

# City of Oceanside

---



## Engineers Design and Processing Manual

# Engineers Design and Processing Manual

**MARLA DOYLE  
CITY ENGINEER**

**ADOPTED BY CITY COUNCIL  
FEBRUARY 13, 1991**

**REVISED  
AUGUST 26, 1992**

**REFORMATTED  
JUNE, 2004**

**City of Oceanside  
Public Works Department  
Engineering Division  
300 North Coast Highway  
Oceanside, California 92054**

## PREFACE

The purpose of the City of Oceanside Engineers Design and Processing Manual is to establish the procedures and minimum standards for the various plans and documents submitted to and processed by the Engineering Department. The standards presented in the manual govern the processing of subdivision maps and related documents as well as public and private improvement and grading plans. The Engineering Department also uses the manual as a standard for reviewing tentative maps, development plans and other related applications made through the Planning Department. All plans, documents, designs, etc. submitted to and reviewed by the Engineering Department shall be required to meet the standards as presented in this manual.

This manual will aid developers and engineers in the preparation and processing of design plans by establishing certain minimum standards. These standards will result in quality design and construction, and ultimately, less maintenance and a longer service life of the improvements meeting or exceeding the standards will enable design plans to be processed more efficiently and quickly.

This manual is designed to supplement and implement the City Subdivision Ordinance and the State Subdivision Map Act, as well as complement the City Zoning Ordinance and Grading Ordinance. Any inconsistencies between this manual and the aforementioned authorities shall be resolved primarily in favor of the Subdivision Ordinance, and secondarily by the Map Act.

The City of Oceanside Engineers Design and Processing Manual was adopted by resolution of the City Council on February 13, 1991, and shall be updated on a regular basis. The City Engineer shall have the authority to make written changes to the Engineers Manual as necessary. The changes shall be numbered and dated and made available upon request at the Engineering Department offices.

This manual was prepared with the assistance and input of many members of the public, development community, and City staff. The City would like to extend its appreciation to all who participated. The revision to the Manual could not have been possible without the special efforts of the following members of the Manual Review Committee:

Richard Badillo  
Chandra Collure  
Jon Crawford  
Robert Morin  
Paul Pace  
Nazir Qureshi  
Peter Weiss

2/13/91  
**Revised 8/26/92**  
**Reformatted 6/04**

**TABLE OF CONTENTS**

**CHAPTER I - PROCESSING PROCEDURES**

**Page**

**Section: 1**

1.0	PROCESSING PROCEDURES.....	1
1.1	Definitions .....	1
1.2	Subdivision Maps & Related Documents.....	2
1.3	Improvement Plans.....	3
1.4	Jurisdictional Administration .....	3

**Section: 2**

2.0	SUBMISSION REQUIREMENTS FOR ALL SUBDIVISION MAPS.....	5
2.1	General .....	5
2.2	Final Maps.....	7
2.3	Parcel Maps.....	8
2.4	Tax Clearance.....	8

**Section: 3**

3.0	FINAL MAPS.....	10
3.1	General .....	10
3.2	Engineer's Signature.....	10
3.3	Paper Size, Ink and Legibility .....	10
3.4	Labeling.....	10
3.5	Survey Requirements .....	13
3.6	Monumentation .....	14
3.7	Required Certificates and Statements.....	16
3.8	Required Notes .....	19
3.9	Requirement for Existing Easements .....	20
3.10	Dedication of Easements.....	20
3.11	Dedication Notes (To be added to owner's certificate when applicable).....	21
3.12	Acknowledgements.....	24
3.13	Signature Omission .....	27
3.14	Basis of Bearing Note .....	27
3.15	Sample Public Utility/Public Entity Letters.....	27
3.16	Subdivider's Certification for Public Utility/Public Entity Letters (Sample).....	28

