

Appendix K
Sewer Study

SEWER STUDY

FOR

BREEZE LUXURY TOWNHOMES
CITY OF OCEANSIDE
D16-00016
T18-00009

Prepared for:

Oceanside-Nevada, LP
P.O. Box 531
Rancho Santa Fe, CA 92067

Prepared by:

bha, Inc
land planning, civil engineering, surveying
5115 Avenida Encinas, Suite L
Carlsbad, CA 92008-4387
(760) 931-8700

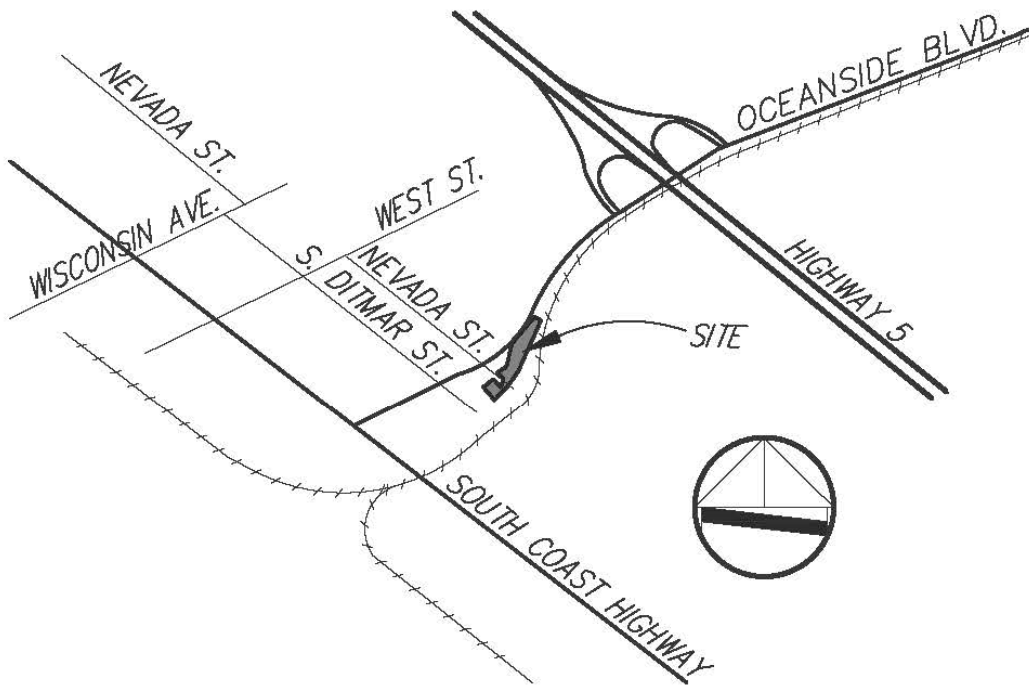
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CHAPTER 1
DISCUSSION



VICINITY MAP

NO SCALE

PURPOSE AND SCOPE

The purpose of this report is to publish the results of the analysis of existing sewer facilities downstream of the proposed Breeze Luxury Townhomes project, located in the City of Oceanside. The project proposes the development of 34 townhomes along a private road with associated improvements. The scope of this study is to analyze the existing and proposed sewer facilities in the vicinity during peak daily flows.

PROJECT DESCRIPTION

The Breeze Luxury Apartments project is located on the north and south sides of the cul-de-sac at the southeast end of Nevada Street. The site is currently vacant. The property is zoned for medium density residential (R-3). The total proposed project site consists of approximately 2.66 acres. Currently there is an existing sewer system at the southerly boundary of the project underneath Ditmar Street and Godfrey Street.

The existing sewer analyzed in this report runs from the southerly project boundary of Breeze Luxury Townhomes, underneath Godfrey Street and to the street intersection of Oceanside Boulevard and South Coast Highway. The sewer infrastructure information and existing peak flows were provided to BHA Inc. by the City of Oceanside Water Utilities Department from the City of Oceanside Wastewater Master Plan. Approximately 1,100 feet of sewer main is analyzed from the street intersection of Ditmar Street and Godfrey Street to the street intersection of Oceanside Boulevard and South Coast Highway. The existing sewer main consists of 8-inch VCP and 8-inch PVC pipe.

STUDY METHOD

The method of analysis was based on the Sewer System Design Guidelines of the *City of Oceanside Water, Sewer, and Reclaimed Water Design & Construction Manual*. The requirements for water, sewer and reclaimed water in the *City of Oceanside Engineer's Design and Processing Manual* are now superseded and void. The Manning Equation was used to calculate the normal depth in the sewer main. The following criteria were used to analyze the existing sewer facilities.

- A. The Manning's roughness coefficient of $n=0.013$ will be used for PVC & VCP pipe.
- B. The ratio of normal depth to diameter of sewer main (D_n/D) shall not exceed $\frac{1}{2}$ the diameter for a 10-inch main or smaller.
- C. The peak daily flow for residential developments shall be based on a ratio of peak to average flow. For the nature of this study, all residential developments are assumed with a population less than 500. Therefore the ratio of peak to average flow is 3.5 per the Sewer System Design Guidelines (see References).

D. Peak daily flows for all other uses shall be based using the following formula:

$$Q_p = 1.84Q_a^{0.92}$$

Where Q_p = Peak Flow (cfs)

Q_a = Average Flow (cfs)

E. Wastewater entering the sewer system from individual lots confluence with the main sewer flow at the nearest downstream manhole.

The Offsite Sewer Exhibit shows the offsite areas, existing sewer system, and nodal points. See summary of downstream sewer analysis in Chapter 3 of this report for minimum ratio of normal depth to diameter of sewer main and slopes.

CONCLUSIONS

The table below summarizes the percent increase in peak flow at the existing sewer main.

