

The Contractor will not disclose to any third person or entity any records or writings of the Owner, its employees or students, regardless of the form, that are protected by state or federal law no matter how those documents come into the Contractor's possession.

GC – 62.00 VENUE; CHOICE OF LAW

The Contract shall be governed by and construed in accordance with the laws of the State of Colorado. Venue for any dispute concerning the Contract or the Project shall be exclusively in the federal court located in Colorado or the state court located in Weld County, State of Colorado

GH Phipps Construction Companies

Page 426 of 434

Ft Lupton Library
Construction Manager at Risk Services
CM@R Scope Coordination Matrix

8	Coordination with Fire Department							x		
9	Site Evaluation and Planning	x						x		
10	Flow Tests with Fire Department	x						x		
11	Architectural Design							x		
12	Civil Engineer Design							x		
13	Landscape Architect/Irrigation Design							x		
14	Structural Engineer Design							x		
15	Mechanical Engineer Design							x		
16	Electrical Engineer Design							x		
17	Lighting Engineer Design							x		
18	Plumbing Engineer Design							x		
19	Fire Suppression Design							x		
20	3D-Renderings and Animations							x		
21	Acoustical Consultant							x		
22	Cost Estimating	x					x			
23	Furniture Design Consultant (B253™-2007)							x		
24	Interior Design (B252™-2007)							x		
25	Signage Design							x		
26	Specifications Consultant							x		
27	Traffic Consultant									TBD
28	Coordination with Owner's Consultants	x						x		
29	Prepare and Present at Public Sessions and Board Meetings	x						x		
30	Commissioning (B211™-2007)								x	
31	LEED Certification (B214™-2007)							x		
32	LEED Energy Modeling							x		
33	LEED Registration and Documentation							x		
34	Facility Support Services (B210™-2007)									not anticipated
35	Security Evaluation and Planning (B206™-2007)	x						x		
36	PV Panel Design							x		
37	Lightning Protection Design							x		As required by code, Design Team to analyze as part of proposal
38	Fast-track Design Services									N/A
39	Historic Preservation (B205™-2007)									N/A
40	Surveys (Flown, ALTA, TOPO)							x	x	
41	Code Analysis							x		Existing conditions to meet current codes and ADA guidelines
42	Zoning Analysis							x		Design to meet current zoning guidelines
43	Steel Stud Framing Design and Engineering	x					x	x		As needed
44	Prepare and Issue Meeting Minutes							x		for Design Meetings
45	Prepare documents for power application with electrical utility and submit key information as required.							x		By Architect and electrical consultant
46	Prepare bid packages for phasing of construction	x						x		TBD
47	Generate bid alternates	x					x	x		
48	Prepare Comcheck submittal as required	x						x		
49	Rezoning process									TBD
50	Prepare a submittal log for the contractor to follow based on specifications	x						x		
51	Documentation of owner existing Furniture Fixtures and Equipment							x	x	Assist District with this effort
52	Assist in grant writing by providing key information to Owner	x						x		Minimal anticipated. Assume assisting in filling out data in required owner forms.
53	Submit applications as required for Town Planning or Zoning Approval Processes	x						x		
54	Prepare bid packages, chair pre-bid meeting, log results	x					x	x		
55	Prepare response to bidders questions, issue addendums	x					x	x		
56	Construction: Observation and Field Reports						x	x		
57	Construction: Review material inspection reports and advise if corrections are required	x					x	x		
58	Construction: Review and make recommendations related to shop drawings	x					x	x		
59	Close Out: Project Record Documents: Generate As-Builts in paper format including ASI, RFI's and install locations.						x	x		
60	Close Out: Project Record Documents: Review contractors posted sets during and after construction completion						x	x		
61	Close Out: Project Record Documents: Generate As-Builts in Revit or Autocad format and PDF							x		
62	Close Out: Prepare letter of substantial completion						x	x		
63	Close Out: Assist Owner on resolution of warranty items						x	x		
64	Close Out: Attend 11 and 23 month walk throughs of facility						x	x	x	
B. Procurement										\$0
1	AVV, Telephone, Paging Design							x		
2	IT/Data, Network, Cable Design							x		
3	Programming Consultant							x		
4	Landscape Architect/Irrigation Design							x		
5	Architectural Firm							x		
6	Civil Engineer							x	x	
7	Structural Engineer							x	x	
8	Mechanical Engineer							x	x	
9	Electrical Engineer							x	x	
10	Lighting Engineer/Designer							x	x	
11	Plumbing Engineer							x	x	
12	Acoustical Consultant							x		

