

Wastewater Disposal Report
For
Solace Apartments
El Paso County, CO

December, 2022

Prepared for:
Jackson Dearborn Partners
404 S Wells St, Suite 400
Chicago, IL 60607
734-216-2577

Prepared by:
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5475 Tech Center Drive, Suite 235
Colorado Springs, CO 80919
719-593-2593

JR Project No. 25174.00

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1.1. Purpose

This document is intended to serve as the Wastewater Disposal Report for Solace Apartments. The purpose of this document is to show that the proposed wastewater discharge is within the acceptance capacity of the Cherokee Hills Metropolitan District. This report satisfies the requirements set forth by the El Paso County Land Development Code, Section 8.4.8.D (Wastewater Disposal - Public System).

1.2. Summary of Proposed Development

The proposed Solace Apartments, known as “Solace” from herein, is a parcel of land located in Section 7, Township 14 South, Range 65 West of the 6th Principal Meridian in El Paso County, Colorado. Solace is a 28.99 acre, urban, multifamily-development, and is comprised of 16 apartment buildings and associated infrastructure. Solace is bound by existing industrial developments to the North and vacant land to the West. Galley Road bounds the property to the south and existing light industrial businesses to the east. Solace will be broken into two phases, with phase one containing the majority of the development and phase two consisting of the northern part of the development. Phase 1 of Solace will include 234 units and phase 2 will contain 108 units for a total of 342 units. Please see the site plan in appendix B for the developments phasing. A vicinity map of the area is presented in Appendix A. As previously mentioned, the Cherokee Hills Metropolitan District will provide and service the water and sanitary sewer to this development. Refer to the vicinity map and proposed site plan in Appendix A and Appendix B, respectively.

1.3. Wastewater Service

The development will be served by standard 6-inch PVC service lines and 8-inch PVC sanitary sewer main lines. The 8-inch PVC sanitary sewer will tie into an existing manhole in Conrad St. Refer to Appendix C for the proposed sanitary collection utility plan. The wastewater discharge was calculated on a per capita basis based on the total number of bedrooms being built; at one person per bedroom. It is estimated that the wastewater discharge will be approximately 39,400 gallons per day (606 bedrooms x 65 gpd/person). There will also be wastewater produced from the clubhouse, and swimming pool – the amount of wastewater from the clubhouse, and swimming pool was estimated at 1,500 gallons per day. The total average wastewater discharge from the site is 40,890 gallons per day. Refer to Appendix D for additional information such as loads, individual runs, velocity, etc.

1.4. District Capacity

As shown in Appendix E, Cherokee Hills Metropolitan District committed to serve the proposed development. The service commitment letter states that “the District’s Water Reclamation Facility (WRF) has the required capacity to meet the sewer demand for this development”. Thus, according to the service commitment letter,

the proposed development of this site will not cause a capacity issue with the District, and the District has facilities in place to accept the wastewater discharge from this site. Refer to the Service Commitment Letter in Appendix E for the volumes of capacity and current utilization of the existing treatment plant.

