

April 15, 2024

Mr. Geoffrey Weathers, Planner
Town of Superior
124 E. Coal Creek Drive
Superior, Colorado 80027

**RE: Water Demand Report
Everhome Suites Superior – Development Plan**

I. INTRODUCTION, LOCATION, AND METHODOLOGY

This letter is an analysis of water and sewer demands anticipated for the development of a proposed Everhome Suites hotel. The subject property is located in the Town of Superior near the intersection of Marshall Road & McCaslin Blvd. The project lies within the NW ¼ of Section 19, Township 1 South, Range 69 West of the 6th Principal Meridian in the Town of Superior, County of Boulder, State of Colorado. The project site is defined as Lot 3B, Block 1, Superior Town Center Filing No. 1B Replat No.3. More specifically, the project is located at 3 Marshall Road per the Vicinity Map below.



VICINITY MAP

SCALE: 1"=650'



3801 E. Florida Avenue
Suite 425
Denver, CO 80210
www.ees.us.com
303-572-7997

The proposed development include the construction of a 114-room Everhome Suites extended stay hotel with outdoor amenity area and associated parking, drives, and landscaping. The proposed development will utilized existing water and sanitary sewer mainlines as outlined in the sections below.

This report includes all the base data, method, assumptions and calculations in accordance with the Superior Design Standards and Specifications for the purpose of quantifying the water demanded and sanitary sewerage anticipated to be produced at the time of this letter. Calculations have been prepared in conjunction with the concurrent Development Plan application.

II. EXISTING WATER SYSTEM & CALCULATED DEMAND

The nearest existing water main to the project site is an existing 12" PVC water main located within an utility easement west of the project site on the east side of the neighboring Lot 3A, Block 1 Superior Town Center Filing No. 1B Replat No. 3. A 12" PVC stub is provided to the hotel project site near the southwest corner of the site within the shared access drive. This stub will be utilized for connection of services and fire protection associated with the Everhome Suites Development.

There is also an existing 8" PVC raw water main located parallel to 12" potable line within the neighboring Lot 3A development. An 8" PVC raw water stub is provided to the hotel project site near the southwest corner of the site within the shared access drive. This stub will be utilized for connection of irrigation service associated with the Everhome Suites Development.

The proposed project is proposing a 114-room extended stay hotel with an amenity area and associated parking, drives and landscaping. Based on building plumbing design and fixture calculation (see attached calculations in appendix of this report) the domestic fixed demand is **137 GPM** which required a **2" tap and meter**. The hotel will also be fire sprinklered utilizing a proposed 6" fire service line connection to the building.

III. EXISTING SANITARY SEWER SYSTEM & CALCULATED DEMAND

The nearest existing sanitary sewer main is located along the eastern property line of the hotel site within an existing 30' sanitary sewer easement. The existing main flows from northwest to southeast and is an existing 14" PVC main.

The proposed project is proposing a 114-room extended stay hotel with an amenity area and associated parking, drives and landscaping. The Maximum Day Demand for the sanitary sewer for this site was estimated based on the Town of Superior Design Standards and Specification Section 500 – Sanitary Sewer Facilities. While the hotel is a commercial use, the extended stay hotel functions more as a residential use based on the number of units within the hotel. Based on the design standards it is estimated that the Maximum Day Demand would be **0.06 MGD**. The proposed development will utilize a proposed 6" PVC sanitary service that will connect to the



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existing main on the east side of the site. There is not a restaurant/kitchen element to this hotel and therefore no proposed grease interceptor required as part of this development.

Please contact us with any questions during the review process.

Respectfully,
Entitlement & Engineering Solutions, Inc.