TABLE 1 — Summary of Results

Change in Peak Flow		
Total effluent from project site (cfs)	Total effluent in sewer main at MH 6 (cfs)	Percent Increase
0.0360	0.0790	46%

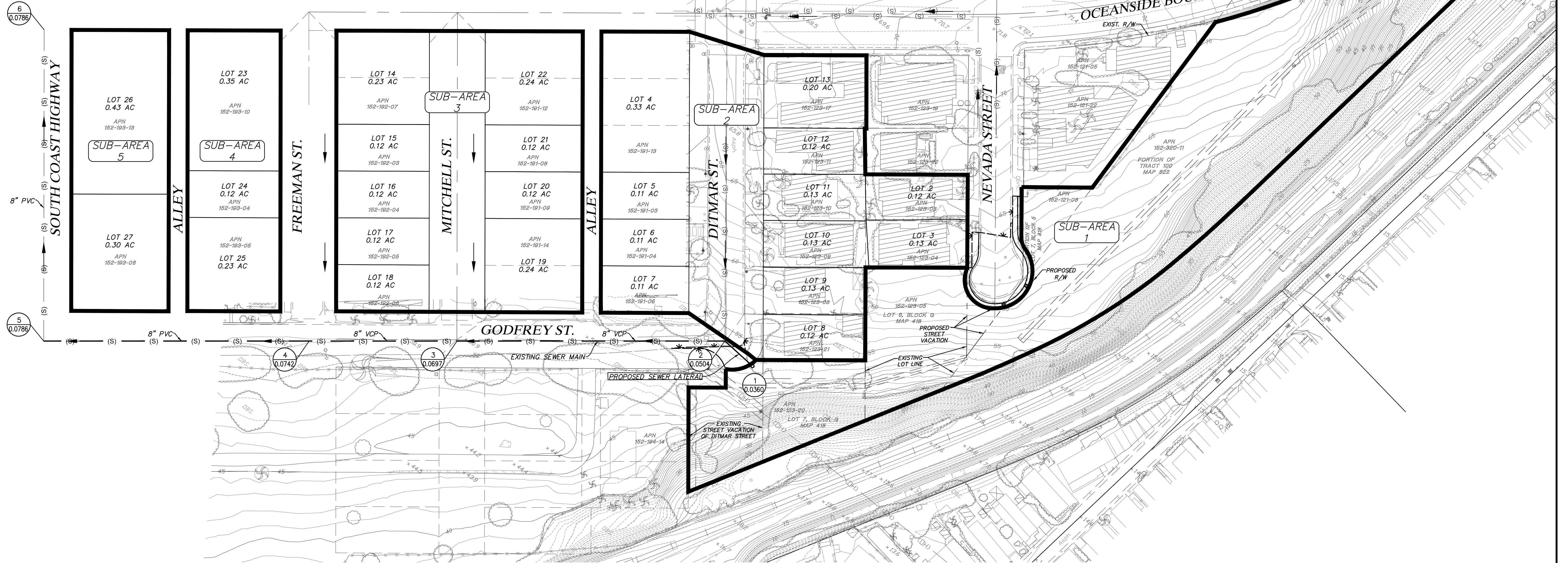
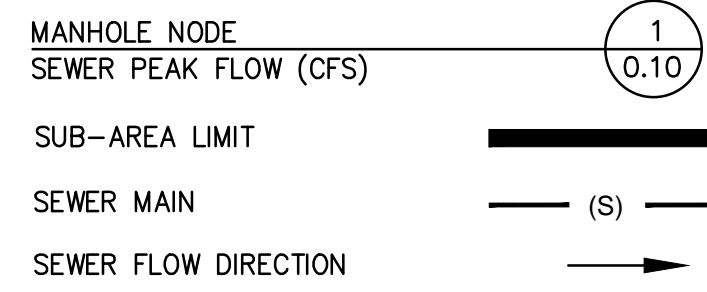
As shown in the table above, the development of the Breeze Luxury Apartments will account for 46% of the total effluent in the existing sewer main at Manhole 6.

Peak flow rates listed above were generated based on criteria set forth in the *City of Oceanside Water, Sewer, and Reclaimed Water Design & Construction Manual* (methodology presented in Chapter 4 of this report). Manning's equation output is located in Chapter 3. The hydraulic calculations show that the existing sewer facilities can sufficiently convey the anticipated peak flows without any adverse effects. The existing sewer main has a D_n/D ratio less than 0.50. Based on this conclusion, runoff released from the proposed project site will be unlikely to cause any adverse impact to downstream sewer system.

CHAPTER 2
OFFSITE SEWER EXHIBIT

OFFSITE SEWER STUDY BREEZE (LUXURY TOWNHOMES) OCEANSIDE P 16-0000 & T 18-0009

LEGEND

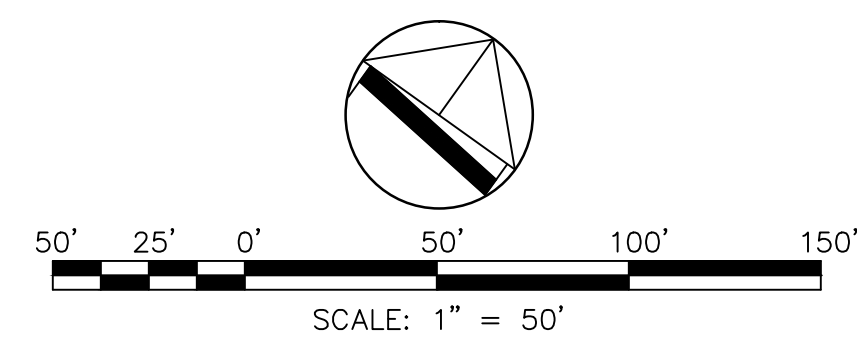


EXISTING PIPE DEPTH AND VELOCITY CALCULATIONS

FROM MH NODE	TO MH NODE	EX. PEAK FLOW (CFS)	PIPE DIA. (IN)	PIPE MATERIAL	MANNING'S "N"	SLOPE (%)	VELOCITY (FPS)	DEPTH NORMAL D _N (IN)	D _N /D
1	2	0.0000	8	PVC	0.013	1.60	-	-	-
2	3	0.0143	8	VCP	0.013	0.44	0.88	0.75	0.093
3	4	0.0337	8	VCP	0.013	0.44	1.14	1.12	0.140
4	5	0.0381	8	PVC	0.013	0.44	1.18	1.19	0.148
5	6	0.0426	8	PVC	0.013	0.40	1.18	1.28	0.160