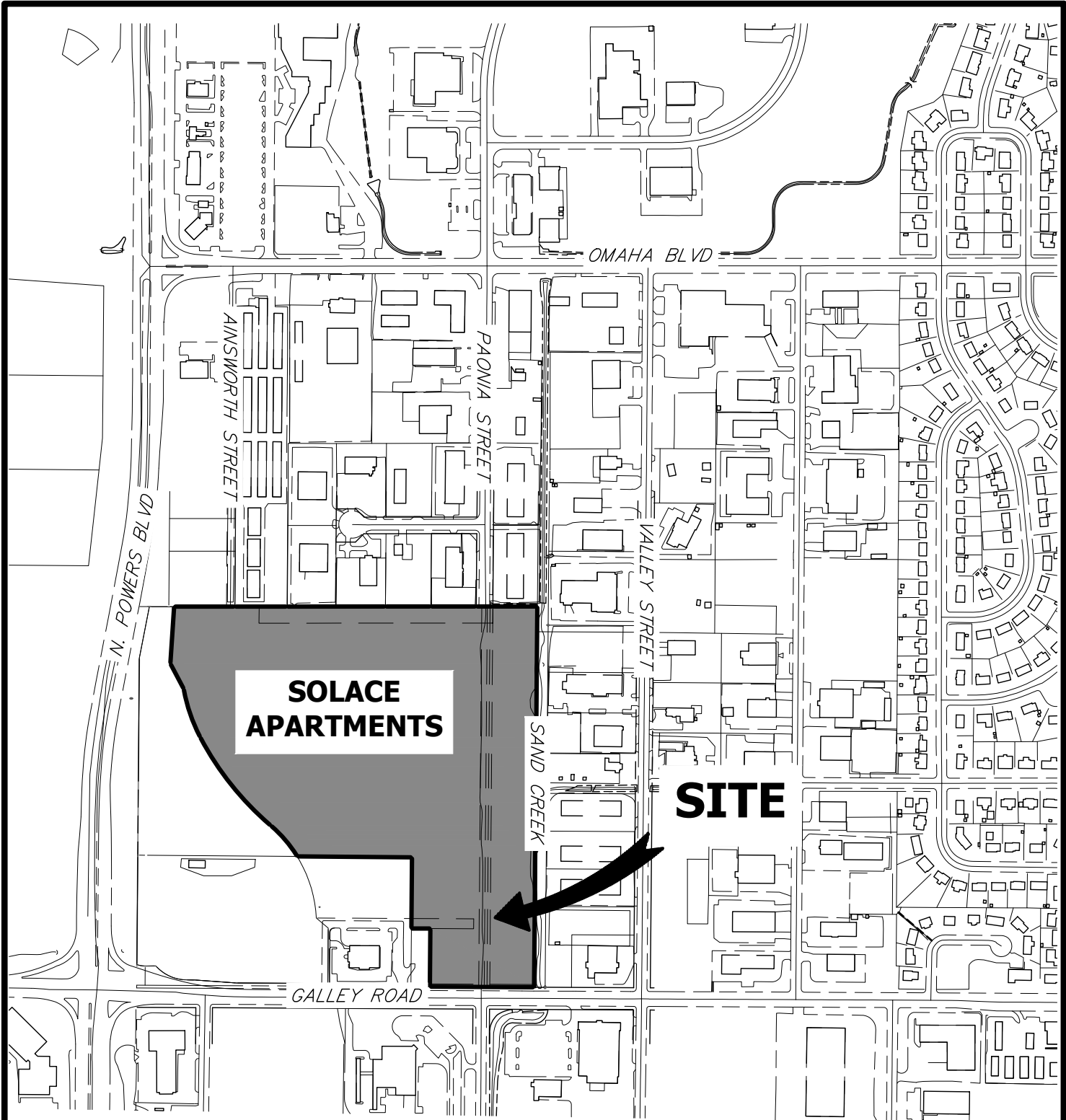
1.5. Waivers from Criteria

There are no waivers for the Colorado Springs Utilities Sanitary Sewer Standards and Specifications or the criteria established by the Cherokee Metropolitan District are requested for this project.

1.6. Compliance with Standards

The Sanitary sewer system, design and modeling results conform to all applicable criteria set forth by the City of Colorado Springs Utilities and the Cherokee Metropolitan District.

APPENDIX A: VICINITY MAP



**SOLACE
APARTMENTS**

SITE



ORIGINAL SCALE: 1" = 500'

