



City of Coos Bay

Oregon

Development Provisions for Public and Private Infrastructure

Part 1 – Procedural Requirements

June 2009

DRAFT

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1.0 INTRODUCTION

The City of Coos Bay has authorized creation of these Development Provisions for Public and Private (private driveways?) Infrastructure in order to define the minimum standards for public work improvements and those improvements that will be granted to the City upon completion of land division projects. (Many improvements will not be dedicated to the City.)

The City of Coos Bay Design Standards and Construction Specifications will be incorporated in and made a part of any contract for the design and construction of municipal projects. The portions of the Design Standards and Construction Specifications relating to design, materials, and workmanship shall be adhered to for private developments where improvements will become part of municipally owned and operated systems. These Standards and Specifications will be updated periodically so all persons should verify they are using the most current document.

Minimum general standards shall be as set forth in the current City of Coos Bay Design Standards and Construction Specifications. The indicated provisions are minimum construction standards for the City of Coos Bay and are intended as a supplement to the Oregon Standard Specifications for Construction.

2.0 RULES

(How about small permits such as sewer caps, driveways etc. that require inspections but no performance bond, precon meetings?)

No project or construction work that requires inspection by the City of Coos Bay Public Works and Development Department shall commence until the appropriate contracts and permits have been acquired and, if necessary, performance bonds, final construction plans, preconstruction meeting held, all associated fees and deposits have been paid and Notice to Proceed has been issued.

The Owner/Developer, or agent, will be responsible for any faulty material and workmanship occurring within two years from the date of formal acceptance of the sewer, street, storm drainage or other public facility installation. Final Acceptance of a project,(isn't final acceptance after all the conditions have been met?) or any portion of a project, shall be in writing from a City Representative, and shall state any special conditions required for acceptance by the City have been met.

The Owner/Developer, or designated agent, shall comply with all terms and conditions of applicable governmental rules and regulations pertaining to the work.

The design and construction of all proposed facilities shall be in conformance with the City of Coos Bay Design Standards and Construction Specifications, and all standards and specifications referenced therein.

Workmanship and materials not conforming to these Standards and Specifications will be deemed a violation of the contract and/or permit, and may result in an immediate suspension of the Contractor's activities. When an authorized representative of the City Engineer suspends the Contractor's activities, all work shall cease on the subject project until the violation is corrected to the satisfaction of the City Engineer.

3.0 SURVEYING REQUIREMENTS

All surveys for development of public works facilities shall be performed under the direction of a Professional Land Surveyor (PLS) licensed in the State of Oregon. At least one Benchmark shall be established or located within the project limits. Elevations shall be referenced to the NAV 88 datum. Exceptions shall be made for floodplain certifications and related drawings utilizing NGVD 29 datum. Surveys shall be sufficient to accurately show existing facilities and topography. All property corners shall be set with pins in accordance with Oregon State Law.

4.0 ENGINEERING REQUIREMENTS

Design drawings, specifications, and calculations shall be prepared by or under the direction of a Professional Engineer licensed in the State of Oregon. Where the term Design Engineer occurs in this document, it shall mean a professional engineer or engineering firm retained by the City or Owner/Developer to provide design, construction management, or other services necessary for the construction of the proposed public facilities or improvements.

5.0 TO AND THROUGH REQUIREMENT

To provide for orderly and efficient urban development and extension of public streets, alleys and utilities shall be extended along public right-of-way or City easements the full length of all portions of property frontage being developed (not always a land use approval involved) or as otherwise determined by the City Engineer.. Public facilities shall be extended from the point of connection “to and through” the far boundary of subject property. All new service connections to City sewer and/or storm drainage systems shall require a public sewer and/or storm drain main line to be located or extended in public right-of-way or City easements along property frontage where applicable. This “to and through” requirement shall be fulfilled except where it is not practical to extend a street or utility because of topography or by boundary and/or land use restrictions prohibiting development (e.g. UGB, public lands, etc.). When not constructing public improvement as required, the property Owner/Developer will be required to provide a cash bond payment equal to the value of the improvements to the City.

6.0 PLANS & SPECIFICATIONS

6.1 GENERAL

All plans shall be submitted on full-size (22" x 34") or half-size (11" x 17") sheets unless otherwise preapproved by the Public Works & Development Department. Plans shall be blackline prints. Blue-line copies are not acceptable. Letter size shall not be less than 0.08-inches for 22 x 34-inch sheets and not less than 0.06-inches for 11 x 17-inch sheets.