Ft Lupton Library
Construction Manager at Risk Services
CM@R Scope Coordination Matrix

13	Cost Estimating Consultant									x		
14	Furniture Design Consultant									x	x	N/A
15	Interior Design Consultant									x	x	
16	Signage Design Consultant									x	x	
17	Specifications Consultant									x		
18	Traffic Consultant											TBD
19	Commissioning Consultant										x	
20	LEED Consultant									x		
21	Security Consultant										x	
22	PV Panel Consultant										x	
23	Historic Preservation Consultant											N/A
24	Environmental Surveys (Phase I and Phase II)										x	
25	Surveys (Flown, ALTA, TOPO)									x		
26	Testing & Inspection (Soils)			x							x	Testing during construction
27	Testing & Inspection (Construction Materials)			x							x	Testing during construction
28	Code Consultant									x		
29	Moving Consultant										x	
30	Hazmat Analysis										x	
31	Building Demolition Crew											
C. PRE-CONSTRUCTION												
\$0												
1	Review Design Concepts	x								x		x For constructability
2	Develop Bid Packages for sub contractors	x								x		
3	Material Selection and Availability Recommendations	x								x	x	
4	Building Systems Recommendations	x								x	x	
5	Coordinate Owner-Supplied Equipment			x						x	x	x
6	Life Cycle Costing Analysis	x								x	x	As needed
7	Equipment Selection and Availability Review	x								x	x	
8	Subcontractor Availability Review	x								x		
9	Construction Logistical & Execution Plan	x								x		
D. PROJECT COST CONTROL												
\$0												
1	Master Budget; Generate and update									x	x	x
2	Recommend approval of Contractor Invoices										x	x
3	Manage cost of Alternates (trend log)	x								x	x	
4	Schematic Design Cost Estimate and Review	x								x	x	x
5	Design Development Cost Estimate and Review	x								x	x	x
6	Construction Document Estimate and Review	x								x	x	x
7	Guaranteed Maximum Price Cost Estimate	x								x		
8	Construction Cash Flow Projections (Monthly)	x								x		
9	Review estimates for accuracy and value engineering ideas	x								x	x	x Estimates by CM@R. Review by Team
10	Verify Correctness of Quantities & Prices of Change Orders										x	x Design Team to be first review
11	Continuous Project Cost Input and Response to Design Team Queries			x						x		x
E. PROJECT SCHEDULING												
\$16,596												
1	Generate Design Schedule of Events										x	
2	Master Schedule of Events including Owner items	x										x Review by CM@R
3	Preconstruction Activity Schedule (Bar Chart)	x								x	x	
4	Construction Activity Schedule (CPM)	x		x						x		Included in GC's in Part A
5	Const Activity Schedule w/ Milestones (CPM Updates)			x	Included					x		Included in GC's in Part A
6	Shop Drawing & Submittal Schedule / Procedure			x	Included					x	x	Included in GC's in Part A
7	Mock-Up Schedule & Procedure			x	Included					x	x	Included in GC's in Part A
8	Generate and coordinate phasing sched w/ Owner			x	Included					x		x Included in GC's in Part A
9	Short-Interval Schedules			x	Included					x		Included in GC's in Part A
10	Occupancy Schedules			x	Included					x		x Included in GC's in Part A
F. SUBCONTRACTOR SELECTION / PURCHASING												
\$0												
1	Set Prequalification Criteria including local provisions	x								x	x	x
2	Recommend Subcontractor Selection Methods	x								x		x
3	Recommend Subcontractor Award Methods	x								x		x
4	Develop Subcontractor Interest	x								x		x
5	Prepare Bidding Schedules	x								x		
6	Issue Plans, Specifications & Addenda	x								x		
7	Receive Bids	x								x		
8	Analyze Bids	x								x	x	x
9	Recommend Award	x								x	x	x
10	Determine Local Manpower Availability	x								x		
11	Prepare Subcontracts & Supplier Contracts	x								x		
G. CONTRACT DOCUMENT COORDINATION												
\$0												
1	Constructability Review & Recommendations	x								x		x
2	Review For Inclusion of All Work	x								x	x	
3	Review For Adequately Phased Construction	x								x	x	x
4	Identify Long-Lead Items	x								x		
5	Identify Commodity Shortages	x								x		
6	Review and Coordinate Installation of Owner Supplied Fixed Equip			x	Included					x	x	x Included in GC's in Part A
H. ARCHITECT STAFF												
\$0												
I. GENERAL CONTRACTOR STAFF												
\$235,964												
1	Corporate Executives				w/ OH & P							input value if required for project, amount included in OH&P fee
2	Principal In Charge				w/ OH & P							input value if required for project, amount included in OH&P fee