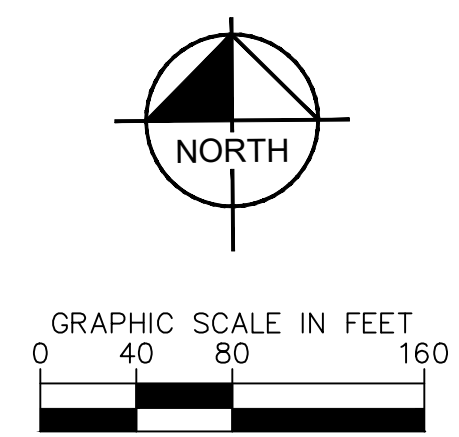
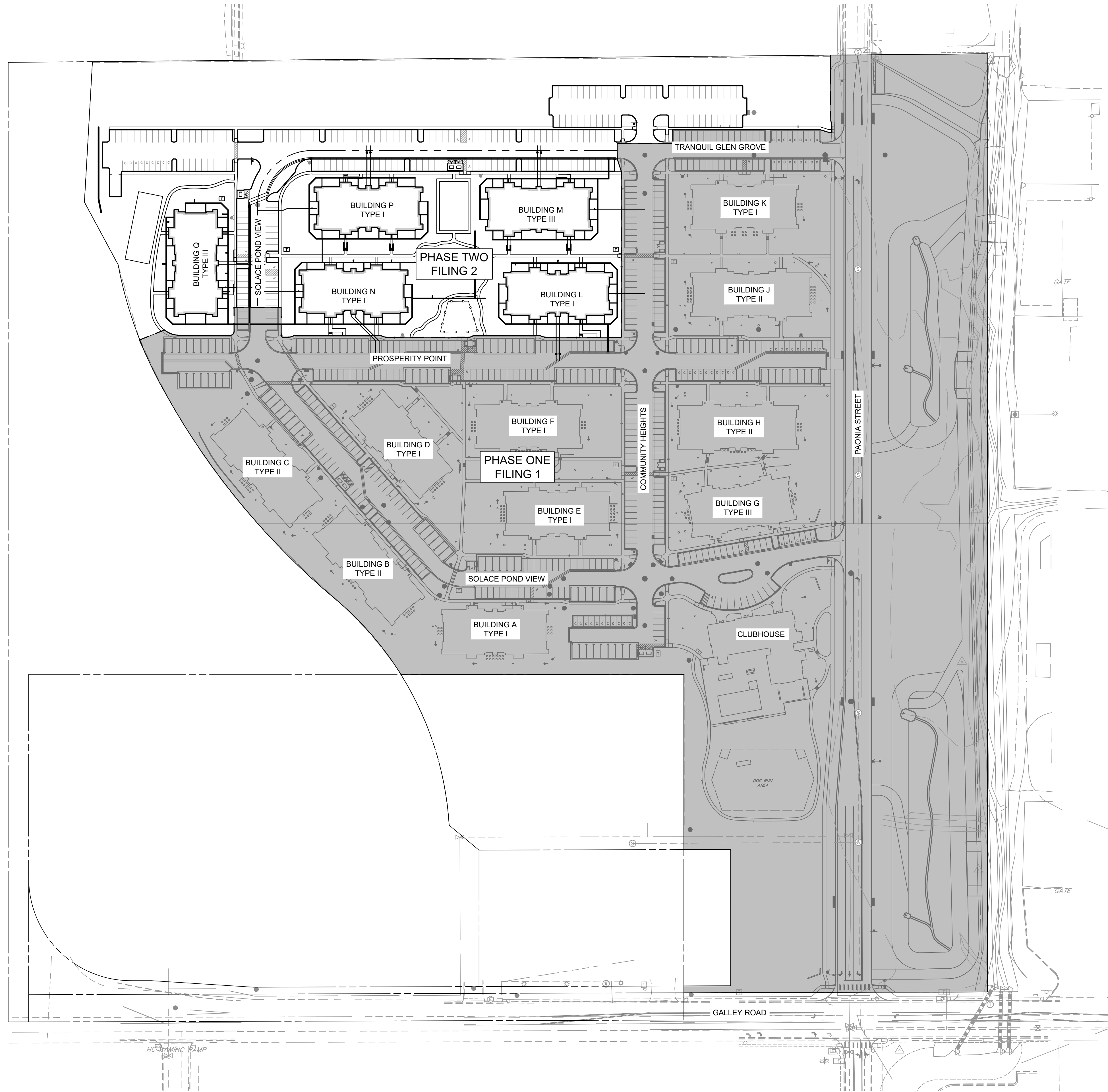
VICINITY MAP
SOLACE APARTMENTS
JOB NO. 25174.00
12/31/2019



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Fort Collins 970-491-9888 • www.jrengineering.com

APPENDIX B: PROPOSED SITE PLAN

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UNIT BREAKDOWN	
PHASE ONE	
5	- TYPE I BUILDINGS
4	- TYPE II BUILDINGS
1	- TYPE III BUILDING
1	- CLUBHOUSE
PHASE TWO	
3	- TYPE I BUILDINGS
2	- TYPE III BUILDINGS
BUILDING TYPE BREAKDOWN	
TYPE I	
12	TYPE 1.0 - 1 BR (789 SF)
8	TYPE 2.0 - 2 BR (1093 SF)
3	TYPE 2.0E - 2 BR (1088 SF)
1	TYPE 2.0A - 2 BR (1093 SF)
TYPE II	
11	TYPE 2.0 - 2 BR (1093 SF)
12	TYPE 2.1 - 2 BR (1097 SF)
1	TYPE 2.0A - 2 BR (1093 SF)
TYPE III	
12	TYPE 2.1 - 2 BR (1097 SF)
3	TYPE 3.0 - 3 BR (1528 SF)
2	TYPE 3.0E - 3 BR (1521 SF)
1	TYPE 3.0A - 3 BR (1521 SF)
TOTAL UNIT BREAKDOWN	
PHASE ONE	
60	TYPE 1.0 - 1 BR (789 SF)
84	TYPE 2.0 - 2 BR (1093 SF)
15	TYPE 2.0E - 2 BR (1088 SF)
9	TYPE 2.0A - 2 BR (1093 SF)
60	TYPE 2.1 - 2 BR (1097 SF)
3	TYPE 3.0 - 3 BR (1528 SF)
2	TYPE 3.0E - 3 BR (1521 SF)
1	TYPE 3.0A - 3 BR (1521 SF)
1	CLUBHOUSE (9060 SF)
PHASE TWO	
36	TYPE 1.0 - 1 BR (789 SF)
24	TYPE 2.0 - 2 BR (1093 SF)
9	TYPE 2.0E - 2 BR (1088 SF)
3	TYPE 2.0A - 2 BR (1093 SF)
24	TYPE 2.1 - 2 BR (1097 SF)
6	TYPE 3.0 - 3 BR (1528 SF)
4	TYPE 3.0E - 3 BR (1521 SF)
2	TYPE 3.0A - 3 BR (1521 SF)

Kimley»Horn

DESIGNED BY: MVZ
DRAWN BY: mvz/res
CHECKED BY: EJJ
DATE: 11/28/2022

SOLACE APARTMENTS FILING NO. 2
CONSTRUCTION DOCUMENTS
OVERALL SITE PLAN

PRELIMINARY
FOR REVIEW ONLY
NOT FOR
CONSTRUCTION
Kimley»Horn
Kimley-Horn and Associates, Inc.