**Section: 4**

4.0	PARCEL MAPS .....	30
4.1	General Requirements.....	30
4.2	Engineer/Surveyor Statement .....	30
4.3	Subdivider's Certificate .....	30
4.4	Owner's Certificate.....	30
4.5	Required City Certificates .....	31
4.6	Deferment Notes.....	32
4.7	Grant of Cross Easement Note (Use for Parcel Maps).....	32

**TABLE OF CONTENTS**

**Section: 5**

5.0 CERTIFICATE OF COMPLIANCE.....33  
5.1 General .....33  
5.2 Required Form .....34  
5.3 Record Owner's Signature.....34  
5.4 Legal Description .....34  
5.5 Plat Map .....34

**Section: 6**

6.0 LOT LINE ADJUSTMENT .....36  
6.1 Criteria for Acceptance of Filing .....36  
6.2 Information Required to be Shown on "Plat for Lot Line Adjustment" .....36  
6.3 Filing Requirements .....37

**Section: 7**

7.0 CERTIFICATE OF CORRECTION .....40  
7.1 General .....40  
7.2 Procedure.....40  
7.3 Sample Form .....41

**Section: 8**

8.0 AMENDED MAPS .....43  
8.1 General .....43  
8.2 Procedure.....43  
8.3 Required Certificates .....43

**Section: 9**

9.0 REVERSION TO ACREAGE .....45  
9.1 Title.....45  
9.2 Filing.....45  
9.3 Preparation.....45  
9.4 Required Certificates .....45

