

GENERAL NOTES:

1. **CAUTION:** Location of existing utilities shall be verified by contractor prior to date of construction. The contractor shall review "Excavator Handbook Safe Digging Guide" latest edition available from the Utility Notification Center of Colorado (UNCC) at www.colorado811.org. **It is the contractor's responsibility to call 811 for Tier-1 locates from UNCC as well as contact Tier-2 members for any locates not coordinated by UNCC.**
2. All materials and construction shall be in conformance with the City of Westminster's "Standards and Specifications for the Design and Construction of Public Improvements," latest edition. All domestic water, reclaimed water, sanitary sewer, storm sewer, and streets construction shall be subject to City of Westminster inspection.
3. All trenches shall be adequately supported and the safety of workers provided for as required by the most recent Occupational Safety and Health Administration (OSHA) "Safety and Health Regulations for Construction." These regulations are described in Subpart P, Part 1926 of the Code of Federal Regulations. Sheet piling and shoring shall be utilized where necessary to prevent any excessive widening or sloughing of the trench which may be detrimental to human safety, to the pipe being placed, to trees or to any existing structure where excavations are made under severe water conditions. The contractor may be required to use an approved piling instead of sheet piling and shoring.
4. In all cases, maintain ten feet horizontal distance between water mains and sanitary sewer, water mains and reclaimed water mains, and reclaimed water mains and sanitary sewer.
5. Compaction of all trenches must be attained and compaction test results submitted to the City Representative prior to final acceptance.
6. The contractor shall have one signed copy of the plans approved by the City of Westminster and one copy of the latest edition of the City's design and construction standards and specifications on the job site at all times.
7. The contractor shall notify the City Representative 48 hours prior to the start of construction. A pre-construction meeting shall be scheduled with the City Representative prior to start of work.
8. At least five (5) working days prior to the beginning of construction, a traffic control plan shall be submitted to the City. The traffic control plan shall be prepared by a certified traffic control supervisor and shall be in conformance with the manual on uniform traffic control devices. No work shall begin until all traffic control devices have been placed in accordance with the plan. The contractor shall continuously maintain the traffic control devices for the entire duration of the project or until the roadway has been opened and the permanent traffic control devices have been installed.
9. **BENCHMARK:** *Give a description of the project benchmarks (preferably two), including: location monumentation, USGS elevations, etc.*

10. BASIS OF BEARING: *Basis of Bearing shall be in accordance with the City of Westminster's coordinate system (USGS - north zone and USGS NVD 1988) and aligned with the City's quarter section bearings. A listing of all the quarter section monument with their ex-coordinate values and the section bearing lines is provided on the City's WEB site (<http://www.cityofwestminster.us/CityGovernment/CommunityDevelopment/EngineeringDivision>).*
11. Repair of any damage to existing improvements or landscaping is the responsibility of the contractor.
12. When an existing asphalt street is cut, the street must be restored to a condition equal to or better than its original condition. The existing street condition shall be documented by the City Representative before any cuts are made. Patching shall be done in conformance with the City of Westminster standards. The finished patch shall blend smoothly into the existing surface. All large patches shall be paved with an asphalt lay-down machine. In streets where more than one cut is made, an overlay of the entire street width, including the patched areas, may be required. The determination of need for a complete overlay shall be made by the City Engineer.
13. All damaged existing curb, gutter and sidewalk shall be repaired prior to acceptance of completed improvements.
14. All construction activities must comply with the State of Colorado permitting process for "Stormwater Discharges Associated with Construction Activity." For information or to download a permit application, visit the State of Colorado Department of Public Health & Environment website at <https://www.colorado.gov/pacific/cdphe/wq-construction-permits>
15. The Contractor is responsible for implementing and maintaining erosion and sediment control measures at all times during construction in compliance with the stormwater permit issued by the Colorado Department of Public Health and Environment (CDPHE) and the Land Disturbance Permit issued by the City. It is the contractor's responsibility to modify erosion and sediment control plans as conditions warrant.
16. If dewatering is required, a State Construction Dewatering Permit is required for discharges to a storm sewer, channel, irrigation ditch, any street that is tributary to the aforementioned facilities, or any waters of the United States.
17. The type, size, location and number of all known underground utilities are approximate when shown on the drawings. It shall be the responsibility of the contractor to verify the existence and location of all underground utilities along the route of the work. The contractor shall be responsible for unknown underground utilities.
18. Prior to the commencement of any construction, the contractor shall contact all utilities to coordinate schedules.
19. Contractor shall notify all residents and/or businesses in writing 48 hours prior to any shut-off in service. The notices must have contractor's phone number and name of contact person, and emergency phone number for after hours calls. All shut-off's must be approved by the City's Utility Division, and City valves and appurtenances shall be operated by City personnel, unless written permission is given otherwise.

20. Following construction of the improvements and prior to entering into the two-year warranty period, a copy of the “As-constructed” plans shall be submitted to the City in paper, digital PDF and DXF formats with the Registered Professional Engineer’s stamp and signature verifying that the plans are complete. **DIGITAL COPIES SHALL BE SUBMITTED VIA 2 DISCS.** As-constructed submittals shall include corrected horizontal and vertical locations of water fittings, fire hydrants, manholes and inlets and any other related appurtenance. Additionally, water, reclaimed water, sanitary sewer and storm sewer profile information shall include correct pipe sizes, slopes, lengths and materials types.
In addition, “horizontally corrected” line work of the as-constructed water, reclaimed water, sanitary sewer and storm sewer features shall be submitted to the GIS Division in one of the acceptable GIS formats noted above.
21. All work, including correction work, shall be inspected by the City Representative who shall have the authority to halt construction when standard construction practices are not being adhered to.
22. The developer/owner shall warrant all work to be free from defects in workmanship and materials for a period of two-years from the date of acceptance into the warranty period of all construction called for by the Public Improvements Agreement with the City of Westminster.
23. All public water, storm sewer, and sanitary sewer mains and appurtenances located in public right-of-way or utility easements shall be maintained by the City of Westminster Public Works Department. The City is not responsible for repair or replacement of pavement, curb and gutter, landscaping, or any other private improvements within utility easements damaged during utility repair or maintenance.
24. All private drives and parking areas shall be constructed in accordance to the approved pavement analysis using a minimum of three (3) inches of asphalt pavement and six (6) inches of base course. Private drives and parking areas in which utility easements are located shall be constructed using a minimum of four (4) inches of asphalt pavement and eight (8) inches of base course or full depth asphalt pavement equivalent.
25. No access allowed at rear or side property lines, when adjacent to public lands.
26. Temporary (or permanent) fencing shall be installed on the private side of the property line adjacent to public land, as the construction limit line, prior to grading, utility installation and all other work. Do not disturb public land. Temporary fencing shall be maintained until permanent fencing is installed.
27. Developer and builder shall regularly patrol the public lands adjacent to the development to remove construction debris and keep clean and safe.
28. Storm drainage shall only be discharged onto or across public land as described in the approved drainage study.
29. Developer shall furnish the City Representative a letter sealed and signed by a registered professional engineer that all storm drainage facilities, including detention pond volume, have been constructed in accordance with the accepted Phase III Drainage Report. Survey of the completed detention facility shall include any landscaping shown on the Official Development Plan. A

Stormwater Detention and Infiltration Design Data Sheet shall be filled out and submitted to the Engineering Division to accompany the pond certification letter.

30. Contractor shall not operate any construction vehicles nor perform any construction operations before 7am or after 6pm, Monday through Friday or before 8am or after 5pm on Saturdays. No work will be allowed on Sundays or Holidays. The City reserves the right to further restrict or modify these hours of operation if conditions warrant.
31. If any work is to occur within existing public Right-of-Way,, the contractor must acquire a Right-of-Way Permit from the City prior to working in the Right-of-Way.

The following statement shall be affixed to the cover sheet of all construction plans that the City Engineer is to approve. By signing the plans, the engineering consultant acknowledges his sole responsibility for the design of the facilities portrayed therein and the adequacy of the information on which the design was based:

CITY OF WESTMINSTER PLAN REVIEW IS FOR GENERAL CONFORMANCE WITH CITY OF WESTMINSTER STANDARDS AND SPECIFICATIONS FOR DESIGN AND CONSTRUCTION ONLY. THIS APPROVAL DOES NOT RELIEVE THE CONSULTANTS OF ANY LIABILITY FOR ERRORS, OMISSIONS OR VIOLATIONS OF CITY STANDARDS AND SPECIFICATIONS OR STATE OR FEDERAL GOVERNMENT REGULATIONS. THE CITY OF WESTMINSTER ASSUMES NO RESPONSIBILITY OTHER THAN AS STATED ABOVE FOR COMPLETENESS. THE CONSTRUCTION OF THESE PUBLIC IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED STANDARDS AND SPECIFICATIONS.

APPROVED FOR CONSTRUCTION

(Leave a 4"x2" Blank Area for City Approval Stamp)

GRADING AND EROSION CONTROL NOTES

1. All site grading (excavation, embankment, and compaction) shall conform to the recommendations of the latest soils investigation for this property and shall further be in conformance with the City of Westminster's "Standards and Specifications for the Design and Construction of Public Improvements," latest edition. A State Stormwater Discharge Permit shall be obtained prior to any grading being performed on site larger than 1 acre in size. These permits can be obtained from the State website at <https://www.colorado.gov/pacific/cdphe/wq-construction-permits>
2. Natural vegetation shall be retained and protected wherever possible. Exposure of soil to erosion by removal or disturbance of vegetation shall be limited to the area required for immediate construction operation and for the shortest practical period of time.
3. Topsoil shall be stockpiled to the extent practicable on the site for use on areas to be revegetated. Any and all stockpiles shall be located and protected from erosive elements.
4. Temporary vegetation shall be installed on all disturbed areas where permanent surface improvements are not scheduled for installation within three months. Vegetation shall be a vigorous, drought tolerant, native species mix. Refer to Section 2.26.00 of "Standards and Specifications for the Design and Construction of Public Improvements," latest edition, for seeding mix. Project scheduling should take advantage of spring or fall planting seasons for natural germination, but seeded areas shall be irrigated, if conditions so merit.
5. At all times, the property shall be maintained and/or watered to prevent wind-caused erosion. Earthwork operations shall be discontinued when fugitive dust significantly impacts adjacent property. If earthwork is complete or discontinued and dust from the site continues to create problems, the owner/developer shall immediately institute mitigative measures and shall correct damage to adjacent property.
6. Temporary cut/fill slopes shall not exceed a steepness of 2:1 (H:V). Permanent slopes shall not exceed 4:1 (H:V) in areas to be seeded or sodded. Retaining walls shall be viewed and approved by separate application to the City's Building Division.
7. Approval of the grading plan does not apply to utility construction. Utility construction shall not begin until approval by the City Engineer.
8. The owner/developer shall provide any additional dust abatement and erosion control measures deemed necessary by the City, should conditions merit them.
9. Temporary fences shall be installed along all boundaries of the construction limits as shown on the approved erosion control plan, to prevent grading on property not owned by the developer. In addition, the City may require additional temporary fences if field conditions so merit them.
10. This erosion and sediment control plan has been submitted to the City of Westminster and is in general conformance with the City's erosion control standards. Additional erosion and sediment control measure may be required of the owner and his or her agents due to unforeseen erosion problem or if the proposed erosion control measures do not function as intended. The requirements

of this erosion control plan and the obligation of the landowner shall run with the land until such time as the erosion control plan is properly completed, officially modified or voided.

11. All erosion control measures (BMP's) shall be inspected by the contractor every 14 days and after storm events. Inspection reports shall be kept on site and made available at all times for City review. All erosion control devices shall be properly maintained.

The following statement shall be affixed to the grading and erosion control sheets:

I, (property owner's name), have reviewed the City's erosion and sediment control standards and this erosion control plan. I acknowledge my responsibility to provide all necessary erosion and sediment control measures to avoid damage to property and polluting of receiving waters.

Project Owner

Date

ROADWAY NOTES:

1. All roadway construction within the public rights-of-way shall be in conformance with the City of Westminster's "Standards and Specifications for the Design and Construction of Public Improvements," latest edition.
2. Paving shall not start until a Soils Report and Pavement Design have been approved by the City Representative and Subgrade Compaction Test and Proof Roll have been performed and the results have met with the approval of the City of Westminster. The pavement design report must be submitted three weeks prior to the anticipated date of paving.
3. Water shall be used as a dust palliative.
4. Portland Cement shall be Type II or Type IIA conforming to all requirements of the standard specifications for Portland Cement ASTM C-150.
5. All curb returns within public right-of-way shall be constructed with handicap ramps in accordance with the City of Westminster Standards and Standard Specifications. All handicap ramps shall include a truncated dome detectable warning pattern as shown on the roadway details.
6. Contractor shall straight sawcut existing asphalt pavement when joining with new asphalt pavement. Apply SS-1 Tack Coat.

SANITARY SEWER NOTES

1. All sanitary sewer lines shall be a minimum of an 8-inch PVC pipe, ASTM D-3034 SDR 35. Sewer pipes deeper than 20 feet from finished ground elevation to pipe invert shall be ASTM D-3034, SDR 26 PVC. Sanitary sewer line materials and construction shall be in conformance with the City of Westminster's "Standards and Specifications for the Design and Construction of Public Improvements," latest edition.
2. Contractor shall notify the City Representative 48 hours prior to the start of construction.
3. All sanitary sewer mains testing shall be done in accordance with the City of Westminster Standards and Specifications (latest revision).
4. All sanitary sewer main construction shall be done by a contractor licensed by the City of Westminster.
5. All work, including correction work, shall be inspected by the City Representative who shall have the authority to halt construction when standard construction practices are not being adhered to.
6. Maintain a minimum of ten feet of horizontal separation between all sanitary sewer or reclaimed water mains and domestic water mains and services.
7. Location of existing utilities shall be verified by contractor prior to start of construction.
8. All sewer shall have Class "B" bedding unless otherwise shown. Bedding material shall conform to ASTM C-33 or D-448, Gradation No. 67.
9. Manholes, barrels and cones shall be constructed of precast concrete, cast-in-place manholes shall be allowed in special circumstances with approval by the City Engineer.
10. No backfill material shall be placed above the springline of the pipe until a City Representative has authorized backfilling. It shall be the duty of the contractor to notify the City 48 hours in advance of proposed backfill operations so a City Representative may inspect the pipe and the bedding prior to backfilling.
11. Stub sewer service lines 15 feet inside lot. Install 4" service lines at 0.0208-ft/ft minimum, 0.0800-ft/ft maximum slope. Install 6" service lines at 0.0104-ft/ft minimum, 0.0600-ft/ft maximum slope. All sewer services are private from the main to the building.
12. Sewer pipe crossing above or below a water line (including services) shall be constructed in accordance to sections 4.15.02 or 4.15.03 and standard detail SS8.
13. Pool and spa drains shall be baffled prior to connecting into the City's sanitary sewer system. Discharge into the sanitary sewer shall be limited to 100 gpm or as stated in the approved utility report, whichever is less.

STORM SEWER/IRRIGATION PIPE NOTES

1. All storm sewer line materials and construction shall be in conformance with the City of Westminster's "Standards and Specifications for the Design and Construction of Public Improvements," latest edition.
2. Public storm sewer shall be Reinforced Concrete Pipe (RCP), minimum Class III.
3. Contractor shall verify horizontal and vertical locations of existing storm sewer points of connections prior to construction of any proposed storm sewer.
4. All storm sewer shall have Class "B" bedding unless otherwise shown. Bedding material shall conform to ASTM C-33 or D-448, Gradation No. 67 and extend 9" above the top of pipe.
5. The City shall be furnished with a set of plans marked with "As-Built." The plans shall show manhole and inlet locations, pipe sizes and any variations from the approved plan.
6. Manholes, barrels and cones shall be constructed of precast concrete. Cast-in-place manholes shall be allowed in special circumstances with approval by the City Representative.
7. Precast manholes and risers shall be manufactured in conformity with ASTM Designation C-478. All cones shall be eccentric.
8. For manholes, the flexible plastic joint sealing compound shall be "Ramnek," Rubberneck or approved equal.
9. No backfill material shall be placed above the springline of the pipe until a City Representative has authorized backfilling. It shall be the duty of the contractor to notify the City 48 hours in advance of proposed backfill operations so a City Representative may inspect the pipe and the bedding prior to backfilling.

WATER LINE NOTES:

1. All water main construction shall be performed by a contractor licensed in the City of Westminster.
2. All water main materials and construction shall be in conformance with the City of Westminster's "Standards and Specifications for the Design and Construction of Public Improvements," latest edition.
3. Minimum cover over water mains shall be five feet above top of pipe.
4. All PVC water mains shall be installed with insulated No. 12 gage type UF wire taped on top of pipe as a tracer wire. Tracer wire is to be looped up to each fire hydrant and terminate in a cathodic protection box.
5. Testing, flushing and disinfecting of water lines shall be done in accordance with the City of Westminster Standards and Specifications (latest revision), and under the observation of the City Representative. Chlorinated water shall not be discharged directly into streams or ponds but rather shall be dechlorinated or discharged to the sanitary sewer system.
6. Fire hydrant assembly includes the fire hydrant, 6" ductile iron lateral pipe, valve, and tee, shall be restrained using mechanical joint restraints from the tee to the fire hydrant. Installation shall be in accordance with City of Westminster Standard Details. Only "red" waterous hydrants will be used.
7. Blow-offs are to be located in the street such that the curb and gutter will carry any runoff, preventing damage to private property. Valve and blow-off assembly should always be turned away from sewer lines, and should be perpendicular to the water main alignment.
8. Contractor shall locate existing plugs and thrust blocks prior to construction.
9. Install thrust blocks at all bends, stubs and tees in water lines. All fitting bends shall be rodded or mechanically restrained on both sides to the adjacent pipe per City of Westminster Standards and Specifications.
10. It is the contractor's responsibility to adjust all water valve boxes to the required final grade.
11. Care shall be taken when constructing the water main so that the designed profile is maintained and high points are avoided. Fire hydrants or air valves may be required at designated high points so that accumulated air can be discharged.
12. When it is necessary to lower water mains at storm sewers and other utility crossings, a minimum clearance of 18 inches shall be maintained between outside of pipes. For new water main construction, the vertical profile of the water main shall not result in a high point due to the required lowering. Encasement and insulation may be needed.
13. No pipe shall be backfilled until it has been inspected by the City Representative.
14. Each length of water pipe shall bear the date of manufacture, type, grade, length, manufacturer's name and an NSF seal of approval along with installation of a tracer wire on all PVC pipe.

15. The manufacturer shall furnish a certified statement that all of the specified tests and inspections have been made and the results thereof comply with the requirement of the applicable standards herein specified. A copy of the certification will be sent to the City upon request.
16. Contractor shall place a two-inch wide metallic covered tape labeled "Water Line" two feet above the water line.
17. All fire hydrants and fire service lines must be isolated from the main with a valve.
18. Water tap/meter sizes shall be determined by separate application to the Building Division. Any water taps performed prior to final approval of the application shall be replaced at the developer's expense if the water tap size changes or the tap fee shall be paid at the higher rate.
19. Cathodic protection shall be required to protect metal pipe and fittings. Please coordinate with the City's Engineering Division to get the proper cathodic protection standard details. Zinc anode caps will be required for bolt ends at a minimum.
20. Freeze potential of a water main shall be evaluated when crossing storm sewers
21. All water lines shall have Class "B" bedding unless otherwise shown. Bedding material shall conform to ASTM C-33 or D-448, Gradation No. 67 and extend 9" above the top of pipe.

The following shall be affixed to the master utility sheet of all commercial developments:

I (Property Owner) acknowledge the size of the water meter(s) is based on the fixture unit count worksheet submitted to Public Works and Utilities (available from sfeinglas@cityofwestminster.us 303-658-2386). If the fixture unit count is unknown, the owner is responsible for any discrepancies in the tap/meter size constructed and the actual need of the business(es). This includes replacement of the tap, meter, vault (if needed) and replacing any infrastructure (curb, gutter, pavement, landscaping, etc.) damaged or removed in this process. It is expressly understood that there is an increased tap fee for upsizing the tap and meter. It is also understood that if only one grease interceptor is provided for multiple users, the owner of the building is responsible for the maintenance of this facility.

Property owner's signature

Date

CITY OF WESTMINSTER RECLAIMED WATER NOTES:

1. Reclaimed water will be used for irrigation only.
2. The owner/developer is responsible for designing, building, operating and maintaining the reclaimed facilities at this site in compliance with; the Colorado Department of Public Health and Environment's Reclaimed Water Control Regulation NO. 84, the City of Westminster's City Code Section 8 Chapter 12 Reclaimed/Non Potable Water Regulations, and the City of Westminster's Reclaimed Water Design Specifications.
3. The owner/developer must submit two signed copies of the "Reclaimed Water Users Agreement" and the "User Plan to Comply" to the City of Westminster. City Staff will review the "Users Plan to Comply" and submit it to the Colorado Department of Health and Environment for approval. Once the plan is approved a "Notice of Authorization for the Use of Reclaimed Water" will be issued by the Colorado Department of Health and Environment. The "Notice of Authorization" and Reclaimed Water Users Agreement must be received by the City prior to connecting to the reclaimed water system.
4. Approved signs shall be posted on the site to notify the public that reclaimed water will be used for irrigation and is not safe to drink. Approved signs are available through the Department of Public Works and Utilities.
5. Precautions shall be taken to design and install the landscape and irrigation system to confine reclaimed water to the authorized use area and to ensure that reclaimed water will not be allowed to come in contact with the domestic water system or buildings.
6. All piping including private irrigation system piping shall be purple (pantone purple 522c) to differentiate reclaimed water piping from potable water or other piping systems. All irrigation boxes and covers, control valves, sprinkler heads and other appurtenances associated with the reclaimed water system shall be purple and labeled "reclaimed" or "non-potable" water.
7. Reclaimed water irrigation systems shall be separately metered for each owner or association responsible for the operation and maintenance of the system. Reclaimed meters shall be purple, have purple registers and be stamped "reclaimed" on the main case.
8. Reclaimed Water irrigation systems shall be configured and secured in a manner that only permits operation by authorized personnel. There shall be no reclaimed water hose bib connections or other viable connections accessible to the public.
9. Reclaimed irrigation mains shall maintain a 10-foot horizontal offset distance from potable water mains and services and shall also be vertically offset at least 18-inches below potable mains and services. Encasement will be required for clearance less than 18" or when reclaimed is above water.
10. Cross-connection with the potable water system is strictly prohibited.
11. Reclaimed Water has a higher level of dissolved solids than potable water. Plants tolerant of high salinity should be selected for use in areas irrigated with, or that may potentially be supplied with reclaimed water. If plant materials with lower tolerances are used, the developer shall take those

steps necessary to prevent salt build-up in the soil surrounding these plants. Planting locations for salt sensitive species should have good drainage and soil percolation.

12. Reclaimed water meter installations shall not have a meter bypass line and valves.
13. An approved reduce pressure zone backflow prevention device and pressure regulating valve will be installed on all reclaimed water irrigation systems. Shop drawings shall be submitted to Public Works and Utilities prior to installation.