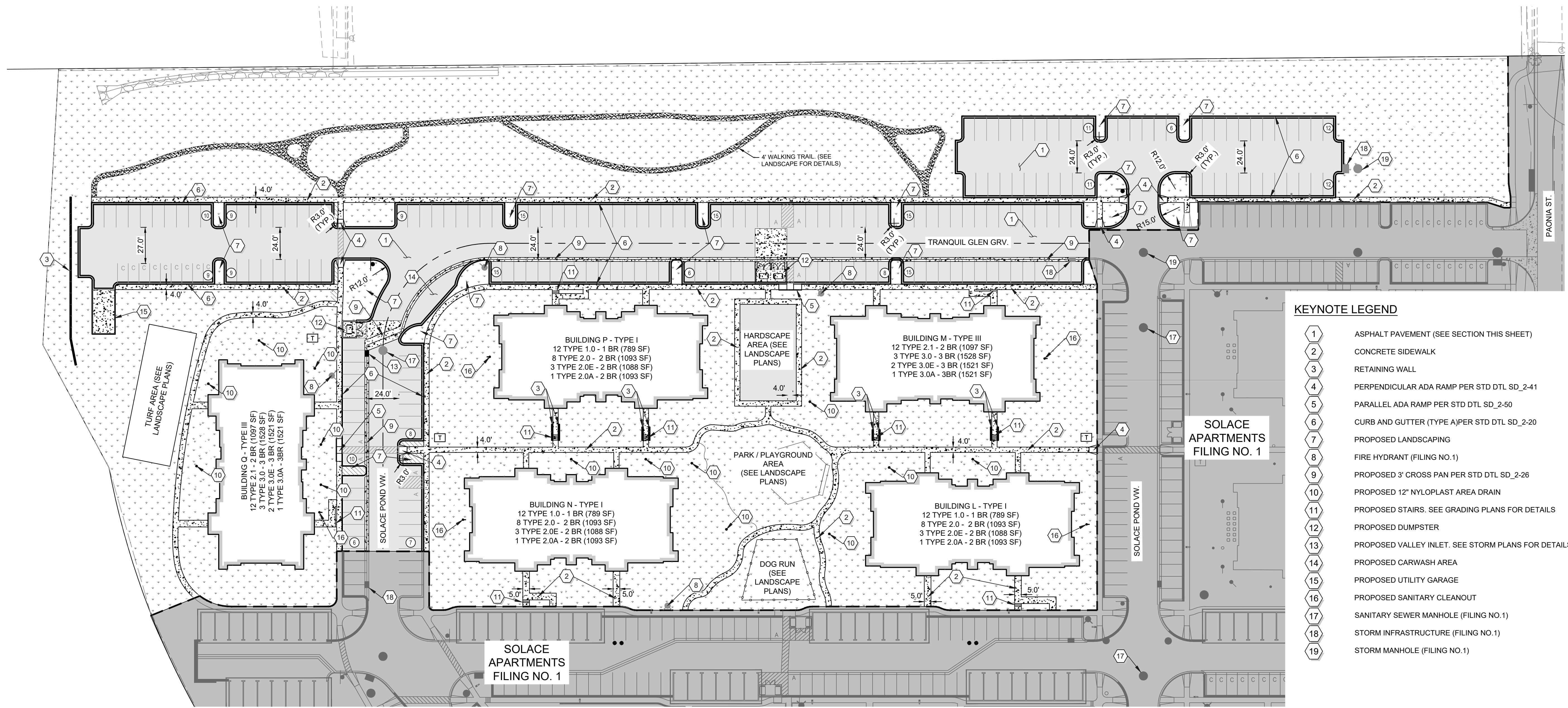
PROJECT NO.
096668009

SHEET
EXH



NO.	REVISION	DATE	APPR.

