City of Pullman STANDARD CONSTRUCTION SPECIFICATIONS 2018 EDITION

Adopted by City Council

September 11, 2018 Ordinance No. 18-20

CITY OF PULLMAN STANDARD CONSTRUCTION SPECIFICATIONS 2018 Edition Adopted by Ordinance #18-20

SECTION A: DEFINITIONS

1. "City of Pullman Standard Construction Specifications" means the 2018 Standard Specifications for Road, Bridge, and Municipal Construction published by the Washington State Department of Transportation as they are amended in Section C: Supplemental Specifications below and the City of Pullman Standard Drawings.

SECTION B: HOW TO OBTAIN COPIES

- 1. The *2018 Standard Specifications* can be purchased from the Washington State Department of Printing website at http://www.wsdot.wa.gov/Publications/Manuals/OrderInformation.htm.
- 2. The *2018 Standard Specifications* can be also downloaded, free of charge, from the following web page at www.wsdot.wa.gov/publications/manuals/m41-10.htm.
- 3. Copies of the Supplemental Specifications and Standard Drawings may be obtained from the Public Works Dept. office in Pullman City Hall, 190 SE Crestview Street, Building A, Pullman, WA 99163 or from the following web page at: https://pullmanwa.hosted.civiclive.com/cms/One.aspx?portalId=15252951&pageId=16147041.

SECTION C: SUPPLEMENTAL SPECIFICATIONS

- 1. Division 1 of the Standard Specifications is revised and augmented as follows:
 - (a) Amend the definition of "contracting agency" in Section 1-01.3 as follows:

"Contracting Agency" is the City of Pullman.

(b) Delete the following phrase from the first sentence of the first paragraph of Section 1-02.6

"or electronic forms that the bidder has been authorized to access"

(c) Delete the third sentence of Section 1-02.7 and replace the first sentence of Section 1-02.7 Bid Deposit with the following:

When bids are anticipated to exceed \$100,000, or \$200,000 for multi-craft or trade projects, as estimated by the Engineer, a deposit of at least five percent (5%) of the total bid shall accompany each bid.

- (d) Delete the fourth paragraph of Section 1-02.9
- (e) Replace the second sentence of the second paragraph and the third and fourth paragraphs of Section 1-02.10 with the following:

Faxed and e-mailed requests to revise or supplement a Bid Proposal will not be accepted.

(f) Insert the following as a new second paragraph to 1-05.10 Guarantees:

The Contractor shall indemnify and hold the City of Pullman harmless from any damage or expense by reason of failure of performance as specified in said contract or from defects appearing or developing in the material or workmanship provided or performed under said contract within a period of one year after its acceptance thereof by the City of Pullman.

- (g) Delete Section 1-06.1(4).
- (h) Add the following to Section 1-07.7(1) Load Limits:

When the gross vehicle weight of a truck delivering material to the job site exceeds the gross vehicle load limit for which the vehicle is licensed by more than 1000 pounds, as determined by scale tickets, the City will not pay for that material which exceeds the load limit.

(i) Replace the last paragraph of Section 1-07.14 Responsibility for Damage with the following:

Indemnification / Hold Harmless

The Contractor shall defend, indemnify and hold the City, its officers, officials, employees and volunteers harmless from any and all claims, injuries, damages, losses or suits including attorney fees, arising out of or in connection with the performance of this contract, except for injuries and damages caused by the sole negligence of the City.

Should a court of competent jurisdiction determine that this contract is subject to RCW 4.24.115, then, in the event of liability for damages arising out of bodily injury to persons or damages to property caused by or resulting from the concurrent negligence of the Contractor and the City, its officers, officials, employees, and volunteers, the Contractor's liability hereunder shall be only to the extent of the Contractor's negligence. It is further specifically and expressly understood that the indemnification provided herein constitutes the Contractor's waiver of immunity under Industrial Insurance, Title 51 RCW, solely for the purposes of this indemnification. This waiver has been mutually negotiated by the parties. The provisions of this section shall survive the expiration or termination of this contract.

(j) Add the following to Section 1-07.17 Utilities and Similar Facilities:

The Northwest Utility Notification Center provides a one call number for requesting location of underground utilities. The number is 1-800-424-5555, (or 811).