**Section: 10**

10.0 RIGHT-OF-WAY AND EASEMENT DEDICATIONS.....47  
10.1 General .....47

**Section: 11**

11.0 EASEMENT VACATION AND ABANDONMENT.....48  
11.1 General .....48

**TABLE OF CONTENTS**

**Section: 12**

12.0 IMPROVEMENT AGREEMENT .....50

12.1 General .....50

12.2 Improvement Security .....51

12.3 Form of Security .....52

12.4 Amount of Security .....52

12.5 Length of Security Requirement .....53

12.6 Completion of Improvements .....54

12.7 Authority to Release/Reduce Security .....56

12.8 Reduction in Performance Security .....56

12.9 Release of Improvement Security .....56

12.10 Change in Ownership .....57

12.11 Construction and Inspection .....57

12.12 Final Bond Release .....57

12.13 Monument Inspection .....58

12.14 Boundary Monuments .....58

12.15 Centerline and Lot Corner Monuments .....58

**CHAPTER II - PLAN PREPARATION GUIDELINES**

**Section: 1**

1.0 SUBMISSION REQUIREMENTS .....59

1.1 General .....59

1.2 Initial Submittal Requirements .....59

1.3 Second or Subsequent Checks or Submittal .....61

1.4 Final Check Submittal .....61

1.5 Shelf Life .....62

1.6 Final Review .....62

1.7 Requirements of Engineering Department  
Prior to Issuance of a Building Permit .....63

1.8 Effects of Change in Engineering Standard .....63

**Section: 2**

2.0 IMPROVEMENT PLANS - GENERAL REQUIREMENTS .....65

2.1 Original Plans .....67

2.2 Photo Mylar Copy .....67

2.3 Revisions to Original Plans .....67

2.4 As-Builts .....68

2.5 Statement of Release from Liability .....68

2.6 Transfer of Responsibility for Approval .....69

**TABLE OF CONTENTS**

**Section: 3**

3.0 STREET - DESIGN CRITERIA .....70

3.1 General .....70

3.2 Street Name Assignments-Circulation Design Required .....70

3.3 Widths .....71

3.4 Grades .....71

3.5 Alignment .....72

3.6 Additional Design Criteria .....72

3.7 Transitions.....73

3.8 Structural Section.....74

3.9 Curbs.....76

3.10 Curb and Gutter Replacement .....76

3.11 Sidewalks .....76

3.12 Sight Distances .....77

3.13 Street Lights .....78

3.14 Traffic Signals .....79

3.15 Driveways.....79

3.16 Concrete Driveway Replacement.....81

3.17 Pavement Markings .....81

3.18 Street Names and Traffic Signs.....81

3.19 Existing Pavements .....82

3.20 Barricades .....82

3.21 Guardrails and Safety Devices .....85

3.22 Traffic Control Plans .....85

3.23 Striping Plans .....83

3.24 Mail Boxes.....83

3.25 Subdrains .....83

**Section: 4**

4.0 WATER SYSTEMS - DESIGN CRITERIA.....86

4.1 General .....86

4.2 Fire Flows.....87

4.3 Pressures .....87

4.4 Mains.....87

4.5 Valves.....88

4.6 Fire Hydrants.....89

4.7 House Services .....89

4.8 Pressure Boosting Stations .....90

4.9 Connections to Existing Lines .....90

4.10 Waterline Placement.....90

4.11 Backflow Protection .....90

4.12 Authorized Materials Used In The City Water System.....91

4.13 Chlorination and Bacteria Testing .....95

4.14 Hydrostatic Testing .....96

4.15 Reclaimed Water System .....96

4.16 Requirements for Fire Protection Systems .....96

**TABLE OF CONTENTS**

**Section: 5**

5.0 SEWER SYSTEMS - DESIGN CRITERIA.....99  
5.1 General .....99  
5.2 Mains.....99  
5.3 Manholes.....101  
5.4 Laterals .....101  
5.5 Pump Stations.....102  
5.6 Authorized Materials Used In The City Sewer System - .....102  
5.7 Private Sewer Systems.....104

**Section: 6**

6.0 DRAINAGE SYSTEM - DESIGN CRITERIA .....105  
6.1 General .....105  
6.2 Hydrology .....106  
6.3 Hydraulics .....107  
6.4 Instruction for Hydraulic Calculations .....108  
6.5 Storm Drain Design .....115  
6.6 Catch Basins and Inlets to Catch Basins and Other Drainage Structures .....117

**Section: 7**

7.0 GRADING PLANS .....120  
7.1 General .....120  
7.2 Preliminary Grading Permit .....120  
7.3 Precise Grading Permit.....120  
7.4 Surcharge Grading Plans .....120  
7.5 Certification .....120  
7.6 Preparation Requirements.....121  
7.7 Subdrains.....122

**Section: 8**

8.0 EROSION CONTROL PLANS .....123  
8.1 General .....123  
8.2 Plan Requirements .....123  
8.3 Temporary Erosion Control Measures .....124  
8.4 Sediment Basin Design .....125

**Section: 9**

9.0 GEOTECHNICAL REPORT REQUIREMENTS .....129  
9.1 General Provisions.....129  
9.2 Development Plans, Tentative Maps & Environmental Impact Reports .....129  
9.3 Preliminary Investigations/Geologic-Soils Reports .....130  
9.4 Preliminary and/or Precise As-Graded Reports .....134  
9.5 Final Compaction Report.....136

**APPENDIX**

**GENERAL, WATER SYSTEM, AND SEWER SYSTEM REQUIRED DESIGN NOTES**

Grading Plan Design Notes ..... 138  
As-Built Certification ..... 141  
Erosion Control Notes ..... 143  
Improvement Plan Notes ..... 146  
Required Notes For Water System Design Plans ..... 148  
Required Notes For Sewer System Design Plans ..... 150

**CONSTRUCTION GUIDELINES & REQUIREMENTS:**

Water System Testing Requirements ..... 153  
Bedding and Backfill (Testing Specifications) ..... 157  
Backfill/Trench (Testing Requirements) ..... 158  
Pre-Construction Requirements ..... 159  
Occupancy Requirements (Engineering Department) ..... 162  
AB73 Highlights ..... 164  
Pavement Design Guidelines ..... 165

**STANDARD DRAWINGS**

Drawing Numbers:

- M-1 - M-26
- T-1 - T-4
- S-1 - S-5
- W-1 - W-25