**Ft Lupton Library
Construction Manager at Risk Services
CM@R Scope Coordination Matrix**

3	Project Executive			w/ OH & P					Input value if required for project, amount included in OH&P fee
4	Operations Manager			w/ OH & P					Input value if required for project, amount included in OH&P fee
5	Construction Manager			w/ OH & P					Input value if required for project, amount included in OH&P fee
6	Project Manager	x		\$106,184		x			Input value if required for project, amount included in OH&P fee
7	Project Engineer			w/ OH & P					Input value if required for project, amount included in OH&P fee
8	Mechanical & Electrical Coordinator			NA					Input value if required for project, amount included in OH&P fee
9	Safety Manager / Field Audit / Training			NA					Input value if required for project, amount included in OH&P fee
10	Human Resources			NA					Input value if required for project, amount included in OH&P fee
11	Secretarial			NA					Input value if required for project, amount included in OH&P fee
12	Project Estimating	x		w/ Precon Fee					Input value if required for project, amount included in OH&P fee
13	Project Accounting			w/ OH & P					Input value if required for project, amount included in OH&P fee
14	Project Scheduling		x	w/ Scheduling Above					Input value if required for project, amount included in OH&P fee
15	Project Purchasing			Included					Input value if required for project, amount included in OH&P fee
16	Project Superintendent(s)		x	\$127,280		x			Input value if required for project, amount included in GC's in Part A
17	Assistant Superintendent(s) (as required)		x	NA		x			Input value if required for project, amount included in GC's in Part A
18	Field Engineer(s) (as required)		x	NA		x			Input value if required for project, amount included in GC's in Part A
19	Mechanical & Electrical Coordinator(s) (as required)		x	NA		x			Input value if required for project, amount included in GC's in Part A
20	Quality Control Engineer (As Required)		x	w/ Supervision		x			Input value if required for project, amount included in GC's in Part A
21	Project Assistant / Clerk / Typist (As Required)		x	NA		x			Input value if required for project, amount included in GC's in Part A
22	Safety Engineer (As Required)		x	NA		x			Input value if required for project, amount included in GC's in Part A
23	Field Accounting (as required)		x	NA		x			Input value if required for project, amount included in GC's in Part A
24	Registered Surveyor (As Required)		x	\$2,500		x			Input value if required for project, amount included in GC's in Part A
J. QUALITY CONTROL / WARRANTY									
				\$0					
1	Develop & Submit Construction Safety Plan		x			x			
2	Testing & Inspection (Construction Materials)							x	CM to coordinate inspections and assist with setting budget and staying on budget
3	Soils Investigations / Geotechnical Reports	x				x	x	x	Review by CM@R and Architect
4	Environmental Surveys							x	
5	HAZMAT Analysis							x	
6	Environmental Cleanup Coordination / Govt Document							x	
7	Project Progress Photographs		x			x	x	x	
8	Field Reports		x	Included		x	x		Including sub-consultants/engineers
9	Warranty Inspections Coordination		x	Included		x			
10	Air & Water Balancing		x	Included		x			Documents to be reviewed and approved by engineers
11	Operator On-Site Training		x	Included		x			
12	Prepare Operation and Maintenance Manuals		x	Included		x			
13	Review Operation and Maintenance Manuals		x	Included		x	x	x	Architect review prior to Owner
14	Attend 11 and 23 month walk throughs of facility and assist on closing out warranty items		x	Included		x	x	x	
15	Drug Testing & Screening (Field Personnel)		x	Included		x			
16	Attend punch list walk throughs, prepare punch list, track items through completion		x	Included		x	x	x	Contractor led. Use unified form or software to prepare, track and close out punch list items
K. TEMPORARY FACILITIES									
				\$33,542					
1	Temporary Field Office Facility		x	\$11,388		x			
2	Field Office Furniture & Equipment		x	Included w/ Office		x			
3	Field Office Copier(s)		x	\$5,200		x			
4	Field Office Fax Machine(s)		x	Included w/ Copier		x			
5	Field Office Computer(s) & Software		x	Included w/ Staff		x			
6	Field Office Supplies		x	\$2,600		x			
7	GC's Storage Trailers / Sheds		x	Included w/ COW		x			
8	Field Office Equipment Maintenance & Repairs		x	Included w/ Equipment		x			
9	Architect / Engineer Temporary Office		x	NA		x			
10	Project Sign		x	\$1,562		x			
11	Directional / Warning Signs		x	Included w/ Project Sign		x			
12	Bulletin Boards		x	NA		x			
13	Potable Drinking Water / Ice / Cups		x	\$1,300		x			
14	Temporary Toilets / Sanitary Sewer		x	\$4,576		x			
15	Temporary Construction Fencing		x	\$5,616		x			
16	Barricades		x	NA		x			
17	Covered Walkways		x	NA		x			
18	Safety Equipment		x			x			
19	First Aid Station & Supplies		x	\$520		x			
20	Handrails / Toe Boards / Opening Protection		x	Included w/ COW		x			
21	Safety Nets		x	NA		x			
22	Temporary Stairs		x	NA		x			
23	Fire Extinguishers		x	\$780		x			
24	Flagman / Traffic Control		x	Included w/ COW		x			
25	Job Hauling Charges		x	Included w/ COW		x			
26	Site Security		x	NA		x			
L. TEMPORARY UTILITIES									
				\$1,950					
1	Temp Telephone Install Equipment & Monthly Fee		x	\$1,000		x			
2	Telephone Expense (Long Distance Charges)		x	Included w/ Phone		x			