PROPOSED PIPE DEPTH AND VELOCITY CALCULATIONS

FROM MH NODE	TO MH NODE	PROP. PEAK FLOW (CFS)	PIPE DIA. (IN)	PIPE MATERIAL	MANNING'S "N"	SLOPE (%)	VELOCITY (FPS)	DEPTH NORMAL D _N (IN)	D _N /D
1	2	0.0360	8	PVC	0.013	1.60	1.82	0.85	0.106
2	3	0.0504	8	VCP	0.013	0.44	1.28	1.36	0.170
3	4	0.0697	8	VCP	0.013	0.44	1.41	1.59	0.199
4	5	0.0742	8	PVC	0.013	0.44	1.44	1.64	0.206
5	6	0.0786	8	PVC	0.013	0.40	1.41	1.73	0.217



bHA, Inc.
land planning, civil engineering, surveying
5115 AVENIDA ENCINAS
SUITE "L"
CARLSBAD, CA. 92008-4387
(760) 931-8700

OFFSITE SEWER STUDY
BREEZE
(LUXURY TOWNHOMES)

CITY OF OCEANSIDE, CALIFORNIA

SHEET 1 OF 1

CHAPTER 3

CALCULATIONS

Downstream Sewer System Analysis for Breeze Luxury Apartments

Downstream Sewer System Analysis for Breeze Luxury Townhomes

KEY ASSUMPTIONS

- 1.) Multi-family developments in R-3 Zone areas are assumed to have a base density allowance of 29 dwelling units per acre.
- 2.) Single-family developments in R-3 Zone areas are calculated based on current dwelling units on site.

Average Daily Sewer Generation Rates:

LAND USE CATEGORY	GALLONS PER DAY/PER ACRE
Single Family Res. (1-2 DU/ac)	500
Single Family Res. (2-4 DU/ac)	700
Single Family Res. (4-8 DU/ac)	1,500
Single Family Res. (8-12 DU/ac)	1,800
Single Family Res. (12-15 DU/ac)	2,100
Single Family Res. (15-20 DU/ac)	2,500
Single Family Res. (20-30 DU/ac)	4,000
Industrial Acres	900
Commercial Acres	1,500
Institutional Acres	800

Peak Daily Flow for Residential Developments:

<u>Population</u>	<u>Ratio of Peak to Average Flow</u>
Less than 500	3.5

Peak Daily Flow for All Other Uses:

$$Q_p = 1.84Q_a^{0.92}$$

Where Q_p = Peak Flow (cfs)

Q_a = Average Flow (cfs)

PEAK FLOW CALCULATIONS

Sub-Area 1					
Lot	Area (ac)	Single/Multi/Comm	GPD/Ac	Avg Daily Flow (cfs)	Peak Flow (cfs)
1	2.66	Multi	2,500	0.01029	0.03601
Totals	2.66			0.01029	0.03601

Sub-Area 2					
Lot	Area (ac)	Single/Multi/Comm	GPD/Ac	Avg Daily Flow (cfs)	Peak Flow (cfs)
2	0.12	Multi	4,000	0.00074	0.00260
3	0.13	Multi	4,000	0.00080	0.00282
4	0.33	Comm	1,500	0.00077	0.00202
5	0.11	Single	500	0.00009	0.00030
6	0.11	Single	500	0.00009	0.00030
7	0.11	Single	500	0.00009	0.00030
8	0.12	Single	500	0.00009	0.00032
9	0.13	Single	500	0.00010	0.00035
10	0.13	Single	500	0.00010	0.00035
11	0.13	Single	500	0.00010	0.00035
12	0.12	Single	500	0.00009	0.00032
13	0.20	Multi	4,000	0.00124	0.00433
Totals	1.74			0.00429	0.01436

Sub-Area 3					
Lot	Area (ac)	Single/Multi/Comm	GPD/Ac	Avg Daily Flow (cfs)	Peak Flow (cfs)
14	0.23	Comm	1,500	0.00053	0.00143
15	0.12	Multi	4,000	0.00074	0.00260
16	0.12	Multi	4,000	0.00074	0.00260
17	0.12	Multi	4,000	0.00074	0.00260
18	0.12	Multi	4,000	0.00074	0.00260
19	0.24	Multi	4,000	0.00149	0.00520
20	0.12	Single	500	0.00009	0.00032
21	0.12	Single	700	0.00013	0.00045
22	0.24	Comm	1,500	0.00056	0.00149
Totals	1.43			0.00577	0.01930

Sub-Area 4					
23	0.35	Comm	1,500	0.00081	0.00213
24	0.12	Single	700	0.00013	0.00045
25	0.23	Multi	1,500	0.00053	0.00187
Totals	0.70			0.00148	0.00446

Sub-Area 5					
Lot	Area (ac)	Single/Multi/Comm	GPD/Ac	Avg Daily Flow (cfs)	Peak Flow (cfs)
26	0.43	Comm	1,500	0.00100	0.00259
27	0.30	Comm	1,500	0.00070	0.00184
Totals	0.73			0.00169	0.00444