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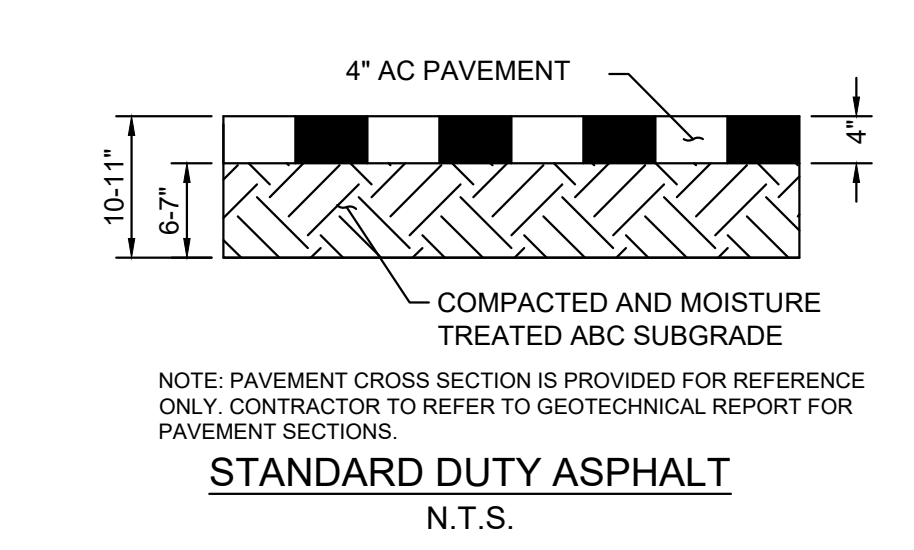
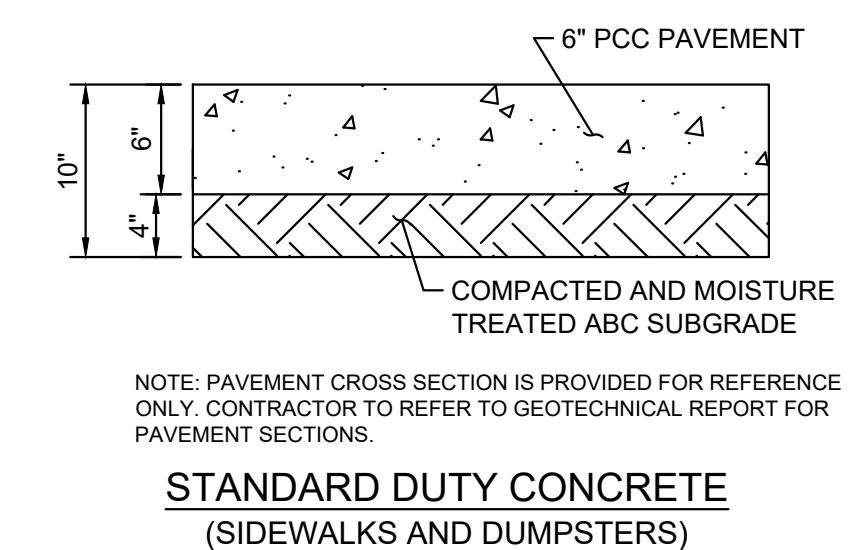


KEYNOTE LEGEND

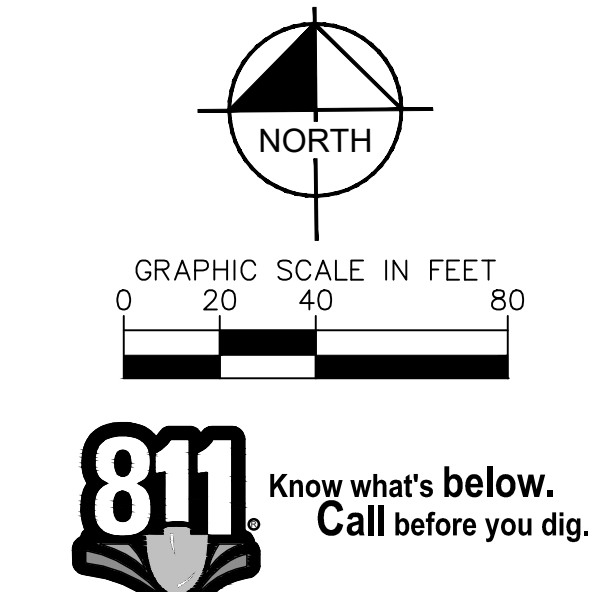
1	ASPHALT PAVEMENT (SEE SECTION THIS SHEET)
2	CONCRETE SIDEWALK
3	RETAINING WALL
4	PERPENDICULAR ADA RAMP PER STD DTL SD_2-41
5	PARALLEL ADA RAMP PER STD DTL SD_2-50
6	CURB AND GUTTER (TYPE A) PER STD DTL SD_2-20
7	PROPOSED LANDSCAPING
8	FIRE HYDRANT (FILING NO.1)
9	PROPOSED 3' CROSS PAN PER STD DTL SD_2-26
10	PROPOSED 12" NYLOPLAST AREA DRAIN
11	PROPOSED STAIRS. SEE GRADING PLANS FOR DETAILS
12	PROPOSED DUMPSTER
13	PROPOSED VALLEY INLET. SEE STORM PLANS FOR DETAILS
14	PROPOSED CARWASH AREA
15	PROPOSED UTILITY GARAGE
16	PROPOSED SANITARY CLEANOUT
17	SANITARY SEWER MANHOLE (FILING NO.1)
18	STORM INFRASTRUCTURE (FILING NO.1)
19	STORM MANHOLE (FILING NO.1)