Ft Lupton Library
Construction Manager at Risk Services
CM@R Scope Coordination Matrix

3	Telephone Expense (Internet Charges)		x	\$950		x			
4	Cellular Phone Charges		x	Included w/ Staff		x			
5	2-Way Radio Equipment		x	NA		x			
6	Temporary Electrical Service / Distribution		x	Included w/ COW		x			
7	Temporary Electrical Wiring & Lighting		x	Included w/ COW		x			
8	Light bulbs & Temp Electrical Maintenance		x	Included w/ COW		x			
9	Electrical Power Consumption Expense		x	Allowance of \$10,000		x			
10	Temporary Water Service / Distribution		x	Included w/ COW		x			
11	Temporary Water Consumption Expense		x	Included w/ COW		x			
12	Temporary Gas Service / Distribution		x	Included w/ COW		x			
13	Temporary Gas Service Consumption Expense		x	Allowance of \$5,000		x			
14	Temporary Field Office Heating Energy Cost		x	w/ Power Cons. Above		x			
15	Temporary Heating Service (Permanent System)		x	Included w/ COW		x			
16	Permanent Heat System Filter Replacement		x	Included w/ COW		x			
17	Maintenance Cost (Permanent Heat System)		x	NA		x			
M. CLEAN-UP				\$30,920					
1	Daily Clean-Up		x	\$25,800		x			
2	Final Clean-Up		x	\$5,120		x			
3	Final Glass Cleaning		x	Included w/ Final Clean-up		x			
4	Debris Hauling/Removal		x	Included w/ Dumpsters		x			
5	Trash Chutes		x	NA		x			
6	Trash Dumpsters		x	Allowance of \$15,000		x			
7	Dump Permits & Fees		x	Included w/ Dumpsters		x			
8	Dust Control		x	Included w/ COW		x			
9	Street Cleaning		x	Included w/ COW		x			
N. WEATHER PROTECTION				\$5,000					
1	Remove Snow & Ice		x	\$5,000		x			
2	Temporary Enclosures (Buildings)		x	Included w/ COW		x			
3	Temporary Weather Protection for Sub Trades		x	Allowance of \$25,000		x			
O. ON-SITE EQUIPMENT / HOISTING				\$20,712					
1	Automobile(s) & Fuel		x	\$18,112		x			
2	Hoisting Equipment & Fuel		x	Included w/ COW		x			
3	Material/Personnel Hoist(s)		x	NA		x			
4	Crane & Hoist Operator(s)		x	Included w/ COW		x			
5	Small Tools (GC's Only)		x	\$2,600		x			
6	Rental Equipment		x	Included w/ COW		x			
7	Fuel for Rental Equipment		x	Included w/ COW		x			
P. LEED CERTIFICATION				\$0					
1	MR2.1 Const Waste Management, Salvage or Recycle 50%								N/A
2	MR2.2 Const Waste Management, Salvage Additional 25%								N/A
3	MR5.1 Local/Regional Materials, 20% Manufactured Locally								N/A
4	MR5.2 Local/Regional Materials, 10% Harvested Locally								N/A
5	IAQ3.1 Construction IAQ Management Plan, Const								N/A
6	IAQ4.1 Low-Emitting Materials, Adhesives & Sealants								N/A
7	IAQ4.2 Low-Emitting Materials, Paints								N/A
8	IAQ4.3 Low-Emitting Materials, Carpet								N/A
9	IAQ4.4 Low-Emitting Materials, Composite Wood								N/A
Q. DOCUMENT REPRODUCTION / PRINTING				\$0					
1	Schematic Drawings & Specifications					x	x		
2	Design Document Drawings & Specifications					x	x		
3	Construction Drawings & Specifications					x	x		
4	Subcontractor / Supplier Prequalification Forms		x	w/ Preconstruction		x			
5	Bidding Instructions		x	w/ Preconstruction		x			
6	Postage & Express Delivery Costs		x	Included		x	x		
7	Subcontract & Supplier Contract Agreement Forms		x	w/ Preconstruction		x			
8	Shop Drawing Reproduction		x	Included		x			
9	As-Built Documents (Mark-ups & Recording)		x	Included		x			
10	As-Built Documents (Printing)		x	Included		x			
11	Maintenance Manuals (From Subs)		x	Included		x			
12	Operation Manuals (From Subs)		x	Included		x			
13	Estimating Forms	x				x			
14	Schedule Report Forms	x				x			
15	Accounting Forms	x				x			
16	Field Reporting Forms					x			
17	Cost Reporting Forms					x			
18	Special Forms	x				x			
R. INSURANCE & BONDS				\$0					
1	Design professional liability insurance					x			
2	Builder's Risk Insurance					x			Input in Part A above
3	Builder's Risk Deductible	x		Deductible is \$10000		x			Input included in GC's in Part A
4	Special Insurance - E & O					x			Input in Part A above
5	General Liability Insurance					x	x		Input in Part A above
6	Umbrella Liability Insurance					x			Input in Part A above
7	Excess Liability Insurance					x			Input in Part A above
8	Completed Products Insurance					x			Input in Part A above
9	Professional Liability Insurance	x		Included		x			Input included in GC's in Part A