Sewer Atlas Map No. F25

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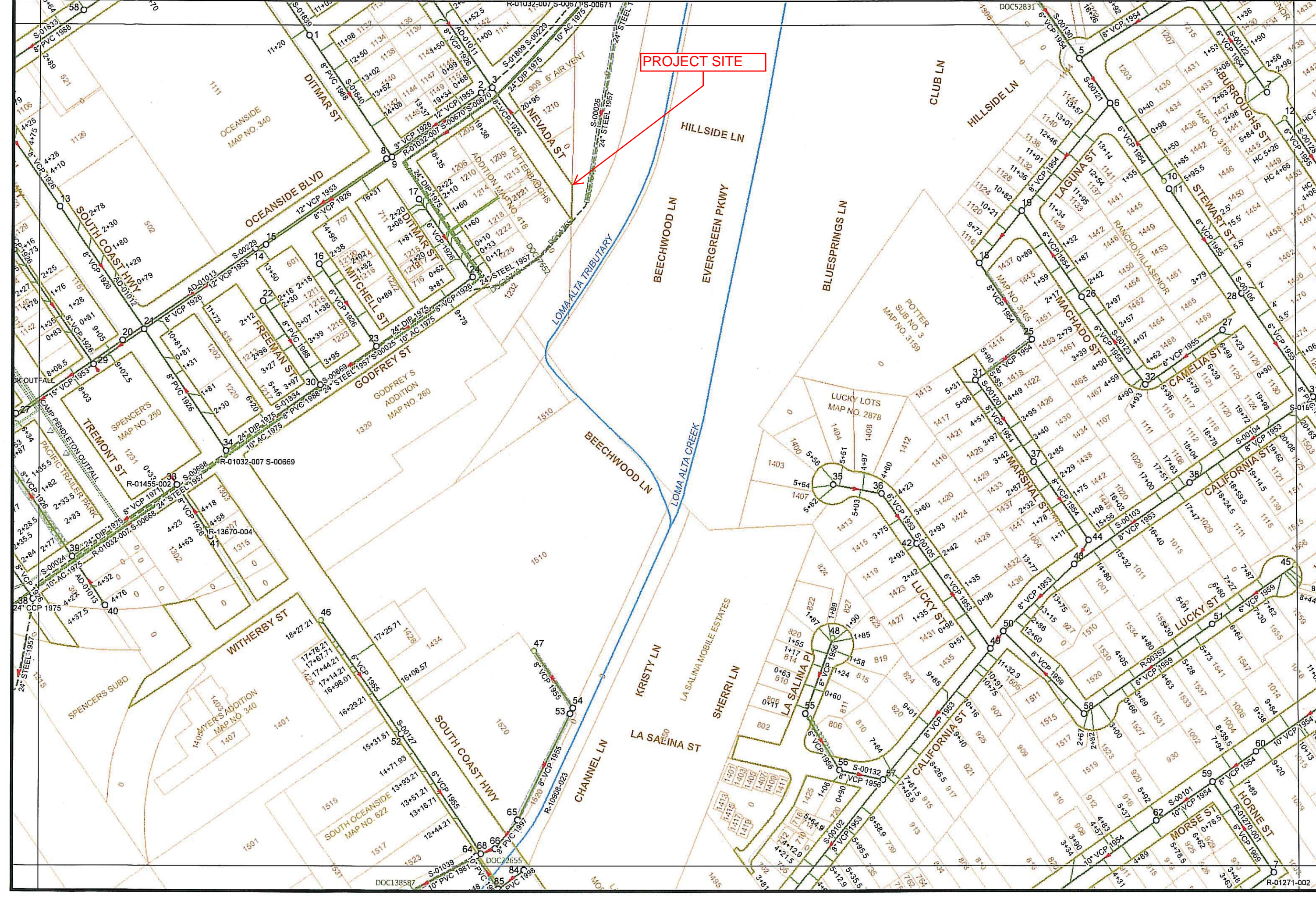
E24	F24	G24
E25	F25	G25
E26	F26	G26



1" = 200'

F25

PROJECT SITE



DOC138587

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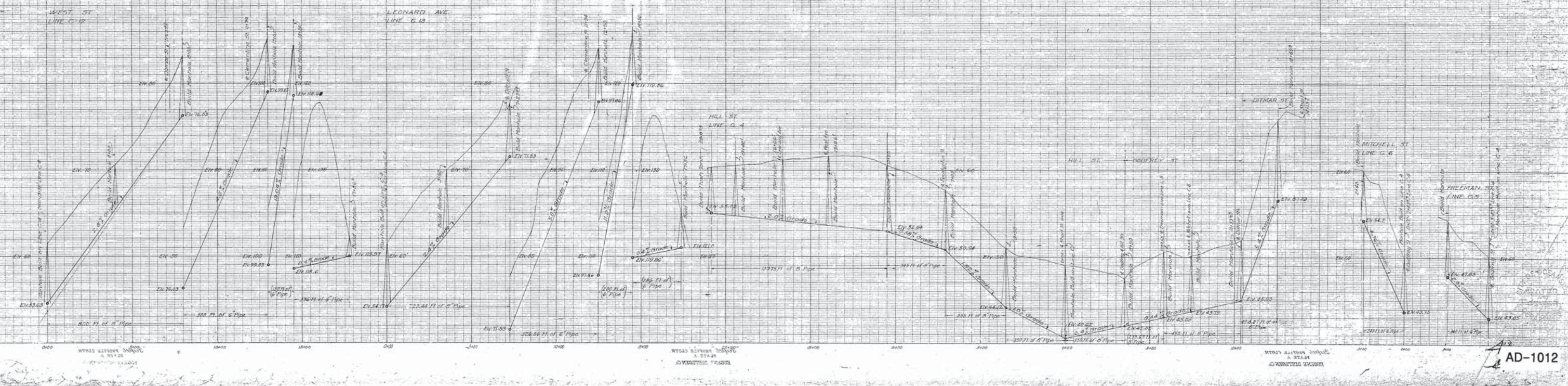
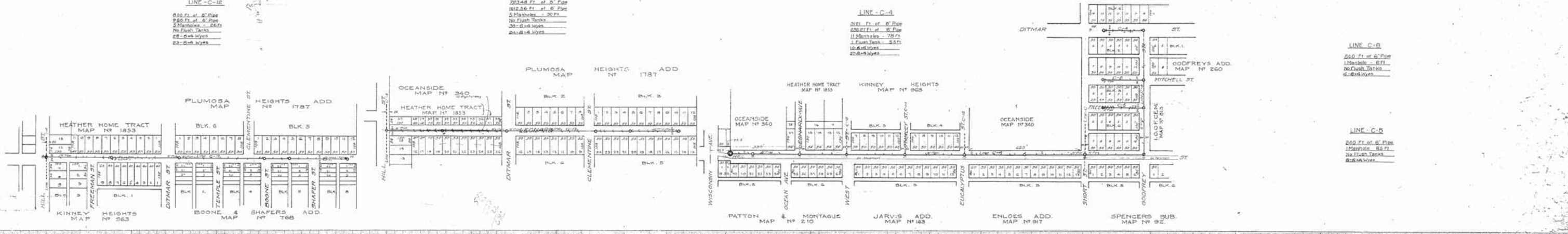
LINE C-12
 800 Ft. of 6" Pipe
 980 Ft. of 8" Pipe
 2 Manholes - 6 Ft.
 No Flush Tanks
 68-0.45 Wye
 63-0.45 Wye

LINE C-13
 723.88 Ft. of 6" Pipe
 102.56 Ft. of 8" Pipe
 5 Manholes - 6 Ft.
 No Flush Tanks
 30-0.45 Wye
 24-0.45 Wye