(k) Replace Section 1-07.18 Public Liability and Property Damage Insurance with the following:

1.07.18 Insurance Requirements For Contractors

BIDDERS' ATTENTION IS DIRECTED TO THE INSURANCE REQUIREMENTS BELOW. IT IS HIGHLY RECOMMENDED THAT BIDDERS CONFER WITH THEIR RESPECTIVE INSURANCE CARRIERS OR BROKERS TO DETERMINE IN ADVANCE OF BID SUBMISSION THE AVAILABILITY OF INSURANCE CERTIFICATES AND ENDORSEMENTS AS PRESCRIBED AND PROVIDED HEREIN. IF AN APPARENT LOW BIDDER FAILS TO COMPLY STRICTLY WITH THE INSURANCE REQUIREMENTS, THAT BIDDER MAY BE DISQUALIFIED FROM AWARD OF THE CONTRACT.

Contractor shall procure and maintain for the duration of the contract, without interruption, insurance against claims for injuries to persons or damage to property which may arise from or in connection with the performance of the work hereunder by the Contractor, their agents, representatives, employees or subcontractors. The cost of such insurance shall be included in the Contractor's bid.

No Limitation.

Contractor's maintenance of insurance, its scope of coverage, and limits as required herein shall not be construed to limit the liability of the Contractor to the coverage provided by such insurance, or otherwise limit the City's recourse to any remedy available at law or in equity.

(1) <u>Minimum Scope of Insurance</u>

Contractor shall obtain insurance of the types and coverage described below:

- (aa) <u>Automobile Liability</u> insurance covering all owned, non-owned, hired and leased vehicles. Coverage shall be written on Insurance Services Office (ISO) form CA 00 01 or a substitute form providing equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage.
- (bb) <u>Commercial General Liability</u> insurance shall be written on ISO occurrence form CG 00 01 and shall cover liability arising from premises, operations, stop gap liability, independent contractors, products-completed operations, personal injury and advertising injury, and liability assumed under an insured contract. The Commercial General Liability insurance shall be endorsed to provide a per project general aggregate limit using Endorsement ISO form CG 25 03 05 09 or an equivalent endorsement. There shall be no exclusion for liability arising from explosion, collapse or underground property damage. The City shall be named as an additional insured under the Contractor's Commercial General Liability insurance policy with respect to the work performed for the City using ISO Additional Insured Endorsement CG 20 10 10 01 and Additional Insured-Completed Operations Endorsement CG 20 37 10 01 or substitute endorsements providing at least as broad coverage.
- (cc) <u>Workers' Compensation</u> coverage as required by the Industrial Insurance laws of the State of Washington.

(2) <u>Minimum Amounts of Insurance</u>

Contractor shall maintain the following insurance limits:

- (aa) <u>Automobile Liability</u> insurance with a minimum combined single limit for bodily injury and property damage of \$1,000,000 per accident.
- (bb) <u>Commercial General Liability</u> insurance shall be written with limits no less than \$1,000,000 each occurrence, \$2,000,000 general aggregate and a \$2,000,000 products-completed operations aggregate limit.

(3) Full Availability of Contractor Limits

If the Contractor maintains higher insurance limits than the minimums shown above, the City shall be insured for the full available limits of Commercial General and Excess or Umbrella liability maintained by the Contractor, irrespective of whether such limits maintained by the Contractor are greater than those required by this contract or whether any certificate of insurance furnished to the City evidences limits of liability lower than those maintained by the Contractor.

(4) <u>Other Insurance Provisions</u>

The Contractor's Automobile Liability and Commercial General Liability insurance policies are to contain, or be endorsed to contain that they shall be primary insurance as respect the City. Any insurance, self-insurance, or selfinsured pool coverage maintained by the City shall be excess of the Contractor's insurance shall not contribute with it.

(5) <u>Contractor's Insurance for Other Losses</u>

The Contractor shall assume full responsibility for all loss or damage from any cause whatsoever to any tools, Contractor's employee owned tools, machinery, equipment, or motor vehicles owned or rented by the Contractor, or the Contractor's agents, suppliers or contractors as well as to any temporary structure, scaffolding and protective fences.