Plans shall be drawn to a readily measurable scale. Plan scales shall be 1-inch = 10, 20, 30, 40, 50 or 60-feet horizontally and 1-inch = 1, 2, 3, 4, 5 or 6-feet vertically. Where required, details may be

drawn at larger scales for clarity. Horizontal and vertical (where applicable) scale shall be called out on each drawing. A graphical scale bar shall be included on each sheet.

A north arrow shall be shown on each plan view sheet and for any plan detail oriented differently than the main plan drawing on the sheet.

A title block shall appear on each sheet of the plan set placed in the lower right-hand corner, across the bottom edge of the sheet, or across the right-hand edge of the sheet. Title block shall include the name of the project, the engineering firm, the owner, the sheet title, the last revision date and the sheet number.

The seal of the Oregon licensed Professional Engineer or Architect responsible for the preparation of the plans shall appear on each sheet. Final Plans must be stamped and signed by an Oregon licensed Professional Engineer or Architect. Plan approval will not be granted until final signed plan sets are received. Approval by the City does not relieve the Design Engineer or Architect from the responsibility to resolve any design flaws or conflicts that are discovered during construction.

Plans shall include a title sheet with the project name and Owner/Developer identified, a vicinity map showing the location of the project site within the City, an index of drawings and general notes pertinent to the project. A statement requiring the Contractor to contact the Oregon Utility Notification Center (1-800-332-2344 or 811) prior to the start of construction shall be included. Multiple sheets may be used to accommodate construction notes if necessary.

Plan views shall show existing and proposed improvements and features within or adjacent to the project including survey monuments, edge of pavement, road centerline, buildings, curbs, gutters, sidewalks, culverts, ditches, streams, utility poles, and other surface improvements and features. The location of underground utilities including power, gas, water, sanitary sewer, and storm drains shall be shown as accurately as possible. Right-of-way, property lines, easements, street names, lot numbers, and other labels shall also be shown.

Existing and finish grade contours shall be provided on all grading or roadway design sheets. Contour intervals of 2-feet shall be shown for ground slopes less than 25% and 5-feet for slopes of 25% or greater.

At least one composite plan shall be provided which shows all proposed improvements including water, sewer, streets, sidewalk, curb, culverts, storm drains, and other buried utilities in a single plan view to help identify or avoid conflicts and designate horizontal separations and locations.

The location and elevation of at least one reference benchmark (either temporary or permanent) shall be shown on the plans within project limits.

Plans and specifications for public streets, alleys, drainage, or sewer facilities must be submitted by the person or firm proposing the work to the City of Coos Bay Public Works and Development Department for approval before construction is started. The Contractor shall not start work until plans have been signed and approved by the City Engineer, proper permits issued and associated fees have been paid, and project security or performance bond has been submitted. A copy of any construction requirements or development conditions levied by any public agency, such as City of Coos Bay Public Works and Development Department Staff Reports, shall be attached to plans submitted for review. Without the above document submittal, the Department will be unable to adequately review the plans, and will return the plans without review.

Final plans addressing review comments are to be submitted by the Owner/Developer or the Design Engineer, to the City of Coos Bay Public Works and Development Department for approval.

6.2 PRELIMINARY PLANS

Three complete sets of Preliminary Plans showing the proposed facilities shall be submitted to the City of Coos Bay Public Works and Development Department for review. Following review, one copy of the Plans will be returned to the Owner/Developer along with a summary letter and/or markups on the Preliminary Plans indicating any modifications required.

Plans for facilities requiring postal delivery service shall have on the cover sheet the signature of an appropriate official of the United States Postal Service indicating that the design is approved by the United States Postal Service.

Plans having fire hydrants or other fire suppression facilities shall have on the cover sheet the signature of the Coos Bay Fire Chief indicating that the design is approved by the City of Coos Bay Fire Department.

Plans for projects which include improvements to the public water distribution system and/or storage facilities shall have on the cover sheet the signature of the Coos Bay-North Bend Water Board Operations Director indicating that the design is approved by the Water Board.

Plans for projects which include improvements within any ODOT right-of-way shall have on the cover sheet the signature of the appropriate Department official or agent indicating that the design is approved by ODOT.

The Owner/Developer will be responsible to submit drawings and required fees to the Oregon Department of Environmental Quality and the Drinking Water Program for review and approval of proposed additions to the public sanitary sewer collection system and water distribution system, respectively. Evidence of DEQ and DWP review and design approval shall be included with submission of the Final Plans.