LEGEND

---	PROPERTY LINE
- - -	PHASING LINE
[Pattern]	STANDARD DUTY ASPHALT PAVING
[Pattern]	CONCRETE PAVING
[Pattern]	LANDSCAPE AREA
[Pattern]	PHASE ONE (FILING NO 1)
⊕	PARKING COUNT



THESE PLAN AND GENERAL NOTES REFER TO:
 GEOTECHNICAL ENGINEERING REPORT
 FIRM: CL THOMPSON
 PROJECT #: CS19163-195
 DATE: DECEMBER 10, 2019
 INCLUDING ALL REVISIONS AND ADDENDA TO THIS REPORT THAT MAY HAVE BEEN RELEASED AFTER THE NOTED DATE.



DESIGNED BY: MVZ
 DRAWN BY: mvz/res
 CHECKED BY: EJJ
 DATE: 11/28/2022

2022 KIMLEY-HORN AND ASSOCIATES, INC.
 2 North Nevada Avenue, Suite 300
 Colorado Springs, Colorado 80903 (719) 453-0180

NO. _____
 REVISION _____
 BY: DATE: APPR _____

Kimley»Horn

SOLACE APARTMENTS FILING NO. 2

CONSTRUCTION DOCUMENTS

OVERALL SITE PLAN

PRELIMINARY
 FOR REVIEW ONLY
 NOT FOR
 CONSTRUCTION

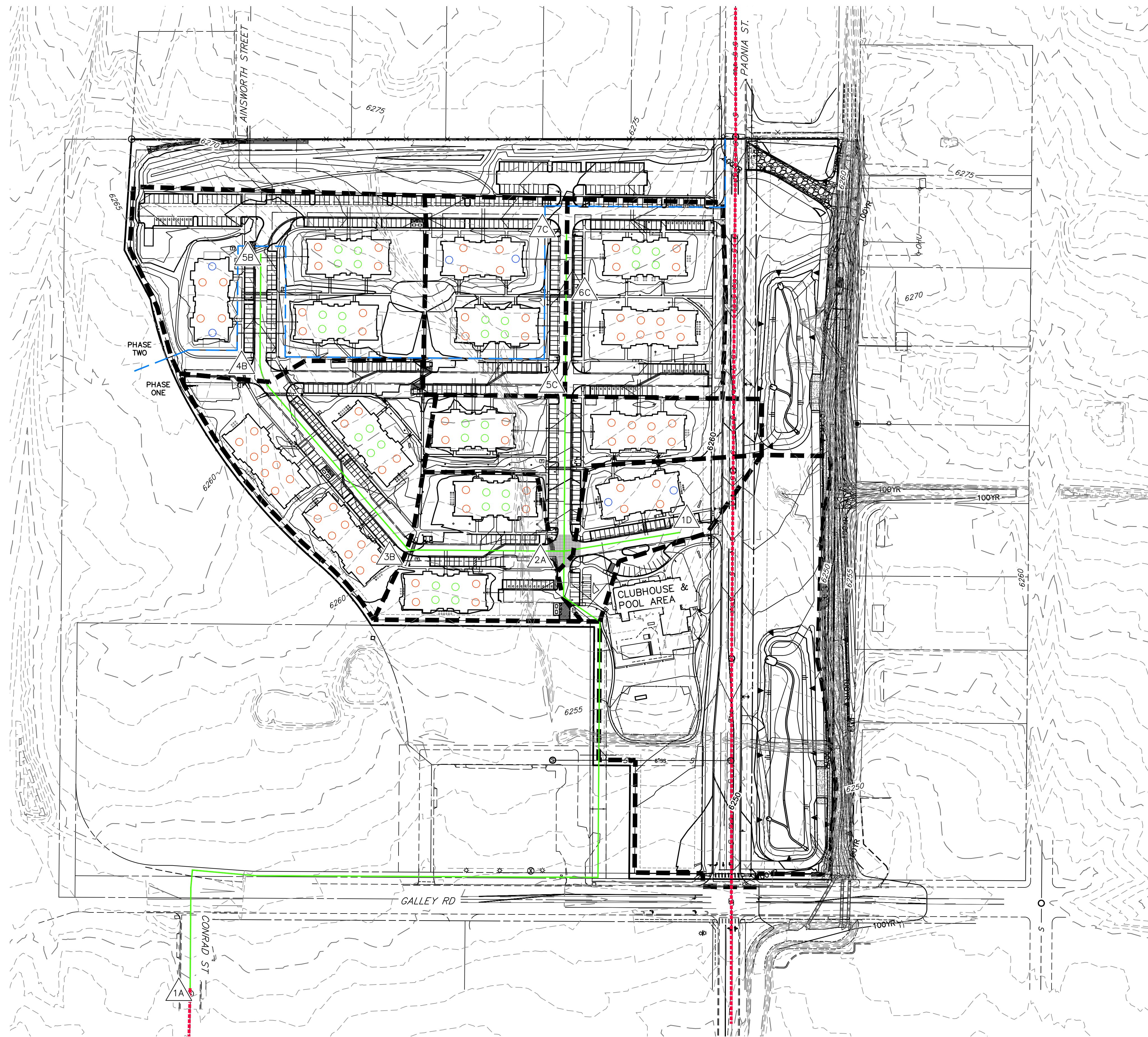
PROJECT NO.
 096668009

SHEET
 C-101

811 Know what's below.
 Call before you dig.

APPENDIX C: UTILITY SERVICE PLAN

SOLACE APARTMENTS - SANITARY SEWER MAP



LEGEND

- 8" ϕ PROPOSED SANITARY SEWER
- - - 8" ϕ EXISTING SANITARY SEWER
- - - PHASE LINE

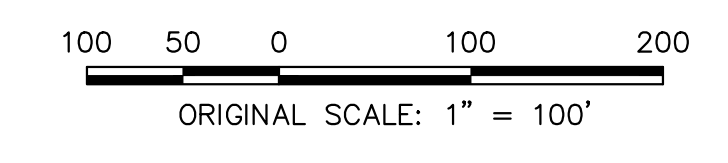
- DESIGN POINT #

- SANITARY BASIN

- INDEX CONTOUR EXISTING
- INTERMEDIATE CONTOUR PROPOSED GRADE

- 1 BEDROOM UNIT ○
- 2 BEDROOM UNIT ○
- 3 BEDROOM UNIT ○

NOTE: ALL APARTMENTS ARE 3 STORIES AND HAVE THE SAME FLOOR PLAN ON EACH FLOOR.



SANITARY UTILITY
 SOLACE APARTMENTS
 JOB NO. 2517400
 12/02/2022
 SHEET 1 OF 1



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APPENDIX D: SANITARY SEWER COLLECTION ANALYSIS

ON-SITE SANITARY SEWER LOADING SUMMARY SOLACE APARTMENTS