Krysta Houtchens, PE
Associate/Sector Lead



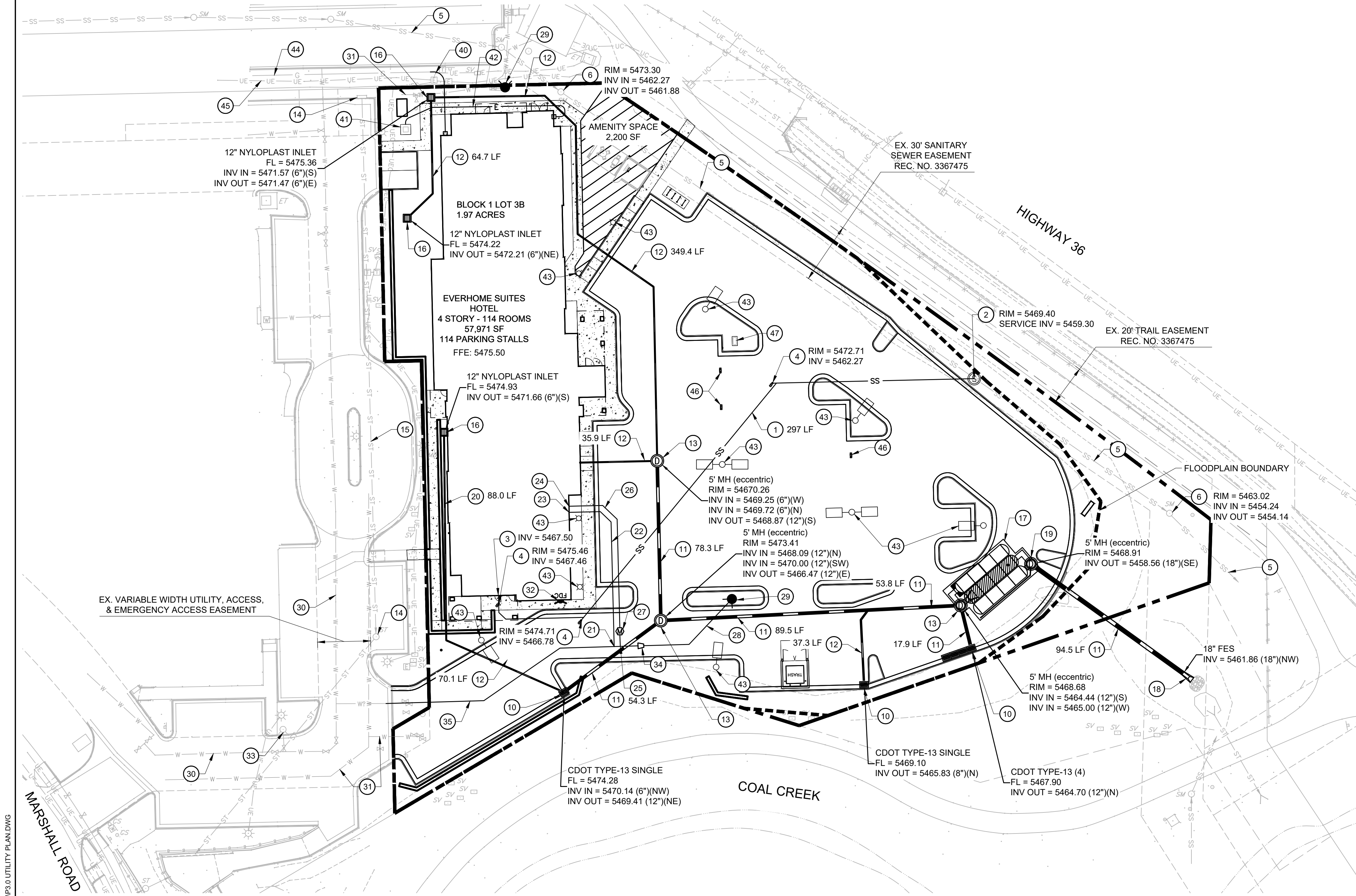
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EXHIBIT A – UTILITY MAP

SUPERIOR TOWN CENTER FINAL DEVELOPMENT PLAN FOR EVERHOME SUITES - SUPERIOR AT McCASLIN & MARSHALL ROAD

LEGAL DESCRIPTION:

LOT 3B, BLOCK 1, SUPERIOR TOWN CENTER FILING NO. 1B REPLAT NO. 3, ACCORDING TO THE PLAT THEREOF RECORDED DECEMBER 1, 2016 UNDER RECEPTION NO. 03560623, COUNTY OF BOULDER, STATE OF COLORADO



UTILITY SCHEDULE

SANITARY

- 1 PROPOSED 6" SANITARY SERVICE @ 2% MINIMUM SLOPE.
- 2 PROPOSED SANITARY SEWER MANHOLE AT SERVICE CONNECTION TO EXISTING SEWER.
- 3 PROPOSED 6" SANITARY SERVICE CONNECTION TO BUILDING.
- 4 PROPOSED SANITARY CLEANOUT.
- 5 EXISTING 15" PVC SANITARY SEWER MAIN.
- 6 EXISTING SANITARY SEWER MANHOLE.

STORMWATER

- 10 PROPOSED TYPE 13 COMBO INLET.
- 11 PROPOSED 12"-18" RCP STORM SEWER PIPE.
- 12 PROPOSED 6" PVC STORM SEWER PIPE.
- 13 PROPOSED 5' STORM MANHOLE.
- 14 EXISTING STORM SEWER INFRASTRUCTURE.
- 15 EXISTING STORM SEWER PIPE.
- 16 PROPOSED 12" NYLOPLAST AREA INLET.
- 17 PROPOSED ADS STORMWATER TREATMENT SYSTEM.
- 18 PROPOSED 18" FLARED END SECTION.
- 19 PROPOSED OUTLET CONTROL STRUCTURE.
- 20 PROPOSED DURASLOT SLOTTED DRAIN.