6.3 FINAL PLANS

After all revisions have been made to the Plans based on review comments issued by the Public Works and Development Department, six complete sets of Final Plans shall be submitted for signatures. Signature by the City Engineer or designated representative will indicate that the design is approved. Any affected agencies/persons, such as the United States Postal Service, Coos Bay Fire Department, Coos Bay-North Bend Water Board, ODOT, DEQ, etc., will indicate their approval of the design by signature. The Public Works Director shall be the final signatory, whose signature will indicate that all fees have been paid. Three sets of the Final Plans (where do the other three sets go?) with all necessary signatures will be returned to the Owner/Developer following approval by the City Engineer and Public Works Director.

Once the Final Plans have been approved and signed, construction must be initiated within 18 months (Does this agree with permit extension policy?) of the date of the final signature. If construction has not been initiated within 18 months the approval shall be declared void. In order

to reinitiate the review process, three sets of Plans along with applicable review fees shall be submitted to the City.

6.4 PRE-CONSTRUCTION MEETING

A preconstruction meeting shall be held following approval of Final Plans and prior to issuance of the Notice to Proceed for construction. Before the meeting can be held all agreements must be signed and Performance and Payment Bonds must be submitted to the City of Coos Bay. Items to be discussed at the meeting include, but are not limited to:

- A. Initiating construction
- B. Construction schedule
- C. Inspection schedule
- D. Traffic Control and Public Notification
- E. Subcontractors and suppliers
- F. Materials furnished (i.e. type, brand, submittal requirements, etc.)
- G. Safety requirements
- H. Project Closeout

The Contractor shall submit a written Construction Schedule and for projects that include work within existing public streets, a Traffic Control Plan shall be submitted for review by the City Engineer. Work within existing public streets shall not proceed until the Traffic Control Plan has been approved by the City Engineer.

No inspections shall be performed until a preconstruction meeting has been held with the City Engineer. At the meeting, a City Inspector will be assigned to the project and all communications, changes, and field decisions shall be coordinated through the Inspector. If the Inspector is not informed of a change or field decision, and the change has not been approved by the appropriate authority, then the change is not allowed and the facility must be constructed as shown on the approved Plans.

Following the pre-construction meeting, the City Engineer or his designee will issue a Notice to Proceed. The Notice to Proceed authorizes construction to begin, and inspection services to commence.

6.5 PLAN REVISIONS

No design changes or revisions to the Final Plans signed by the City Engineer and Public Works Director will be allowed unless the City Engineer verifies and approves in writing any changes, modifications, or revisions. For major (define % of total?) design changes affecting the scope of work, additional engineering review fees will be required, and Revised Plans shall be submitted and signed per Section 6.3 above. For minor design changes that do not affect the scope of the work, modifications may be approved by the City Engineer without submission of Revised Plans. For minor revisions that do not affect the design content, such as changing the location of sewer service laterals, revisions can be approved by the Inspector in the field and noted on the Record Drawings. Revising the location of a fire hydrant, manhole, catch basin, or similar structure changes the design content, and such change must be reviewed and approved by the City Engineer.

6.6 FINAL PLAT

Upon completion of the improvements, a final subdivision or partition plat showing complete information shall be submitted to the Public Works and Development Department. Prior to plat signature by the Public Works Director, the following conditions must be met:

1. All required improvements to public facilities have been constructed, accepted, and bonded or guaranteed per the Development Provisions and any associated land use approval. (None for partition.)
2. Cash contributions or bond for public improvements in lieu of construction have been paid. (When is this an option?)
3. Warranty agreement and bond have been provided for completed public improvements. (Doesn't the bond say what it is for? What is the agreement?)
4. Documentation has been submitted to verify the abandonment of any private water and sewer systems per County and/or State requirements. (Isn't a well OK?)
5. Public or City easements dedicated on the Plat are consistent with current City standards.
6. All related public or City easements conveyed separate from the Plat have been signed and recorded.
7. All other conditions of land use approval as identified during the review process have been met.
8. Any fees or assessments associated with the Plat and required by the land-use process, reimbursement/improvement districts, or cost sharing agreements have been paid.

After all City Requirements are met and the Public Works Director's signature is on the Plat, it is forwarded to the County Surveyor for signature.

7.0 AGREEMENTS

All agreements shall be signed prior to commencing construction on the associated facility. These agreements are generally prepared by the Public Works and Development Department. It is the responsibility of the Owner/Developer to coordinate with the City to assure all agreements have been completed and executed prior to start of construction.