LINE C-4
 2161 Ft. of 6" Pipe
 650.27 Ft. of 8" Pipe
 11 Manholes - 6 Ft.
 1 Flush Tank - 5.5 Ft.
 10-0.45 Wye
 22-0.45 Wye

LINE C-5
 240 Ft. of 6" Pipe
 1 Manhole - 6 Ft.
 No Flush Tanks
 2-0.45 Wye

LINE C-6
 240 Ft. of 6" Pipe
 1 Manhole - 6 Ft.
 No Flush Tanks
 2-0.45 Wye



CITY OF OCEANSIDE

WATER UTILITIES DEPARTMENT

WATER, SEWER, AND RECLAIMED WATER DESIGN & CONSTRUCTION MANUAL

SECTION 3

SEWER SYSTEMS DESIGN GUIDELINES

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SECTION 3 - SEWER SYSTEMS DESIGN GUIDELINES

3.1 GENERAL

A. All sewer system construction shall conform to the most recent edition of the City of Oceanside's Water, Sewer, and Reclaimed Water Design & Construction Manual. If the standard that is sought does not appear in this Manual, then the following standards shall be utilized in the order listed:

1. State of California Department of Health Services
2. American Water Works Association (AWWA) Standards
3. San Diego County Regional Standard Drawings
4. Standard Specifications for Public Works Construction (SSPWC or "Greenbook"), latest Edition.

Exceptions to this and all other guidelines appearing in this manual may be allowed only upon the approval of the Water Utilities Director.

B. The sewer facilities listed below will require telemetry and control equipment to be incorporated into the design of the facility. The Water Utilities Department will provide specific design requirements when improvement plans are submitted for Plan Check.

1. Treatment Facilities
2. Sewer Lift Stations and force mains
3. Metering Stations

3.2 MAINS

A. Minimum size shall be 8 inches.

B. All mains not meeting the minimum main diameter shall be upsized to meet current design requirements.

C. Slip-lining or replacement of sewer mains 8-inch or larger may be required if the main is determined to be in poor condition per CCTV report.

D. For diameters 10 inches and smaller, maximum depth of flow shall not exceed $\frac{1}{2}$ the diameter. For diameters 12 inches and larger, depth of flow shall not exceed $\frac{2}{3}$ the diameter.

E. No vertical or horizontal curves shall be permitted, unless otherwise approved by the Water Utilities Director.

- F. The maximum slope of sewer line shall be 14% unless otherwise approved by the Water Utilities Director.
- G. If the main and/or lateral is at a depth of 20 feet or more than the type of pipe material must be approved by the Water Utilities Department. Calculations must be provided to the Water Utilities Department to verify that the pipe material will accommodate the design depths.

H. Locations:

1. Alley: Mains shall be offset a minimum of 3 feet from the centerline to clear alley gutter. Separation from waterlines shall be per Oceanside Standard Drawing S-1 and S-1a.
2. Street: Sewer main locations shall be located in center of the street. A minimum 10-foot separation outside of pipe to outside of pipe from waterlines shall be maintained.
3. Streets with 84 feet of right-of-way or more may require special location as approved by the Water Utilities Director.
4. Minimum cover for sewer mains shall be 6 feet below the finished grade, unless otherwise approved by the Water Utilities Director.

I. Minimum Slopes:

A minimum velocity of 2 FPS shall be maintained at peak flow. Where 2 FPS is not attainable, a minimum slope of 1.6% shall be used. When velocities are 2.0 FPS or greater the following design criteria will govern:

<u>Pipe Diameter</u>	<u>Minimum Slope</u>
8 Inch	0.50%
10 Inch and larger	0.40%

J. Demands:

1. Average daily sewer generation rates shall be:

LAND USE CATEGORY	GALLONS PER DAY/PER ACRE
Single Family Res. (1-2 DU/ac)	500
Single Family Res. (2-4 DU/ac)	700
Single Family Res. (4-8 DU/ac)	1,500
Single Family Res. (8-12 DU/ac)	1,800
Single Family Res. (12-15 DU/ac)	2,100
Single Family Res. (15-20 DU/ac)	2,500
Single Family Res. (20-30 DU/ac)	4,000
Industrial Acres	900
Commercial Acres	1,500
Institutional Acres	800

2. Peak daily flows for residential developments, shall be based on a ratio of peak to average flow as shown below:

<u>Population</u>	<u>Ratio of Peak to Average Flow</u>
Less than 500	3.5
500 to 1,000	2.75
1,000 to 5,000	2.50
Greater than 5,000	2.00

3. Peak daily flows for all other uses shall be based on the following formula:

$$Q_p = 1.84 Q_a^{.92}$$

Where Q_p = Peak Flow in CFS
 Q_a = Average Flow in CFS

- I. Residential area easements shall be constructed by the developer. They shall be fenced on both sides parallel to the easement with a gate at the entrance and the exit. Easements shall be dedicated to the City and maintained by Property Owner with a lock feature.
- J. All sewer mains not located within the public right-of-way shall be provided with a minimum 20-foot wide sewer easement. In some special cases, a wider easement may be required; the Water Utilities Director shall determine size. All easements shall be easily accessible to City maintenance equipment with all weather roadways. An access road will be built for trucks and as approved by the Water Utilities Department.
- K. Where water and sewer mains are located within the same easement, the minimum easement size shall be 30 feet wide. All easements shall be easily accessible to the City's maintenance equipment with all-weather access roadways. No trees or structures or building overhang are allowed within the City easements. When easements are located on private properties, the property owner shall keep the easement free and clear of weeds and debris.
- L. 3-inch minimum width color coded detector tape marked "SEWER" in 1-1/2 inch black letters shall be placed on the compacted and graded bedding material one foot above and centered over the sewer main prior to backfilling the trench.

3.3 MANHOLES

- A. Minimum pipe inlet—to—outlet invert elevation drop through manholes shall be 0.20 feet.
- B. Manholes shall be required:
 1. At all changes of slope.
 2. At all changes of direction.
 3. At all intersections of mains – match soffits
 4. At all ends of lines and beginning of lines.