(6) <u>Waiver of Subrogation</u>

The Contractor and the City waive all rights against each other, any of their Subcontractors, Sub-subcontractors, agents and employees, each of the other, for damages caused by fire or other perils to the extent covered by insurance obtained pursuant to the Insurance Requirements Section of this Contract or other insurance applicable to the work. The policies shall provide such waivers by endorsement or otherwise.

(7) <u>Acceptability of Insurers</u>

Insurance is to be placed with insurers with a current A.M. Best rating of not less than A:VII.

(8) <u>Verification of Coverage</u>

Contractor shall furnish the City with original certificates and a copy of the amendatory endorsements, including but not necessarily limited to the additional insured endorsement, evidencing the Automobile Liability and Commercial General Liability insurance of the Contractor before commencement of the work. A completed Insurance Coverage Questionnaire shall be attached to the Certificate of Insurance. Upon request by the City, the Contractor shall furnish certified copies of all required insurance policies, including endorsements, required in this contract and evidence of all subcontractors' coverage.

(9) <u>Subcontractors</u>

The Contractor shall cause each and every Subcontractor to provide insurance coverage that complies with all applicable requirements of the Contractor-provided insurance as set forth herein, except the Contractor shall have sole responsibility for determining the limits of coverage required to be obtained by Subcontractors. The Contractor shall ensure that the City is an additional insured on each and every Subcontractor's Commercial General liability insurance policy using an endorsement at least as broad as ISO Additional Insured endorsement CG 20 10 10 01 for ongoing operations and CG 20 37 10 01 for completed operations.

(10) <u>Notice of Cancellation</u>

The Contractor shall provide the City and all Additional Insureds for this work with written notice of any policy cancellation, within two business days of their receipt of such notice.

(11) Failure to Maintain Insurance

Failure on the part of the Contractor to maintain the insurance as required shall constitute a material breach of contract, upon which the City may, after giving five business days notice to the Contractor to correct the breach, immediately terminate the contract or, at its discretion, procure or renew such insurance and pay any and all premiums in connection therewith, with any sums so expended to be repaid to the City on demand, or at the sole discretion of the City, offset against funds due the Contractor from the City.

(1) Insert the following before the first sentence of the third paragraph in Section 1-09.6(3) Force Account for Equipment:

Rental rates for equipment that is locally available shall be established at prevailing local rates.

(m) Insert the following after the second sentence in Section 1-09.6(5) Force Account Mobilization:

The City will pay mobilization and demobilization to the nearest piece of equipment available from any source. If the Contractor chooses to bring in his own equipment from a greater distance, mobilization-demobilization shall be compensated based on the distance to the nearest equipment available.

(n) In Section 1-09.11(3) replace "State of Washington" and "State" with "City of Pullman" and replace "Thurston County" with "Whitman County".

(o) Replace Section 1-09.13 with the following:

Claims submitted in accordance with Section 1-09.11 not resolved through negotiation shall be resolved through litigation with venue in Whitman County.

(p) Insert the following initial sentence to 1-10.2(1)B:

This section shall apply only when included by the Contract Special Provisions.

- 2. Division 2 of the Standard Specifications is revised and augmented as follows:
 - (a) The compaction requirements of Sections 2-03.3(14)C; 2-03.3(14)I; 2-06.3 and 2-09.3 shall be amended as follows:

Earth embankments and backfill of excavations not under pavement or other structures shall be compacted to 80 percent of maximum density as provided in Section 2-03.3(14)D Amended.

Earth embankments and backfill of all excavations under pavements or other structures shall be compacted to 90 percent of maximum density as provided in Section 2-03.3(14)D Amended to 6 inches below subgrade. The zone from subgrade to 6 inches below subgrade shall be compacted to 95 percent of maximum density as provided in 2-03.3(14)D Amended.

All base materials above subgrade shall be compacted to 95 percent of maximum density as provided in Section 2-03.3(14)D Amended.

In-place density and moisture content shall be determined by nuclear densometer.

(b) Replace Section 2-03.3(14)D Compaction and Moisture Control Tests with the following:

Maximum density and optimum moisture content will be determined using ASTM test method D1557 (modified proctor).