8.0 INSURANCE

8.1 LICENSED SURETIES AND INSURERS

All bonds and insurance required under these Development Provisions to be purchased and maintained by the Contractor completing the proposed improvements shall be obtained from surety or insurance companies that are duly licensed or authorized to do business in the State of Oregon and to issue bonds or insurance policies for the limits and coverage so required.

8.2 CERTIFICATES OF INSURANCE

Contractor shall deliver to the City of Coos Bay and to each additional insured certificates of insurance (and other evidence of insurance requested by the City or any other additional insured) which Contractor is required to purchase and maintain. Failure of City to demand such certificates or other evidence of full compliance with these insurance requirements or failure of City to identify a deficiency from evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance. By requiring such insurance and insurance limits herein, the City does not represent that coverage and limits will necessarily be adequate to protect Contractor and such coverage and limits shall not be deemed as a limitation on Contractor's liability under the indemnities granted to the City in the Contract Documents.

8.3 CONTRACTOR'S LIABILITY INSURANCE

Contractor shall purchase and maintain liability and other insurance as is appropriate for the Work being performed and as such will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

- A. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
- B. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
- C. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
- D. claims for damages insured by reasonably available personal injury liability coverage which are sustained:
 - 1. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - 2. by any other person for any other reason;
- E. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
- F. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

8.3.1 Additional Insured

The Contractor's insurance policies shall include as additional insureds the City of Coos Bay, the Owner/ Developer, the Design Engineer, and any other individuals or entities requiring access to the construction site or staging/storage areas while construction activities are in progress, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby.

8.3.2 Other Requirements

The Contractor's insurance policies shall:

- A. include at least the specific coverages and be written for not less than the limits of liability provided in Section 8.3.3 below, or required by Laws or Regulations, whichever is greater;
- B. include completed operations insurance;
- C. include contractual liability insurance covering Contractor's indemnity obligations relating to the Work and/or use of any property, public or private, for staging and/or storage of materials or equipment;
- D. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 30 days prior written notice has been given to the City of Coos Bay, Contractor and to each other additional insured required to be named on the policies and to whom a certificate of insurance has been issued;
- E. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work; and
- F. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment. Contractor shall furnish Owner and each other additional insured to whom a certificate of insurance has been issued, evidence satisfactory to the City of Coos Bay and any such additional insured of continuation of such insurance at final payment and one year thereafter.

TO BE REVIEWED WITH INSURANCE COMPANY

8.3.3 Limits of Liability

The limits of liability for the Contractor's insurance shall provide coverage for not less than the amounts indicated below or greater where required by Laws and Regulations.

8.3.3.1 General Liability

A. General Aggregate	\$1,000,000 - \$5,000,000
B. Products and/or Completed Operations Aggregate	\$1,000,000
C. Personal and Advertising Injury	\$1,000,000
D. Each Occurrence (Bodily Injury & Property Damage)	\$1,000,000
E. Fire Damage (any one fire)	\$50,000
F. Medical Expense (any one person)	\$5,000 (optional)

8.3.3.2 Comprehensive Automotive Liability

A. Combined Single Limit	\$1,000,000
B. Bodily Injury (Each Person)	\$1,000,000
C. Bodily Injury (Each Accident)	\$1,000,000
D. Property Damage (Each Accident)	\$1,000,000

8.3.3.3 Excess Liability

A. Each Occurrence	\$1,000,000 – 5,000,000
B. Aggregate (use to obtain higher limits than normal)	

8.3.3.4 Workers' Compensation

A. Each Accident	\$100,000
B. Disease – Policy Limit	\$500,000
C. Disease – Each Employee	\$100,000 (

8.4 PROPERTY INSURANCE

(What type of projects?)

Contractor shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (Contractor shall be responsible for any deductible or self-insured retention.). This insurance shall:

- A. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, consultants and subcontractors of any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;
- B. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions;
- C. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);
- D. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;
- E. allow for partial utilization of the Work by Owner;
- F. include testing and startup; and
- G. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.

9.0 EASEMENTS AND PERMITS

When portions of a public facility, utility or structure will be located on private property, permanent easements for location, maintenance, and operation shall be obtained. Easements shall provide for the use of property for construction purposes to the extent indicated on the easements.

All City Easements conveyed separately from the final plat shall require the following to be submitted to the Engineering Department:

- 1) Exhibit 'A' - property/parcel legal description.
- 2) Exhibit 'B' - easement map.
- 3) Exhibit 'C' - easement legal description.
- 4) Current property title report or equivalent ownership verification.
- 5) County recording fee.