WATER

- 21 PROPOSED 6" FIRE LINE CONNECTION TO 12" PVC WATER LINE.
- 22 PROPOSED 6" FIRE LINE SERVICE.
- 23 PROPOSED 6" FIRE LINE CONNECTION TO BUILDING. BACKFLOW PREVENTOR LOCATED INSIDE THE BUILDING.
- 24 PROPOSED 2" DOMESTIC CONNECTION TO BUILDING. BACKFLOW PREVENTOR LOCATED INSIDE THE BUILDING.
- 25 PROPOSED 2" DOMESTIC CONNECTION TO 12" PVC WATER LINE.
- 26 PROPOSED 2" DOMESTIC SERVICE.
- 27 PROPOSED 2" DOMESTIC WATER METER.
- 28 PROPOSED 6" FIRE HYDRANT LINE.
- 29 PROPOSED FIRE HYDRANT.
- 30 EXISTING WATER MAIN.
- 31 EXISTING IRRIGATION MAIN.
- 32 PROPOSED FDC LOCATION.
- 33 EXISTING FIRE HYDRANT.
- 34 PROPOSED 12"x6" REDUCER.
- 35 PROPOSED 12" PVC WATER LINE EXTENSION.

DRY UTILITIES

- 40 PROPOSED GAS SERVICE. CONTRACTOR TO COORDINATE WITH XCEL ENERGY TO CONFIRM EXISTING GAS MAIN LOCATION.
- 41 PROPOSED TRANSFORMER LOCATION - GENERAL CONTRACTOR TO FINALIZE LOCATION WITH UTILITY PROVIDER.
- 42 PROPOSED ELECTRIC SERVICE.
- 43 PROPOSED SITE LIGHTING (REFER TO PHOTOMETRIC PLANS FOR FINAL LOCATION).
- 44 EXISTING GAS MAIN.
- 45 EXISTING UNDERGROUND ELECTRIC.
- 46 PROPOSED EV CHARGING PEDESTAL.
- 47 PROPOSED EV CHARGING TRANSFORMER AND PANELS.

UTILITY NOTES:

1. ALL ITEMS IN SCHEDULE ARE PROPOSED UNLESS OTHERWISE NOTED.
2. ALL EXISTING ITEMS IN SCHEDULE ARE TO REMAIN UNLESS OTHERWISE NOTED.

TOWN OF SUPERIOR UTILITY MAINTENANCE STATEMENT

ALL PUBLIC WATER, REUSE WATER, STORM SEWER, AND SANITARY SEWER MAINS AND APPURTENANCES LOCATED IN PUBLIC ROW SHALL BE MAINTAINED BY THE TOWN'S PUBLIC WORKS AND UTILITIES DEPARTMENT. ALL PUBLIC WATER, REUSE WATER, STORM SEWER, SANITARY SEWER MAINS, AND APPURTENANCES UNDER PRIVATE DRIVES ARE LOCATED IN UTILITY EASEMENTS. THE TOWN IS RESPONSIBLE FOR MAINTENANCE OF THESE FACILITIES. THE TOWN IS NOT RESPONSIBLE FOR REPAIR OR REPLACEMENT OF PRIVATE DRIVE, CURB AND GUTTER, OR LANDSCAPING DAMAGED DURING UTILITY REPAIR OR MAINTENANCE.

LEGEND

- PROPOSED EASEMENT
- PROPERTY LINE
- PROPOSED BUILDING
- EXISTING CURB AND GUTTER
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- PROPOSED GAS LINE
- PROPOSED UNDERGROUND ELECTRIC LINE
- PROPOSED WATER LINE
- PROPOSED WATER METER
- PROPOSED FIRE DEPARTMENT CONNECTION
- PROPOSED FIRE HYDRANT
- FLOODPLAIN LIMIT
- PROPOSED STORM MANHOLES
- EXISTING STORM MANHOLES
- PROPOSED STORM INLET
- PROPOSED CLEANOUT

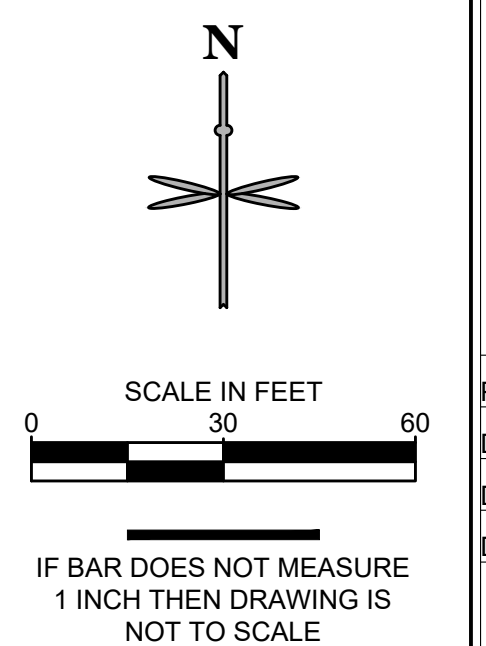
PROJECT BENCHMARK

ELEVATIONS ARE BASED UPON A POST-PROCESSED STATIC GNSS CONNECTION MADE TO NGS BENCH MARK W 413 (PID KK1549) UTILIZING GEOID12B TO MODEL THE ELLIPSOID SEPARATION. ELEVATION 5459.62 (NAVD 88).

811 CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987 or 811

CALL 3-BUSINESS DAYS (NOT INCLUDING INITIAL DAY OF CONTACT) IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

Know what's below. Call before you dig.



DATE	BY	REVISION

PRELIMINARY NOT FOR CONSTRUCTION

EES ENTITLEMENT AND ENGINEERING SOLUTIONS, INC.
3801 E. Florida Avenue, Suite 425
Denver, CO 80210
303-572-7997 www.ees.us.com

FINAL DEVELOPMENT PLAN
EVERHOME SUITES - SUPERIOR
McCASLIN & MARSHALL RD, SUPERIOR, CO
UTILITY PLAN

PROJECT NO: KTD005.01
DESIGNED BY: AMG
DRAWN BY: AMG
DATE: 4/19/24
P3.0



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EXHIBIT B – WATER AND SEWER DEMAND CALCULATIONS

Water Meter Sizing per AWWA M22, Third Edition

Project: Everhome Suites

Address: _____

City: Superior _____ State: CO Zip Code: _____

Type of Occupancy Extended Stay Hotel

Fixture	Fixture Value 60 psi		No. of Fixtures		Fixture Value
Bathtub	8	X	41	=	328
Bedpan Washers	10	X		=	0
Bidet	2	X		=	0
Dental Unit	2	X		=	0
Drinking Fountain – Public	2	X	2	=	4
Kitchen Sink	1.8	X	115	=	207.0
Lavatory	1.5	X	116	=	174.0
Showerhead (Shower Only)	2.5	X	73	=	182.5
Service Sink	4	X	2	=	8
Toilet – Flush Valve	35	X		=	0
– Tank Type	6	X	116	=	696
Urinal – Pedestal Flush Valve	35	X		=	0
– Wall Flush Valve	16	X		=	0
Wash Sink (Each Set of Faucets)	4	X		=	0
Dishwasher	2	X		=	0
Washing Machine	6	X	6	=	36
Hose (50 ft. Wash Down) – 1/2 in.	5	X	4	=	20
– 5/8 in.	9	X		=	0
– 3/4 in. Commercial CIWsh	12	X	4	=	48
Combined Fixture Total					1,691.5

Water-flow Demand per Fixture Value from Figure 4-2 or 4-3 x Pressure Adjustment Factor = 137.0 gpm
 (For Residual Pressures at Fixture Outlet from 60-80 psi, Pressure Adjustment Factor is 1.00 per Table 4-3)

TOTAL FIXED DEMAND = 137 gpm

Meter size chosen = 2.0 in
 Turbine Class II meter per Table 6-1

Sanitary Sewer - Required Sewer Capacity

Project: Everhome Suites - Superior

Section: n/a

Proposed Development

Overall Site Area = A = 1.97 Acres
Residential(Hotel) = 114.0 Units

Average Flow

Residential (hotel)

Flow Factor = 100 Gallons per capita per day
Average Flow = (100 GPD)*(114 Units) = **11,400 GPD**

Total Average Daily Demand= Q_A = 11,400 GPD

Peak Factor

Peak Factor = PF = $3.8/(AADF)^{0.17} = 3.8/(11,400/1,000,000)^{0.17} = 5.497$ Use maximum of 5

Maximum Day Demand with Peak Factor

Total Average Daily Demand = 11,400 GPD = 0.0114 MGD
Maximum Day Demand = $0.0114 * 5 = 0.057$ MGD

Maximum Day Demand = 0.06 MGD