5. At locations of connections 6-inches or larger
 6. Changes in pipe size and/or material
- C. Prohibited locations for Manholes.
Manholes shall not be placed in the following locations:
1. Inaccessible locations
 2. Gutters and other depressions
 3. In sidewalks, crosswalks, or pedestrian ramps
 4. In driveways
 5. In freeway ramps or lanes
 6. Between railroad tracks (within a railroad right-of-way the manhole shall be located a minimum of fifteen feet from the track bed and in accordance with the jurisdictional authority)
 7. Within fifteen feet of any structure
 8. Within any area subject to flooding
- D. All manholes shall be numbered and stationed on the improvement plans, and on the sewer table calculations.
- E. Manhole spacing shall be a maximum of 300 feet, or as approved by the Water Utilities Director.
- F. Drop manholes will be evaluated on a case by case basis by the Water Utilities Director. If there are other alignments and/or methods that would be used to eliminate the use of drop manholes these will be used in lieu of drop manholes.
- G. When changes in grade of the inlet and outlet pipes are greater than 10 percent of the potential for a hydraulic jump exists, the grade change will be made in a smooth vertical curve, upstream of the manhole, with the manhole located 25 feet downstream of the lower end of the vertical curve. Each hydraulic jump will be carefully evaluated by the Water Utilities Director prior to approval.
- H. Large Diameter Manholes. For sewer mains greater than 36 inches in diameter, special design and structural details for the manholes or vaults shall be shown on the plans. Vaults shall require a minimum of two access manholes.
- I. Deep Manholes. For manholes that exceed 25 feet in depth, vaults shall be provided with a minimum of two access manholes for each vault. Structural calculations (signed by a structural engineer) shall be provided to verify that the structure is designed to accommodate the design depths.

- J. Inspections of Existing Manholes. The removal of existing City manhole covers is not permitted under any circumstance. If access to any City manhole is required for design or construction purposes, then Water Utilities should be contacted at 760-435-5800.
- K. For all commercial and industrial uses, an inspection manhole on the lateral is required, per Oceanside Standard Drawing S-7, and located immediately behind the property line. For residential uses, a clean out shall be provided within 2 feet behind of the property line.

3.4 LATERALS

- A. Size - Minimum 4 inches, per Oceanside Standard Drawing S-3.
- B. Sewer laterals 6 inches and larger shall be connected to an existing manhole or a new manhole shall be constructed.
- C. All sewer laterals are private.
- D. All un-used sewer laterals shall be properly abandoned at the main.
- E. An inspection manhole shall be provided behind the property line for all commercial and industrial projects per City of Oceanside Standard Drawing S-7.
- F. All laterals are to be shown on improvement plans by stationing or a lateral table. On "As-Built" plans all laterals shall be shown in plan view to scale and dimensioned from the nearest sewer manhole.
- G. Locations:
 - 1. Right angle or radial to street right-of-way.
 - 2. Standard is from the center of lot to 5 feet above downstream lot line (shown on "As-Built" plans).
 - 3. Service shall not be located in the driveway.
 - 4. An "S" shall be stamped on the curb face directly above the lateral location.
 - 5. Separation between sewer and water laterals shall be per Oceanside Standard Drawings S-1 and S-1a.
 - 6. Sewer laterals shall be at right angles to the sewer main, except in a cul-de-sac.
- F. Cover: 5 feet minimum at property line.

- G. Any lot with a finish pad elevation lower than the top of the finish street grade where the sewer main is located and services this lot, must install a sewer Backwater Valve equal to that shown in Oceanside Standard Drawing S-4, on private property. The valve must be installed in a valve box for easy access and be visible from the public right-of-way. The property owner shall be responsible for the installation and maintenance of the sewer Backwater Valve. The Backwater Valve shall be shown on the precise grading and improvement plans.
- H. Each parcel or lot shall be a separate connection to public sewer main.

3.5 LIFT STATIONS

- A. Lift Stations shall not be employed unless deemed essential by the Water Utilities Director. The City of Oceanside Water Utilities Department will provide design criteria.

3.6 LIST OF AUTHORIZED MATERIALS USED IN THE CITY SEWER SYSTEM

- A. Manhole Step: The only step in the manholes shall be the bottom step per Oceanside Standard Detail S- 5. The step shall be ½ inch round grade 60 steel encapsulated with plastic copolymer propylene coating. The color of the step shall be safety yellow.
- B. Interior of manholes: Coat with Sancon 100, or Zebron with a minimum dry film thickness of 125 mils. All of the manufacturer’s recommendations for cleaning and installation of coating must be strictly adhered to.
- C. Pipe:
 - 1. Sewer House Laterals in public right-of-way or public easement shall be Polyvinyl Chloride (PVC), ASTM D3034—SDR 35 pipe minimum.
 - 2. Sewer Mains:
 - a. Preferred material for mains shall be PVC. However, DIP and other alternative material may be approved by the Water Utilities Director.
 - b. PVC Pipe: Minimum size of 8 inches is required. 4”-15” PVC shall meet ASTM D3034—SDR-35 requirements, minimum. 18”-24” shall meet ASTM F679 requirements, minimum and shall be submitted to the Water Utilities Department for approval.
 - c. For depths less than 6 feet or greater than 12 feet, within easements, and for pipe slopes greater than 6%, PVC ASTM 3034—SDR-26 (non-IPS) shall be used (PVC C-900 or C-905 may be used in some cases).
 - d. PVC pipes shall not have slopes less than 2%. The maximum diameter shall be 24 inches. A PVC application may be allowed for a slope of less than 2% provided that the length of each section does not exceed 14 feet, a minimum 2 FPS velocity is maintained, or as approved by the Water Utilities Director.

- e. Joint gasket material shall be an elastomeric seal meeting ASTM Specification F 477 unless otherwise specified.
- f. All pipe placed between manholes shall be the same material.
- g. Plastic sewer pipe shall meet the applicable material specification of 207-17 of the Standard Specifications for Public Works Construction ("Greenbook"), most recent edition.
- h. An approved seal or water-stop shall be placed over the plastic sewer main at the manholes. Per Oceanside Standard Drawing S-2.
- i. Ductile Iron Pipe shall be polyethylene lined, or approved equal.
- j. Polyethylene Encasement: All Ductile Iron pipe fittings and appurtenances are to be encased with two (2) layers of 8-mil thick tubing of white or black polyethylene in accordance with AWWA C-105 and SSPWC 207-9.2.6
- k. Design calculations shall be submitted to verify line size and bedding design. Normally a Manning "n" = 0.013 will be satisfactory.