(c) Add new Section 2-07.2 Construction Water as follows:

The Contractor may obtain water from a City fire hydrant (at no cost on City funded projects), by requesting a special hydrant outlet a minimum of 48 hours in advance. The outlet shall be used only by the Contractor and only for the project specified. The Contractor shall not operate the fire hydrant. Flow control shall be accomplished by means of the outlet valve provided. The Contractor shall furnish hoses and other transport equipment.

(d) Replace the text of "Controlled Density Fill (CDF) or Controlled Low-Strength Material (CLSM) in Section 2-09.3(1)E Backfilling with the following:

Controlled density fill shall meet the following requirements:

Ingredients	Amount Per Cubic Yard	
Portland cement	94 pounds	
Aggregate class 1 or 2	3,000 pounds	
Entrained air	8 percent minimum	
Water	40 gallons maximum	

- 3. Division 3 of the Standard Specifications is revised and augmented as follows:
 - (a) Replace the first three paragraphs of Section 3-01.5 Measurement with the following:

For payment purposes, all crushed, screened, or naturally occurring materials that are to be paid for by the ton shall be measured in accordance with Section 4-04.4.

- 4. Division 4 of the Standard Specifications is revised and augmented as follows:
 - (a) Replace the first paragraph of Section 4-04.4 Measurement with the following:

Crushed surfacing top course, base course, ballast, and gravel base, when processed at a central plant, will be measured by the ton.

- 5. Division 5 of the Standard Specifications is revised and augmented as follows:
 - (a) Add the following to Section 5-04.3 Construction Requirements:

An approved paving contractor shall perform all asphalt paving and patching. Utility covers, except for survey monuments, located in the pavement shall be adjusted to final grade before the final lift of pavement is placed.

- (b) Delete 5-04.3(3)D.
- (c) Add the following to Section 5-04.3(12) Joints:

At the end of the workday, there shall be no longitudinal joint in the wearing course with an exposed length in excess of 25 feet.

(d) Add the following to Section 5-05.3 Construction Requirements:

An approved paving contractor shall perform all concrete paving and patching.

(e) Supplement Section 5-05.3(13) Curing with the following:

If curing and sealing compound is used, it shall be applied in accordance with manufacturer's recommendations. Product shall be pre-approved by Engineer prior to application.

During cold weather cement concrete pavement placement as defined in 5-05.3(14), curing shall occur under insulated blankets or other approved method with no curing and sealing compound being applied to concrete prior to being covered. Immediately after blanket removal, cold weather appropriate, pre-approved solvent-based sealer shall be applied at

such time when the air temperature is at least 40°F. Contractor shall supply information on cold weather sealant to Engineer prior to application.

- 6. Division 6 of the Standard Specifications is revised and augmented as follows:
 - (a) Replace Section 6-02.3(2)B Commercial Concrete with the following:

Commercial concrete shall meet the following requirements:

AASHTO Grading No. 57 or No. 67 for coarse aggregate 564 pounds per cubic yard minimum cement content 0.49 maximum water/cement ratio 4-inch maximum slump 5 – 8 percent entrained air measured at the job site 3,000 psi minimum 28-day compressive strength

The Contractor may add up to 75 pounds per cubic yard of fly ash to the mix. Fly ash shall not be substituted for Portland cement. The Contractor shall provide a mix design to the Engineer for approval a minimum of 7 days prior to proposed use.

(b) Replace first sentence of Section 6-02.3(11)5. with the following:

All other concrete surfaces – curing compound or continuous wet cure for at least 3 days.

(c) Supplement Section 6-02.3(11) Curing Concrete with the following:

Curing Compound shall be applied immediately after finishing and/or the disappearance of the "sheen" of surface water. Curing and sealing compound shall be applied in accordance with manufacturer's recommendations. Products shall be pre-approved by Engineer prior to application.

During cold weather concrete placement as defined in 6-02.3(6)A2, curing shall occur under insulated blankets or other approved method with no curing and sealing compound being applied to concrete prior to being covered. Immediately after blanket removal, cold weather appropriate pre-approved solvent-based sealer shall be applied at such time when the air temperature is at least 40°F. Contractor shall supply information on cold weather sealant to Engineer prior to application.