All exhibits shall be letter size (8.5x11) and stamped by a registered professional engineer or land surveyor. Copies of these easements (including a copy of the easement in relation to the site plan) will be made available to the City for review prior to construction. Easements shall be recorded prior to City Engineer's acceptance of the public facility. The City accepts no liability for actions of the Contractor not in conformance with written easements.

10.0 PERFORMANCE AND PAYMENT BONDS

10.1 PUBLIC IMPROVEMENT CONTRACTS

Contracts for public improvement require the successful bidder to promptly execute and deliver to the City of Coos Bay the following documents:

- A. Contract of Services.
- B. A Performance Bond in an amount equal to the full contract price conditioned on the faithful performance of the contract in accordance with the plans, specifications and conditions of the contract. In lieu of a Performance Bond, the successful bidder may submit a cashier's check, certified check, or negotiable instrument for all or a portion of the required Performance Bond. (This should agree with 12.20.160).
- C. A Payment Bond in an amount equal to the full contract price, for the protection of persons claiming to have supplied labor or materials for the performance of the work provided for in the public improvement contract.

10.2 PRIVATE CONTRACTS

If the contract is for a private project in which infrastructure improvements will become property of the City of Coos Bay upon acceptance, a Performance Bond, cash deposit, or other approved security shall be provided by the Developer as project security for all work proposed in public rights-of-way, or upon existing City facilities. The approved project security shall be in the amount of one hundred twenty (120) percent of the estimated cost of improvements to be dedicated to the City of Coos Bay.

10.3 PERFORMANCE AND PAYMENT BOND FORMS

Performance and Payment Bonds for public and private contracts shall be submitted on approved forms furnished by the City of Coos Bay. Performance and Payment Bond forms are furnished in Sections 00 61 13 and 00 61 14, respectively, of the Construction Specifications.

11.0 WARRANTY

Upon acceptance of the construction by the City Engineer, a minimum two (2) year warranty agreement on materials and workmanship shall be initiated between the City of Coos Bay and the

Owner/Developer. The warranty agreement shall include a bond, or other approved security, with a minimum value of 100% of the final improvement construction costs.

The Warranty Form provided in Section 00 65 36 should be completed upon completion of the work and final acceptance by the City.

12.0 PUBLIC NOTIFICATION

Any construction activity that impedes or interrupts any existing public service shall require that the public be notified of that interruption at least 24 hours prior to such impediment or interruption. Notification shall also include, but not be limited to, emergency services, school district, post office, garbage collection, and any other affected public agency. (Identities at precon meeting.) Each notification shall be the responsibility of the Contractor performing the work and shall be coordinated with the City Engineer to assure adequate notification. Failure to adequately notify the public will result in an immediate suspension of the Contractor's construction activities.

13.0 INTERGOVERNMENTAL JURISDICTION

When a proposed improvement project is under the jurisdiction of multiple governmental agencies, it is the responsibility of the Owner/Developer, or agent, to coordinate with and gain approval from each agency having jurisdiction over portions of the work. Evidence of agency approval shall be provided to the City of Coos Bay upon submission of Final Plans as defined by 6.3.

It shall be the responsibility of the construction Contractor to verify approvals and/or permits with agencies prior to commencing work. Failure to verify approval will result in project work being suspended until approval and/or permit is obtained.

14.0 PRECONSTRUCTION MEETING

A preconstruction meeting shall be held following approval of Final Plans and prior to issuance of the Notice to Proceed for construction. Before the meeting can be held all contracts must be signed and Performance and Payment Bonds must be submitted to the City of Coos Bay. Items to be discussed at the meeting include, but are not limited to:

- A. Initiating construction
- B. Construction schedule (How are changes made?)
- C. Inspection schedule
- D. Traffic Control and Public Notification
- E. Subcontractors and suppliers
- F. Materials furnished (i.e. type, brand, submittal requirements, etc.)
- G. Safety requirements
- H. Project Closeout (?)

The Contractor shall submit a written Construction Schedule and for projects that include work within existing public streets, a Traffic Control Plan shall be submitted for review by the City

Engineer. Work within existing public streets shall not proceed until the Traffic Control Plan has been approved by the City Engineer.

No inspections shall be performed until a preconstruction meeting has been held with the City Engineer. At the meeting, a City Inspector or Project Manager will be assigned to the project and all communications, changes, and field decisions shall be coordinated through the Inspector or Project Manager. If the Inspector or Project Manager is not informed of a change or field decision, and the change has not been approved by the appropriate authority, then the change is not allowed and the facility must be constructed as shown on the approved Plans.

15.0 UTILITIES

The approved Plans shall show the location of all existing and proposed utilities (i.e. electric, phone, cable, fiber optic, gas, irrigation, addressed inlet(?) etc.). The Owner/Developer shall provide and have constructed all City maintained facilities associated with the proposed development, including but not limited to, sanitary sewer, storm drainage, streets, traffic control signs, street lights, and appurtenant facilities. The Owner/Developer is responsible for the coordination of this work with any other agencies, individuals, and utility companies including, but limited to the Coos Bay-North Bend Water Board, Pacific Power, Verizon, Charter Communications, Northwest Natural, and other utility providers or agencies that may be affected by the construction.

16.0 INSPECTIONS

(Conflicts with CBMC 12.20.150 (C)) Authorized representatives of the City Engineer will be appointed as inspectors for all phases of the work. Inspections will be performed at the expense of the Owner/Developer for whom the work is being constructed to assure that the public facilities installation or street construction conforms to City Standards and Specifications. (Inspectors? Additional Costs?) Engineering services shall be provided by the Owner/Developer. Contractors may call for the City Inspector to inspect the work when deemed necessary or as determined in the preconstruction meeting.

The inspections listed below in 16.2 through 16.5 will be established at the Pre-Construction Conference based on the project requirements. Inspections requiring 24 hour advanced notice, and approvals to be obtained before proceeding with dependent work, will be outlined. Listed below the numbered inspections are general performance standards that the Inspector will observe.

16.1 ADVANCED NOTIFICATION FOR INSPECTION

The City will provide periodic, ongoing inspections on an as-needed basis. The Contractor shall be responsible for notifying the Public Works and Development Department or Project Manager at least 24 hours in advance of required inspections. The City will not be responsible for performing inspections without sufficient notice, nor will the City be responsible for any cost incurred for delay caused by insufficient notification.

No inspections will be performed without the required 24 hour notification unless otherwise agreed to by all affiliated parties. Any work performed without a required inspection will be subject to removal and inspection, or acceptance, at the City Engineer's discretion.

16.2 STREET INSPECTION

16.2.1 Traffic Control

- A. Signs, barricades, delineators, and cones are in accordance with the approved Traffic Control Plan and MUTCD.
- B. Flaggers practice complies with MUTCP & OSHA regulations.

16.2.2 Excavation / Fill

- A. Construction staking meets requirements.
- B. Construction area cleared and grubbed to mineral soil.
- C. Fill construction and material meets standards and specifications

16.2.3 Subgrade

- A. All underground utility work is complete, inspected, and approved.
- B. All fill and backfill compacted to 95% of maximum density, and tested.
- C. Subgrade is graded uniform and free of irregularities and within tolerances.
- D. Subgrade slope and cross slope has been prepared according to Plans.

16.2.4 Curb

- A. Construction staking meets requirements.
- B. Subgrade has been approved.
- C. Bedding material meets specifications.
- D. Drop curb areas have been located.
- E. Driveways, alleyways, access approaches, ADA ramps are staked and graded.
- F. Construction permit standard detail no. ____.

16.2.5 Curb Backfill

- A. Construction staking is in place.
- B. Finished curb matches staking.
- C. Curb backfill material meets specification.
- D. Finished surface is level, uniform, and free from irregularities.

16.2.6 Sidewalks

- A. Curb backfill is in place and compacted.
- B. Fire hydrants set to grade.
- C. Concrete placement meets grade and specifications as shown in standard detail no. ____.

16.2.7 Drainage Structures (Drains/Culverts?)

- A. Inlets are set as designated on the plans or at low point staked in field.
- B. Inlet frame is set to appropriate street grade and slope.
- C. Drain cross pipes are inspected per pipe construction requirements.

16.2.8 Pavement Base

- A. Base material meets specifications.
- B. All utility trench compaction has been completed at least 48 hours previously.
- C. Base rock is tight, not segregated and free from ravelling.
- D. Valve boxes are set to the top of the base.
- E. Manholes have been set and grouted to grade for at least 24 hours.
- F. Base has not been contaminated by dirt or other substances.
- G. Asphalt areas to be matched are cut square, straight, and uniform for AC patching.
- H. Tack coat applied to concrete and asphalt surfaces to be matched or overlaid.