Sewer Run (Trunk)	Sewer Run (Branch)	Pipe Size (in)	Pipe Slope (%)	Pipe Slope (ft/ft)	Full-Pipe Capacity (cfs)	Number of Bedrooms Served in Run	Full Pipe Velocity (fps)	Total Number of Total Bedrooms Served	Load -Clubhouse and Pool	Load/Cap. (gpd)	Base Flow (gpd)	Base Flow (cfs)	Ave. Daily Flow (gpd)	Ave. Daily Flow (cfs)	Ave. Daily Flow * 1.1 (gpd)	Ave. Daily Flow * 1.1 (cfs)	Wetted Perimeter	Hydraulic Radius	Ave. Daily Flow Velocity (fps)	Peaking Factor	Peak Flow (gpd)	Peak Flow (cfs)	Depth in Pipe (ft)	Theta (radians)	Wetted Area (sf)	Wetted Perimeter	Hydraulic Radius	Peak Flow Velocity (fps)	% of Pipe Capacity
Phase 1																													
6C-5C		8	0.75	0.0075	1.24	84	3.54	162	---	65	10,530	0.0163	10,530	0.0163	11,583	0.0179	0.3833	0.0344	1.24	5.0	53,703	0.0831	0.1171	1.73	0.0412	0.5765	0.0715	2.02	6.72
5C-2A		8	0.60	0.0060	1.11	84	3.17	246	---	65	15,990	0.0247	15,990	0.0247	17,589	0.0272	0.4363	0.0437	1.30	5.0	81,549	0.1262	0.1520	1.99	0.0599	0.6638	0.0903	2.11	11.41
4B-3B		8	0.60	0.0060	1.11	132	3.17	246	---	65	15,990	0.0247	15,990	0.0247	17,589	0.0272	0.4337	0.0432	1.29	5.0	81,549	0.1262	0.1502	1.98	0.0589	0.6594	0.0893	2.09	11.41
3B-2A		8	0.50	0.0050	1.01	72	2.89	318	---	65	20,670	0.0320	20,670	0.0320	22,737	0.0352	0.4735	0.0507	1.31	5.0	105,417	0.1631	0.1794	2.18	0.0757	0.7273	0.1041	2.11	16.15
	1D-2A	8	1.75	0.0175	1.89	42	5.41	42	1500	65	4,230	0.0065	4,230	0.0065	4,653	0.0072	0.2782	0.0187	1.26	5.0	21,573	0.0334	0.0616	1.24	0.0162	0.4117	0.0393	2.06	1.77
	2A-1A	8	0.50	0.0050	1.01		2.89	606	1500	65	40,890	0.0633	40,890	0.0633	44,979	0.0696	0.5647	0.0690	1.61	5.0	208,539	0.3227	0.2577	2.68	0.1245	0.8946	0.1392	2.57	31.95
Phase 2																													
	7C-6C	8	1.50	0.0150	1.75	78	5.01	78	---	65	5,070	0.0078	5,070	0.0078	5,577	0.0086	0.2958	0.0210	1.26	5.0	25,857	0.0400	0.0696	1.32	0.0194	0.4388	0.0441	2.07	2.29

APPENDIX E: SERVICE COMMITMENT LETTER



CHEROKEE METROPOLITAN DISTRICT

6250 Palmer Park Blvd., Colorado Springs, CO 80915-2842

Telephone: (719) 597-5080 Fax: (719) 597-5145

February 12th, 2020

Mike Bramlett

JR Engineering, LLC

5475 Tech Center Drive, Suite 235

Colorado Springs, CO 80919

Sent via email: mbramlett@jrengineering.com

Original to follow by US Mail

Re: Water and Sewer Service to **Solace Apartments Phase 1**
Commitment Letter No. **2020-04**

Dear Mike Bramlett,

As requested, this document will serve as a formal Letter of Commitment from the Cherokee Metropolitan District to provide municipal water and sewer services for Solace Apartments located at the northeast corner of Powers Boulevard and Galley Road. The proposed location for this development is located within the District's established boundaries and therefore is eligible for service connections from the District.

Cherokee Metropolitan District staff, along with the developer, have determined that the following will be the total water demand required by this occupancy:

Type of Use	Demand (AF/yr)
Domestic	47.0
Irrigation	14.8
Total	61.8

This water commitment is hereby made exclusively for this specific development project at this site within the District. To confirm this commitment you must provide the District with a copy of the final plat approval from El Paso County Development Services within 12 months of the date of this letter. Otherwise, the District may use this allocation for other developments requesting a water commitment. If the subject project is re-platted, you must submit a new commitment request prior to submitting the re-plat to El Paso County, which may result in a recalculation of the water demand for the project.

If I may be of further assistance please contact me at your convenience.

Sincerely,

A handwritten signature in cursive script, appearing to read "Amy Lathen", written over a horizontal line.

Amy Lathen
General Manager

Cc: Peter Johnson; Water Counsel w/ encl: sent via email
Steve Hasbrouck; Board President w/ encl: sent via email
Kevin Brown; Jr. Engineer



CHEROKEE METROPOLITAN DISTRICT

6250 Palmer Park Blvd., Colorado Springs, CO 80915-2842

Telephone: (719) 597-5080 Fax: (719) 597-5145

August 23rd, 2022
CS Powers & Galley, LLC
510 S. Niel Street
Champaign, IL 61820

Sent via email: shane.brown@kimley-horn.com

Re: Water and Sewer Service to **Solace Apartments Phase 2**
Commitment Letter No. **2022-13**

Dear CS Powers & Galley,

As requested, this document will serve as a formal Letter of Commitment from the Cherokee Metropolitan District to provide municipal water and sewer services for Solace Apartments Phase 2 located at the northeastern corner of Powers Boulevard and Galley Road north of the Solace Apartments Phase 1. The proposed location for this development is located within the District's established boundaries and therefore is eligible for service connections from the District.

Cherokee Metropolitan District staff, along with the developer, have determined that the following will be the total water demand required by this development:

Type of Use	Demand (AF/yr)
Domestic	19.4
Irrigation	5.0
Total	24.4

Based on a conservatively low 0% consumptive use of domestic water, the development is expected to produce 17,500 gallons of wastewater per day, representing 0.7% of CMD's wastewater capacity. This usage is in line with anticipated wastewater demand for this area of the District.

This water commitment is hereby made exclusively for this specific development project at this site within the District. To confirm this commitment you must provide the District with a copy of the final plat approval from El Paso County Development Services within 12 months of the date of this letter. Otherwise, the District may use this allocation for other developments requesting a water commitment. If the subject project is re-platted, you must submit a new commitment request prior to submitting the re-plat to El Paso County, which may result in a recalculation of the water demand for the project.

If I may be of further assistance please contact me at your convenience.

Sincerely,



Amy Lathen
General Manager

Cc: Peter Johnson; Water Counsel w/ encl: sent via email
Steve Hasbrouck; Board President w/ encl: sent via email
Jeff Munger; Water Resource Engineer: sent via email
Kevin Brown; Jr. Engineer: sent via email