- 7. Division 7 of the Standard Specifications is revised and augmented as follows:
 - (a) The compaction requirements of Division 7 shall be amended pursuant to Section C:2.(a) of these Standard Construction Specifications.
 - (b) Replace the last three paragraphs of Section 7-01.2 Materials with the following:

Drainpipes up to 27 inches in diameter shall be solid wall PVC pipe that meets the requirements of 9-05.12(1), unless specifically approved otherwise by the Engineer. Larger diameter pipes shall be as specified by the Engineer.

(c) Add the following to Section 7-09.2 Materials:

Pipe for water mains shall be ductile iron or PVC conforming to Sections 9-30.1(1) and 9-30.1(5), respectively, unless specifically approved otherwise by the Engineer. Restrained joints shall be used only with approval by the Engineer.

(d) Replace the last sentence of the first paragraph of Section 7-09.3(23) Hydrostatic Pressure Test with the following:

The City will provide necessary labor, test pump, gauges and water to perform pressure tests of all water pipelines. The Contractor shall provide excavations, thrust blocking, test plugs, pump and air relief connections, traffic control and all other items needed to meet the requirements of this section. The Contractor shall have all pipe, fittings, and thrust block installation sufficiently complete to allow the testing to occur, prior to calling out the Engineer to perform the pressure test. The Contractor shall request pipe testing a minimum of 48 hours in advance.

(e) Add the following after the second sentence of the eleventh paragraph of Section 7-09.3(23) Hydrostatic Pressure Test:

If the utility pipeline being tested fails the initial pressure test, the Contractor shall reimburse the City for labor, material, and equipment costs for additional pressure testing and additional flushing of water pipelines on a time and material basis.

(f) Replace the twelfth paragraph of Section 7-09.3(23) Hydrostatic Pressure Test with the following:

Tests shall be made with valves open. Pressure testing against closed valves is not allowed.

(g) Replace Section 7-09.3(23)B Testing Section with Hydrants Installed with the following:

When hydrants are included with the section of main pipe to be tested, the testing shall be conducted with hydrant auxiliary valves open and hydrant operating stem nuts and hose ports closed.

(h) Replace Section 7-09.3(23)C Testing Hydrants Installed on Existing Mains with the following:

For hydrants installed and connected to an existing main, the hydrant connection including hydrant tee, connection tee, connection pipe, and auxiliary valves, shall be installed with pretested materials.

Before the hydrant connection is made to the existing main, the hydrant installation shall be subjected to hydrostatic testing as specified herein in Section 7-09.3(23) Amended. Hydrants installed and connected to an existing main shall have a satisfactory bacteriological sample completed following the hydrostatic test.

(i) Replace Section 7-09.3(24) Disinfection of Water Mains with the following:

7-09.3(24) Disinfection of Water Mains

New water lines and extensions of water lines in excess of 20 feet in length shall satisfactorily pass bacteriological tests before the new mains or extensions are connected to the existing water system. Main extensions shorter than 20 feet and sections of pipe and fittings used to connect new water mains to the existing water system shall be soaked 24 hours in a 50 mg/l chlorine solution. In addition the connecting pipe and fittings shall be swabbed with a calcium hypochlorite paste immediately before they are installed.

The Contractor shall dose all lengths of pipe with dry, high test calcium hypochlorite (65-70% chlorine) as the pipeline is constructed. The dosage rate in grams of 65% test calcium hypochlorite per 20 foot length of pipe equals

0.008431 x d² in which "d" is the diameter in inches.

The Contractor shall request pipe testing a minimum of 48 hours in advance. The City will provide necessary equipment and labor, water and materials to flush and perform bacteriological tests of all water pipelines. Disinfection, flushing and testing shall be performed as recommended by the American Water Works Association. The Contractor shall provide excavations, thrust blocking, traffic control, plugs, caps, fittings, and the other items needed to meet the requirements of this section. The Contractor shall provide a tank truck to receive and dispose of flushing water if a sanitary sewer is not readily available.