16.2.9 Paving Operation

- A. Paving operation to be closely monitored by City Representatives. (Who?)
- B. Valve boxes are set to finish grade.
- C. All joints are raked and coarse stone removed from the pavement surface.
- D. The uncompacted A.C. shall be set 1/2" - 3/4" above drainage and manhole structures so that the roller will bridge such structure and no dimpling of the finished mat adjacent to the structure will occur.
- E. There shall be a minimum of at least four (4) passes of the breakdown roller to achieve proper compaction of the mat.
- F. Finish rolling shall continue until no roller marks remain.
- G. Temp of A.C. meets specification at time of placement.

16.3 SEWER INSPECTION**16.3.1 Before Construction**

- A. Inspection of materials and storage area.
- B. Protection of existing systems.
- C. Assurance of proper traffic control
- D. Utilities located and marked.
- E. Construction staking meets requirements.

16.3.2 Subgrade

- A. Subgrade of proposed road established.

16.3.3 Pipe Installation

- A. Inspect trench immediately prior to pipe installation.
- B. Bedding/backfill materials conform to specification.
- C. Services provided to each lot as shown on plans and cleanout provided at property line.
- D. Pipe alignment is true.
- E. Compaction under pipe haunches.
- F. Fittings tight.
- G. Tracer wire and warning tape properly installed.

16.3.4 Pipe Backfill

- A. Compaction testing will be required during backfill operation.
- B. Matel (?) complies with plans and specifications.

16.3.5 Manhole Invert

- A. Distance between manholes matches distance on construction plans.
- B. Required fall between incoming and outflow pipe inverts.
- C. Rough channel has appropriate shape. Sidewalls come to top of uppermost pipe.
- D. Verify inv. Elev. (?)

16.3.6 Completed Manhole

- A. Lamp the lines. A "full moon" circle must be visible on each pipe run. If a full circle is not visible, the Contractor shall choose whether to relay the pipe, or have it televised to prove proper construction. In addition, the Contractor shall prove there is the designed fall from manhole to manhole before proceeding with subsequent construction.
- B. Barrel not cracked or spalled.
- C. Barrel joint grouted.
- D. Concrete encasement of external drop manhole.
- E. Invert channel grouted to smooth finish.
- F. Frame in place set to finish grade and grouted.
- G. All penetrations are water tight.

16.3.7 Sewer Testing

- A. Sewer has been flushed by City of Coos Bay Operations Staff prior to T.V. inspection.
- B. All backfill is completed.
- C. Observation during low pressure air testing, water testing, as required by specifications.
- D. Observation during deflection testing using an approved mandrel required for both rigid and flexible pipe.
- E. All sewer mains to be video inspected.

16.3.8 Connection to Live Facilities

- A. Inspection during connection.
- B. No obstructions in line.

- C. Fittings tight.

16.4 STRUCTURES

16.4.1 Before Construction

- A. Inspection of material and storage area.
- B. Protection of existing systems.
- C. Proper traffic control in place. (For structures?)
- D. Utilities located and marked.
- E. Construction staking meets requirements.

16.4.2 Excavation

- A. Excavation sufficient for structure.
- B. Specified bedding material properly placed and compacted.

16.4.3 Foundations

- A. Reinforcing steel placed in accordance with approved shop drawings, plans and specifications.
- B. Form work in accordance with approved details, plans and specifications.
- C. Supporting subgrade free of soft, saturated or otherwise unsuitable materials.

16.4.4 Form Work & Reinforcement

- A. Reinforcing steel placed in accordance with approved shop drawings, plans and specifications.
- B. Form work in accordance with approved details, plans and specifications

16.4.5 Concrete Placement

- A. Air and soil temperature requirements within specified range.
- B. Concrete placed within 90 minutes of mixing.
- C. Interval between batches not to exceed 20 minutes.
- D. Concrete testing and sample cylinders prepared as required.
- E. Continuous placement, or cold joints, as shown on plans or as specified.
- F. Mechanical vibration of concrete.
- G. Laitance removed.
- H. Curing compound applied to exposed surfaces.
- I. Work protected from elements.

16.4.6 Form Removal & Concrete Finish

- A. Forms remain in place for required time.
- B. Wire and snap ties removed per specifications.

- C. Open or honeycombed areas cut out and grouted.
- D. Surface finished per specifications.

16.4.7 Backfill

- A. Compaction testing required during backfill operations around structures.

17.0 TESTING

All testing shall conform to the City of Coos Bay Standards and Specifications, and shall be performed by certified, independent testing laboratories approved by the City Engineer.

Testing criteria shall meet the requirements as established in each Section of the Construction Specifications. All testing of piping and structures related to the conveyance of sanitary sewer shall be witnessed by the City Inspector assigned to the subject improvement project. Gravity sewer mains shall be air tested by the Contractor in accordance with the methods and requirements of UNI-B-6-98/ASTM F1417. All sewer lines shall be deflection tested by use of an approved mandrel 95% of the inside diameter of the subject pipe and video inspected. Sanitary sewer manholes shall be tested by hydrostatic or vacuum methods in accordance with APWA 306.3.03. Sanitary sewer force mains shall be hydrostatically pressure tested pursuant to AWWA Standards for potable waterlines.

Nondestructive in-place density testing shall be conducted for street subgrades, base aggregates, and asphalt concrete pavements in accordance with the City of Coos Bay Construction Specifications and current Oregon Department of Transportation Standard Specifications.

Compression testing of structural concrete and grout, pull-out testing of epoxy set anchor bolts, and other special structural testing pertinent to the project will be required in accordance with the Oregon Structural Specialty Code and the City of Coos Bay Construction Specifications. Add testing of cone (?) used in curbs and sidewalks.

The City may require additional testing of any portion of the work performed

Prior to final acceptance for maintenance, the Owner/Developer may be required to provide verification testing of any facility that shows evidence of being stressed beyond design limits or capacity.

18.0 CLEANUP

Cleanup shall include, but not be limited to, the removal of all rubbish, construction debris, and remaining materials from the project site; removal of all portions of any existing items of structures designated for removal; cleaning of all new or existing paved surfaces by sweeping or washing, as necessary; leveling, raking, dressing, and replanting of vegetated areas disturbed during construction; smoothing and leveling of gravel surfaced areas; and other work as directed by the City Inspector. All areas adjacent to the project site shall be restored to original or better condition to the satisfaction of the Inspector.

Sanitary sewer and storm drainage piping and structures shall be cleaned and flushed to remove all soil, debris, and foreign material. For new sanitary sewer piping, the downstream manhole shall be plugged to prevent material from washing into the existing collection system. A vacuum truck or other approved means shall be utilized to remove all foreign material from the manhole prior to removing the plug and connecting the new piping to the existing collection system. Cleaning of sanitary sewer piping shall be completed prior to television inspection. Any areas discovered to be inadequately cleaned shall be reflushed and cleaned prior to final acceptance.

Additional cleaning requirements for specific improvements shall be as covered in the Construction Specifications for those items or improvements.

19.0 RECORD DRAWINGS

Record Drawings shall be prepared by the Design Engineer at the expense of the person, entity, or firm for whom the Work is being done. Two (2) complete printed and signed sets (and digital?) of Record Drawings shall be delivered to the City Engineer upon completion of construction. An additional complete digital copy of the Record Drawings shall be provided in AutoCAD format on a CD-ROM or DVD. Each sheet shall be stamped "Record Drawing". Record Drawings must be reviewed and approved by the City Engineer prior to final acceptance of the project. The Design Engineer will be required to correct any deficiencies on the Record Drawings as noted by the City Engineer.

All existing underground utilities exposed during construction shall be precisely located on Record Drawings with dimensional references to permanent objects, preferably property corners or street centerline monuments. All sanitary sewer and storm drainage facilities including main lines, manholes, service laterals, cleanouts, catch basins, ditch inlets, and curb inlets shall be accurately located and stationed on the Record Drawings. Recorded elevations shall be within 0.1-foot of installed conditions. Horizontal dimensions shall be within 0.5-foot of installed conditions.

20.0 FINAL ACCEPTANCE

Final Acceptance shall be determined as the date on which the City Public Works and Development Director formally accepts, in writing, the public improvements for ownership and maintenance by the City of Coos Bay.

Final acceptance will follow final inspection and approval of construction and will involve the completion of the following items (as applicable):

- A. Release of Liens or claims
- B. Easement Dedication
- C. Right-of-way Dedication
- D. Recorded Plat or Partition
- E. Warranty agreement for materials and workmanship, including warranty bond
- F. Verification Performance Tests (if required)
- G. Verification of DEQ required construction certificate by Project Engineer.
- H. Resolution of material and workmanship issues, i.e. final punch list
- I. Submission of Record Drawings
- J. Copies of all approved design changes from Design Engineer.

DRAFT