D. Backwater Valve (Per Oceanside Standard Drawing S-4)

- 1. Flo-Control Series 1530, Non-pressure, or approved equal.
- 2. See Section 3.4, Paragraph G for requirements. The backwater valve shall be similar to the one as described above in function and design.

E. Backfill and Bedding Materials

- 1. Bedding standards are contained in this Manual's Oceanside Standard Drawing S-2. PVC sewer mains shall meet this requirement.
- 2. Where sand or native materials are specified for Type "A" material, they shall meet the testing specification requirements of the Construction Guidelines and Requirements section of this Manual.
- 3. ¾-inch rock may be used to 1 foot over pipe if submitted to, and approved by, the Water Utilities Department.
- 4. Trench backfill to be compacted to 95%.

3.7 PRIVATE SEWER SYSTEMS

- A. All private sewer systems shall be governed by and permitted through the Engineering Department. An inspection manhole shall be set at the property line and at the mainline if required.
- B. The sewer system upstream of the inspection manhole at the property line shall be considered private. If no inspection manhole is required, the entire lateral from the main shall be considered private.

- C. In the event that a private sewer system is proposed to be converted to a public system, the entire system must be upgraded to meet the public standards as presented in this manual.

3.8 POLLUTION PREVENTION AND PRETREATMENT PROGRAM

Inspection Manholes

- A. All domestic or sanitary wastewaters from restrooms, showers, drinking fountain, etc., shall be kept separate from all industrial/commercial wastewaters until the industrial/commercial wastewaters have passed through any required pretreatment system or device. The owner of any property discharging industrial wastes or other non-domestic water into the public sewer shall install and maintain, at its expense, an Inspection manhole for each separate discharge conveying process wastewater from its facility to the City sewerage system. Inspection manholes sewer lines shall not convey waste from bathrooms or other non-process wastes. Each such Inspection manhole shall have ample room to allow the City to perform inspections, sampling and flow measurement operations. They must be fully accessible at all times and safely located, and shall conform to the most recent edition of the City of Oceanside Water Utilities Engineering Manual and be constructed in accordance with plans and specifications approved by the City Engineer or as approved by the Water Utilities Director.
- B. Each such Inspection manhole shall be located outside of any buildings or enclosed spaces and as near to the facility site boundary as practicable; shall not be obstructed by temporary or permanent construction, manufacturing operations or activities, landscaping, parked vehicles or any other activities, and shall be safely and directly accessible to representatives of the City at all times, without any restriction of any kind.
- C. If a building or enclosed space contains more than one industrial user, then each industrial user therein, shall install and maintain, at its own expense, an Inspection manhole for each discharge from the facility, which shall comply with all requirements set forth herein. All process wastewater flows from the facility shall, at all times, pass through an Inspection manhole installed in conformance with this Ordinance and no process wastewater flows shall be discharged without passing through an Inspection manhole acceptable to the City. It shall be safely and directly accessible to representatives of the City at all times, without any restrictions of any kind.
- D. Inspection manholes are required where circumstances indicate that monitoring may be required at some future time due to a facility's location, design, or intended future use.
- E. Inspection manholes are generally necessary to monitor for:
 - 1. Prohibited waste streams such as those potentially having high temperature, high oil and grease, high or low pH, or other unusual characteristics. See Section 29 of the City of Oceanside Ordinance for more information regarding prohibited wastes.
 - 2. Permitted wastes for local limits.

3. Permitted wastes for categorical limits.
 4. High strength waste subject to surcharge costs.
 5. Flow or volume measurement.
 6. Visual observations, etc.
- F. To assist the industrial user, the following criteria are set:
1. Each Inspection manhole must be located outside the facility, at or near the property boundary.
 2. All process wastewater flows from the facility must pass through the Inspection manhole without capability or possibility of bypassing any Inspection manhole.
 3. Only process wastewater shall flow through the Inspection manhole. The Inspection manhole shall be located after the treatment system prior to joining the City sewer system.
 4. Each Inspection manhole must be constructed in such a manner as to allow for the installation of locked City sampling and flow measurement equipment.
 5. Access to each Inspection manhole must be unrestricted at all times. If an outside Inspection manhole is located within a fenced or secured area, unrestricted access must be guaranteed. A key to any locked gate must be provided to City personnel.
 6. Each Inspection manhole must be free of all physical, chemical and atmospheric safety hazards.
 7. Prior to the installation of any new Inspection manhole, a formal proposal, including site and design drawings, must be submitted to the City for approval. The submitted proposal must be certified by a professional engineer registered in the state of California.
- G. Existing industries undergoing remodeling, which require a building permit or Change in Operations, shall be required to install an Inspection manhole that meets the criteria mentioned above. An application for a new Wastewater Contribution Permit must be submitted with the building permit.
- H. Existing industries with a current City of Oceanside Wastewater Contribution Permit at the time of the adoption of this Ordinance shall not be required to install Inspection manholes until the industry undergoes remodeling that requires a building or tenant improvement permit or has a change in ownership, lease, transfer or assignment of the business or premises or a Change in Operations.

END OF SEWER SYSTEMS DESIGN GUIDELINES

City of Oceanside, CA



Disclaimer: This map prepared solely for illustration purpose and is not to be relied upon for engineering drawings. Some information may not be accurate. The City of Oceanside assumes no responsibility arising from the use of this information.

Map Scale
1 inch = 167 feet
5/19/2017

ARTICLE 7

R-3 - MEDIUM DENSITY RESIDENTIAL ZONE (R-3 ZONE)

Section 700: PURPOSE. The purpose of the Medium Density Residential (R-3) Zone is to classify and set standards for the orderly development of multiple family residences in a manner that will be compatible with surrounding properties and the protection of their values. It is intended that this zone be used adjacent to major or secondary street, shopping areas, or other intense uses.

Section 701: GENERAL CRITERIA. The following general criteria are hereby established for use in the classification or reclassification of land to Medium Density Residential Zone (R-3):

- (a) General Plan - Compliance with the General Plan shall be established.
- (b) Location - Medium density residential areas shall be located with primary access to a major or secondary street as shown on the Major Street Plan having a pavement width of not less than 56 feet unless specifically exempted by the Planning Commission and/or City Council.
- (c) Need - A demonstrated public need shall be established.
- (d) Public Services - The existing public services such as schools, police, and fire protection must be available or adequate alternatives shall be provided to insure availability of these services to residents upon occupancy.
- (e) Utilities - The existing utility system (water, sewer, drainage, electrical, gas and communications facilities) are adequate or new systems shall be constructed to adequately serve medium density residential developments.
- (f) All projects, with the exception of a single family dwelling or a two-family dwelling, must file a Development Plan pursuant to the provisions of Article 16, Section 1611 of this ordinance.

- Section 705: SIDE YARDS. See Section 1702.
- Section 706: REAR YARD. See Section 1703.
- Section 707: LOT SIZE. See Section 1704.
- Section 708: LOT WIDTH. See Section 1706.
- Section 709: MAXIMUM LOT COVERAGE. See Section 1707.
- Section 710: LOT DEPTH. See Section 1708.
- Section 711: HEIGHT. See Section 1709.
- Section 712: PLACEMENT OF BUILDINGS. See Section 1710.
- Section 713: LANDSCAPING. See Section 1731.
- Section 714: LANDSCAPING MAINTENANCE STANDARDS. See
Section 1732.
- Section 715: (Deleted by Ordinance No. 84-05)

ARTICLE 11

C-2 - GENERAL COMMERCIAL (C-2 ZONE)

Section 1100: PURPOSE. The purposed of the General Commercial (C-2) Zone is to classify and set standards for retail and service commercial uses which by their nature are of relatively high intensity; are necessary to provide a wide range of shopping facilities and goods, professional and administrative offices, and entertainment establishments; and are generally within close proximity to residential zoning or development and, therefore, require a physical treatment which will guarantee compatibility with and protection to surrounding properties and their values.

Section 1101: GENERAL CRITERIA. The following general criteria are hereby established for consideration of the classification or reclassification of land to the C-2 zone:

- (a) General Plan - Compliance with the General Plan shall be established.
- (b) Location - General Commercial areas shall be located with primary access to a major or secondary street as shown on the Major Street Plan.
- (c) Need - A demonstrated public need shall be established.
- (d) Site area - A minimum of ten acres based upon the guide of three-quarters (3/4) of an acre of General Commercial for every 1,000 persons up to a maximum of thirty acres. This provision shall not apply to those lots contiguous to existing commercial zoned areas not meeting this minimum site are requirement.
- (e) Utilities - The existing utility system (water, sewer, drainage, electrical, gas and communications facilities) are adequate or new systems shall be constructed to adequately serve general commercial developments and shall be underground.
- (f) Development Plan. Concurrent with an application for reclassification to the C-2 Commercial Zone, a development plan shall be filed with and approved by the Planning Commission pursuant to the provisions of Article 16, Section 1611, governing development plans.

Section 1107: LIMITATIONS ON PERMITTED USES. See Section 1010.

Section 1108: LANDSCAPING. See Section 1731.

Section 1109: LANDSCAPING MAINTENANCE STANDARDS. See Section 1732.

Section 1110: (Deleted by Ordinance No. 84-05)

Section 1111: (Deleted by Ordinance No. 84-05)

ARTICLE 10

C-1 - NEIGHBORHOOD COMMERCIAL ZONE (C-1 ZONE)

Section 1000: PURPOSE. The purposed of the Neighborhood Commercial (C-1) Zone is to classify and set standards for those retail and service commercial uses which by their nature are of moderate intensity; are necessary in order to provide convenient daily shopping facilities to residential home and apartment dwellers; and are generally adjacent to or within close proximity to residential zoning or development and, therefore, require extraordinary physical treatment in order to guarantee compatibility with and protection to surrounding properties and their values.

Section 1001: CRITERIA. The following general criteria are hereby established for use in the classification or reclassification of land to the Neighborhood Commercial zone:

- (a) General Plan - Compliance with the General Plan shall be established.
- (b) Location - Neighborhood commercial centers should serve several neighborhoods and be located with primary access to a major street, preferably at the intersection of a major and collector street or two major streets. Land so utilized should be topographically suited to such use without major earth movement, resulting in unsafe or unsightly cut or fill slopes.
- (c) Need - A demonstrated public need shall be established within the general area.
- (d) Site area - A minimum of two acres based upon the guide of one acre of neighborhood commercial for every 1,000 persons up to a maximum of ten acres. This criteria shall not apply to any parcel of land which is zoned C-1 on the effective date of this Ordinance.
- (e) Utilities - The existing utility system (water, sewer, drainage, electrical, gas and communications facilities) are adequate or new systems will be constructed which will be adequate to serve a neighborhood-commercial land use and shall be underground.

Section 1004: SIDE YARDS. See Section 1702 (e).
Section 1005: REAR YARDS. See Section 1703 (c).
Section 1006: LOT SIZE. See Section 1704 (c).
Section 1007: HEIGHT. See Section 1709.
Section 1008: LANDSCAPING. See Section 1731.
Section 1009: LANDSCAPING MAINTENANCE STANDARDS. See Section 1732.

Section 1010: LIMITATIONS ON PERMITTED USES. Every use permitted shall be subject to the following conditions and limitations:

- (1) The outdoor display of merchandise visible from a public right-of-way is expressly prohibited except for motor vehicles, boats, horticultural plants, lumber, promotional activities by nonprofit organizations, and equipment rental, subject to any other provision of this ordinance, or other regulations applicable to the conduct of such businesses. "Parking lot" sales as permitted by Section 1011 (16) and coin-operated news racks are excluded from this prohibition.
- (2) Products made incident to a permitted use shall be sold only at retail on the premises, and not more than five persons may be employed in the manufacturing, processing and treatment of products permitted therein.
- (3) Storage shall be limited to accessory storage of commodities sold at retail on the premises.
- (4) Where the property abuts properties in the R-1, R-2, R-3 or O-P zones, except where separated by a dedicated alley, there shall be erected and maintained along such property line a block, stone, brick, stucco, or concrete wall at least six feet in height. This provision shall be met before a certificate of occupancy permit may be issued by the Building Official.
- (5) The showing of films, movies, video tapes, or any other mechanical reproduction of visual presentation for which a fee is charged either as an admission fee, a cover charge, or a minimum charge for other services rendered, is hereby expressly forbidden except in

CHAPTER 4
REFERENCE