If the utility pipeline being tested fails the initial bacteriological test, the Contractor shall reimburse the City for labor, material, and equipment costs for additional bacteriological testing and additional flushing of water pipelines on a time and material basis. The Engineer may order a second bacteriological test at his discretion 48 hours after final connections are made and before the new line is placed in service. The City will pay the cost of this test. If this test fails, costs of flushing and additional tests shall be the responsibility of the Contractor.

- (j) Delete Sections 7-09.3(24)A through 7-09.3(24)O.
- (k) Replace the first paragraph of Section 7-17.2 Materials with the following:

Pipe for sewer mains shall be ductile iron sewer pipe or solid wall PVC pipe conforming to Sections 9-05.13 and 9-05.12, respectively, unless specifically approved otherwise by the Engineer.

- 8. Division 8 of the Standard Specifications is revised and augmented as follows:
 - (a) Replace the first paragraph of Section 8-04.3(1) Construction Requirements:

Cement concrete curb, curb and gutter, gutter, and spillway shall be constructed with air entrained concrete Class 3000 or commercial concrete in accordance with the requirements of Section 6-02. If commercial concrete is used for driveways, it shall have a minimum cementitious material content of 564 pounds per cubic yard of concrete, shall be air entrained, and the tolerances of Section 6-02.3(5)C shall apply.

(b) Replace the first paragraph of Section 8-06.3 Construction Requirements:

Cement concrete driveway entrances shall be constructed with air entrained concrete Class 3000 or commercial concrete in accordance with the requirements of Section 6-02. If commercial concrete is used for driveways, it shall have a minimum cementitious material content of 564 pounds per cubic yard of concrete, shall be air entrained, and the tolerances of Section 6-02.3(5)C shall apply.

(c) Replace the first paragraph of Section 8-14.3 Construction Requirements:

The concrete in the sidewalks and curb ramps shall be air entrained concrete Class 3000 or commercial concrete in accordance with the requirements of Section 6-02. If commercial concrete is used for sidewalks and curb ramps, it shall have a minimum cementitious material content of 564 pounds per cubic yard of concrete, shall be air entrained, and the tolerances of Section 6-02.3(5)C shall apply.

(d) Replace Section 8-14.3(4) Curing with the following:

Concrete sidewalks shall be cured as specified in 6-02.3(11) as amended herein. During the curing period, all traffic, both pedestrian and vehicular, shall be excluded. Vehicular traffic shall be excluded for such additional time as the Engineer may specify.

- 9. Division 9 of the Standard Specifications is revised and augmented as follows:
 - (a) The requirements of Sections 9-02.2(1) and 9-02.2(2) are waived on non-federally funded projects using less than 3000 tons of asphalt concrete pavement.
 - (b) The gradation for Top Course and Keystone in Section 9-03.9(3) Crushed Surfacing is replaced with the following:

Sieve Size	Percent Passing
1"	100
3/4"	94-100
¹ / ₄ " square	55-75
U.S. No. 40	8-24
U.S. No. 200	10.0 max.
% Fracture	75 min.
Sand Equivalent	35 min.

(c) Replace Section 9-03.12(3) Gravel Backfill for Pipe Zone Bedding with the following:

Gravel backfill for pipe bedding shall meet the requirements for crushed surfacing top course in Section 9-03.9(3) Amended.

(d) Replace Section 9-05.1(5) PVC Drain Pipe, Couplings and Fittings with the following:

PVC pipe for drains shall meet the requirements of Section 9-05.12.

(e) Add the following sentence to 9-30.2(1) Ductile Iron Pipe:

All fittings and valves shall be mechanical joint unless otherwise shown on the construction drawings.

(f) Replace the last sentence of 9-30.3(8) with the following:

Tapping sleeves shall be stainless steel.

(g) Replace the last paragraph of section 9-30.6(4) Service Fittings with the following:

Fittings used for polyethylene tubing shall be compression type with stainless steel liners.