**Ft Lupton Library
Construction Manager at Risk Services
CM@R Scope Coordination Matrix**

10	Workman's Compensation Insurance (GC's Only)			x	Included		x		Input included in GC's in Part A
11	FICA / Medicare Insurance (GC's Only)			x	Included		x		Input included in GC's in Part A
12	Federal Unemployment Insurance (GC's Only)			x	Included		x		Input included in GC's in Part A
13	State Unemployment Insurance (GC's Only)			x	Included		x		Input included in GC's in Part A
14	Payment & Performance Bond			x	Rate is 0.6%		x		Input included in GC's in Part A
15	Subcontractor & Supplier Bonds			x	Included w/ COW		x		Input included in GC's in Part A
S. PERMITS & FEES									
						\$500			
1	Foundation Permit								potentially
2	Superstructure Permit								potentially
3	Building Permit (General)	x		x	Assistance Included		x	x	CM@R and Architect to assist with permit process
4	Mechanical Building Permit	x		x	Included w/ COW		x		
5	Electrical Building Permit	x		x	Included w/ COW		x		
6	Plan Check Fees						x		
7	Street Use Permit								N/A
8	Curb & Gutter Permit								N/A
9	Sidewalk Permit								N/A
10	Street / Curb Design Charge								N/A
11	Sign Permits								N/A
12	Site Drainage (Erosion Control) Permit			x		\$500	x		
13	Electrical Primary Construction Fee							x	N/A
14	Water Service Construction Fee							x	N/A
15	Gas Service Construction Fee							x	N/A
16	Water Tap (Inspection) Fee							x	N/A
17	Sanitary Tap (Inspection) Fee								N/A
18	Storm Tap (Inspection) Fee								
19	Special Tap Fees								N/A
20	Contractor's Licenses			x	Included		x		
21	Zoning Fees							x	N/A
22	Construction Equipment Licenses								N/A
23	Construction Equipment Permits								N/A
T. OTHER COSTS									
						\$0			
1	Sales & Use Taxes (As Required)						x		Owner is a tax exempt entity, however it is the responsibility of the CM@R to confer with governing entities to determine the actual tax liability for the project as such taxes need to be part of the construction budget.
2	Davis Bacon/Prevailing wages								N/A
3	Creation of Owner Moving Transition Manual, RFP and management							x	
4	Owner Moving Costs							x	
5	Video record with proper sound system Owner Training			x	Included		x		
U. ADDITIONAL ITEMS									
						\$0			
1	(enter additional items as necessary)				NA				
2	(enter additional items as necessary)				NA				
3	(enter additional items as necessary)				NA				
4	(enter additional items as necessary)				NA				
5	(enter additional items as necessary)				NA				
6	(enter additional items as necessary)				NA				
7	(enter additional items as necessary)				NA				
8	(enter additional items as necessary)				NA				
9	(enter additional items as necessary)				NA				

CITY OF FORT LUPTON CITY COUNCIL



Valerie Blackston, Ward 1
Chris Ceretto, Ward 2
Carlos Barron, Ward 3

Zo Stieber, Mayor

David Crespín, Ward 1
Claud Hanes, Ward 2
Bruce Fitzgerald, Ward 3

IM 2022-005

COMPLETION OF RISK AND RESILIENCE ASSESSMENT AND EMERGENCY RESPONSE PLAN TO COMPLY WITH THE AMERICA'S WATER INFRASTRUCTURE ACT

Date: Council Meeting – March 1, 2022

Summary:

The America's Water Infrastructure Act (AWIA) was signed into law on October 23, 2018. This law requires all community water systems/utilities that serve more than 3,000 people to conduct risk and resilience assessments and develop or update their emergency response plans (ERP's). Utilities must then certify to the Environmental Protection Agency (EPA) that they were completed.

This City contracted with Clear Water Solutions in April of 2021 to get the work on this completed. This is an IM to notify City Council that the following steps have been completed.

- 1- Complete the Risk and Resilience Assessment
- 2- Submitted the Risk Assessment for certification to the EPA on June 30, 2021
- 3- Developed an Emergency Response Plan for the City
- 4- Submitted the ERP for certification to the EPA.

The EPA does not review or approve the document. The certification includes identifying the utility and that the plan was submitted. It is recommended to get these plans re-certified every 5 years.



Upcoming Events

March 8, 2022	Town Hall Meeting, 130 S. McKinley Ave. 6:00 p.m.
March 15, 2022	City Council Meeting, 130 S. McKinley Ave. 7:00 p.m.
March 29, 2020	Town Hall Meeting, 130 S. McKinley Ave. 6:00 p.m.

Special Community Events 2022

SPRING & SUMMER

APRIL 9

Easter Egg Hunt ~ Ages 0-12
@ the Rec. Center

MAY 5

Cinco de Mayo 5K Run/Walk
Rail Road Park

MAY 30

Memorial Day Service
Hillside Cemetery

JUNE 10

Jacobs Fore Youth Benefit Golf
Tournament
@ Coyote Creek Golf Course

JULY 2

Independence Day Celebration
@ the Rec. Center
*Fireworks at Dusk, Coyote Creek Golf
Course

JULY 8-9

Citywide Yard Sales

AUGUST 2

@ Koshio Park
National Night Out

AUGUST 25

Spaghetti Dinner
@ the Rec. Center
School Supply Fundraiser~Music~Auction

SEPTEMBER 10

Trapper Days
@ Downtown Fort Lupton
Parade~Food Trucks~Carnival & More
+Annual Quilt Show @ the Library

SEPTEMBER 23

Salsa! Dancin' & Dippin'
Competition
@ the Rec. Center

OCTOBER 15

Pumpkinfest & Haunted Hayride
@ Historic Fort Lancaster
Featuring Pumpkins on Parade,
Treats & Games @ the Fort

DECEMBER 3

~ Cookies & Cocoa with Santa
@ the Library
~ Family Portraits

DECEMBER 31

New Year's Eve Teen Bash
@ the Rec.



FALL & WINTER

More!
Scan for more fun
events around town.



**Parks, Recreation
& Golf**



**Active Adults
Program**



**Teen Program
& Trips**



[Fortluptonco.gov/events](https://fortluptonco.gov/events)