CITY OF PULLMAN STANDARD ABBREVIATIONS

@	at	L.S.	lump sum
A.C.	asphalt concrete	Lt.	left
ACP	asphalt concrete	Max.	maximum
	pavement	MH	manhole
Aggr.	aggregate	Min.	minimum
Asph.	asphalt	Ν	north
Bldg.	building	No.	number
BM	benchmark	Pavt.	pavement
Bng.	bearing	PC	point of curvature
CL	centerline	PCC	portland cement concrete
CAP	corrugated aluminum	PI	point of intersection
	pipe	PT	point of tangency
C.B.	catch basin	Rt.	right
C.F.	cubic foot	S	south
Cl.	class	San.	sanitary
CI.	cast iron	S.D.	storm drain
CMP	corrugated metal pipe	Sdwk.	sidewalk
Conc.	concrete	S.F.	square foot
Const	Construct construction	Sht	sheet
CSTC	crushed surfacing top	Spec	specifications
0010	course	Spee.	street
CSBC	crushed surfacing base	Sta	station
0.520	course	Std	Standard
СҮ	cubic vard	S Y	square vard
Dr	drive	<u>Т</u>	ton
Drwy	driveway	T. Tvn	typical
Dwg	drawing	VC	vertical curve
E	east	W	west
E	each	Vd	Vard
Elev	elevation	1 u.	Turu
ECV.	edge of pavement		
Eve Excav	excavate: excavation		
Exe., Exeav.	existing		
EXISt.	fire hydrant		
Fin	finish: finished		
Ft	foot		
ΗMA	hot mix asphalt		
Invita	inch		
III. Inv	invert		
111V. It	ioint		
דו. דה	Joint		
	linear foot		
L.F.	imear 100t		



















TYPICAL SECTION

NOTES:

- 1. Rolled curb and gutter shall not be used:
 - A. On streets in commercial and industrial zoned areas.
 - B. On streets with longitudinal (lengthwise) grades in excess of 10 percent.
 - C. On any arterial.
 - D. Without prior approval of the Engineer.
- 2. Changes from standard curb and gutter to rolled curb require a smooth transition of 30 inches minimum length.
- 3. Joint spacing, base rock, and materials shall be as for standard curb and gutter.
- 4. Control joints with tooled edges shall be cut 1/4 to 1/3 of the section depth at 10-foot intervals, or as directed by the Engineer. Curb joints shall match street joints when adjacent to concrete pavement.
- 5. All exposed edges shall be tooled to a 1/2-inch radius (min).
- Catch basins in rolled curb and gutter shall be similar in material and dimensions to standard frames and grates, but with no hood, and with a cross section approximating that of the rolled curb and gutter. Use East Jordan Iron Works 7711 Series, D&L I-4444-01 or approved equal.
- 7. Standard curb ramps are required in rolled curb.
- 8. Do not use expansion joints.
- 9. Construction stakes shall establish the back of curb for horizontal control and the lip of gutter for vertical control.
- 10. Sidewalk adjacent to rolled curb requires a 5-foot-wide landscape strip between the back of curb and the sidewalk; 3-foot minimum on cul-de-sac streets.

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ROLLED CURB AND GUTTER

CITY OF PULLMAN ENGINEERING DIVISION

ADOPTED: 9-11-2018

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PAGE NO:

ZGS



































- 4. A minimum of 8 inches of wall shall remain between holes.
- 5. Where manholes are located out of the street improvement area, install an 6-foot (min) steel fence post within 3 feet of the manhole extending 3-1/2 feet above grade.
- 6. Manhole shall be water tight to prevent infiltration of ground water into the manhole structure.





CITY OF PULLMAN ENGINEERING DIVISION

ADOPTED: 9-11-2018































F

1'-6"

1'-10 1/2"

2'-7 1/2"

3'-4 1/2"

4'-1 1/2"

4'-10 1/2"

5'-7 1/2"

W

1'-9"

2'-0"

2'-6"

3'-0"

3'-6"

4'-0"

4'-6"



NOTES:

~ #4 REBAR @ 12" O.C.E.W. THROUGHOUT

~ MEETS OR EXCEEDS THE REQUIREMENTS OF ASTM C-478 / AASHTO M-199

9

~TRASH RACK OPENINGS NOT TO EXCEED 4"

~HINGED TRASH RACK

~Wilbert Precast or Equal

HEADWALL W/ HINGED TRASH RACK

PAGE NO:

CITY OF PULLMAN **ENGINEERING DIVISION**

9-11-2018 ADOPTED:









