

**Appendix F:**  
Construction Control Measures  
Standard Notes

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# Standard Erosion Control Notes

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## General Erosion Control Requirements

These notes are a summary for the legal requirements, that are set forth in the Fort Collins Stormwater Criteria Manual (FCSCM), and that any conflict is resolved by the more stringent requirement controlling.

- 1) The Property Owner, Owner's Representative, Developer, Design Engineer, General Contractor, Sub-contractors, or similar title for the developing entity (here after referred to as the Developer) has provided these Erosion Control Materials in accordance with Erosion Control Criteria set forth in the Manual as an attempt to identify erosion, sediment, and other potential pollutant sources associated with these Construction Activities and preventing those pollutants from leaving the project site as an illicit discharge. Full City requirements and are outlined and clarified in the Manual under Chapter 4: Construction Control Measures and should be used to identify and define what is needed on a project.
- 2) The Developer shall make themselves thoroughly familiar with the provisions and the content of the specifications laid out in the Manual, the Development Agreement, the Erosion Control Materials compiled for this project, and the following notes as all these materials are applicable to this project.
- 3) The Developer shall implement and maintain Control Measures for all potential pollutants from the start of land disturbing activities until final stabilization of the construction site.
- 4) The City Erosion Control Inspector shall be **notified at least twenty-four (24) hours prior** to the desired start of any construction activities on this site to allow adequate time for on-site confirmation (initial inspection which can take up to two business days after receiving the request) that the site is in fact protected from sediment and pollutants discharges off site. Please contact [erosion@fcgov.com](mailto:erosion@fcgov.com) early to schedule those Initial Erosion Control Inspections well in advance so that demolition, clearing, grubbing, tree removal, and scraping may begin without delay. Failure to receive an on-site confirmation before construction activities commence is an automatic "Notice of Violation" and can result in further enforcement actions.
- 5) The Developer shall proactively provide all appropriate Control Measures to prevent damage to adjacent downstream and leeward properties. This includes but is not limited to: trees, shrubs, lawns, walks, pavements, roadways, structures, creeks, wetlands, streams, rivers, and utilities that are not designed for removal, relocation, or replacement in the course of construction.
- 6) At all times the Developer shall be responsible to ensure adequate Control Measures are designed, selected, installed, maintain, repaired, replaced, and ultimately removed in order

- to prevent and control erosion suspension, sediment transportation, and pollutant discharge as a result of construction activities associated with this project.
- 7) All applicable Control Measures based upon the sequencing and/or phasing of the project shall be installed prior to those construction activities commencing.
  - 8) As dynamic conditions (due to the nature, timing, sequence, and phasing of construction) in the field may warrant Control Measures in addition, or different, to what is shown on these plans, the Developer shall at all times be responsible to implement the Control Measures that are most effective with the current state and progress of construction. The Developer shall implement whatever measures are determined necessary, and/or as directed by the City Erosion Control Inspector. The Developer shall insure that all Erosion Control Plans (Maps) or SWMP documents are updated to reflect the current site conditions, with updates being initialed and dated. These site inspections and site condition updates shall be made available upon request by the City.
  - 9) All listings, provisions, materials, procedures, activities, site work and the like articulated in this or other written site-specific documents (Including but not limited to the erosion control reports, development agreements, landscape, and drainage materials) shall meet or exceed the most restrictive language for City, County, State, and Federal regulations with regards to erosion, sediment, pollutant, and other pollution source Control Measures. The Developer shall be responsible to comply with all of these aforementioned laws and regulations.
  - 10) The Developer shall ensure that all appropriate permits (CDPS General Permit Stormwater Discharges Associated with Construction Activity, Dewatering, Clean Water Act, Army Corps of Engineers' 404 Wetlands Mitigation Permit, etc.) have been attained prior to the relevant activity has begun. These permits or copies shall be made available upon request by the City.
  - 11) The Developer shall furnish all conveniences and assistances to aid the Erosion Control Inspectors of materials, workmanship, records, and self-inspections, etc. of the Control Measures involved in the construction activities.
  - 12) The Developer shall request clarification of all apparent site construction issues that may arise due to inconsistencies in construction plans for the site or site conditions around the selected Control Measures by contacting the Erosion Control Inspector. The Erosion Control Inspector will not be responsible for any explanations, interpretations, or supplementary data provided by others.
  - 13) All Control Measures shall be installed in accordance with the Manual.
  - 14) The City reserves the right to require additional Control Measures as site conditions warrant, to the extent authorized by relevant legal authority.
  - 15) As with any construction standards, occasions may arise where the minimum erosion control standards are either inappropriate or cannot be justified. In these cases, a variance to these

standards **may** be applied for pursuant to the terms, conditions, and procedures of the Manual.

- 16) Inspection. The contractor shall inspect site pollutant sources and implement Control Measures at a minimum of once every two weeks during construction and within 24 hours following a precipitation event. Documentation of each inspection shall be recorded and retained by the contractor.
- 17) All temporary Control Measures shall be cleaned, repaired, or reconstructed as necessary in order to assure continual performance of their intended function. All retained sediments, particularly those on paved roadway surfaces, shall be removed and disposed of in a manner and location so as not to cause their release into any drainage way.
- 18) Any Control Measure may be substituted for another standard Control Measure so long as that Control Measure is equal to, or of greater protection than the original Control Measure that was to be used in that location. (ex. silt fence, for wattles, or for compact berms) Wattle alone on commercial construction sites have shown to be an ineffective substitute for silt fence or compact berms unless it is accompanied by a construction fence to prevent vehicle traffic.
- 19) Any implementation or replacement of existing Control Measures for a non-standard control, or alternative Control Measure, shall require the review and acceptance by the City erosion control staff before the measure will be allowed to be used on this project. These Control Measures' details shall be submitted, reviewed and accepted to be in accordance with the Erosion Control Criteria based upon the functionality and effectiveness in accordance with sound engineering and hydrological practices

#### **Land disturbance, Stockpiles, and Storage of Soils**

- 20) There shall be no earth-disturbing activity outside the limits designated on the accepted plans. Off road staging areas or stockpiles must be preapproved by the City. Disturbances beyond these limits will be restored to original condition.
- 21) Pre-disturbance vegetation shall be identified, protected, and retained wherever possible. Removal or disturbance of existing vegetation shall be limited to the area required for immediate construction operations, and for the shortest practical period of time. This should include sequencing and phasing construction activities in a way so that the soil is not exposed for long periods of time by schedule or limit grading to small areas. This should also include when practical advancing the schedule on stabilization activities such that landscaping takes place shortly if not immediately after grading has occurred. Vegetation efforts shall start as soon as possible to return the site to a stabilized condition. Sensitive areas should avoid clearing and grading activities as much possible.

- 22) All exposed soils or disturbed areas are considered a potential pollutant and shall have Control Measures implemented on the site to prevent materials from leaving the site.
- 23) All soils exposed during land disturbing activity (stripping, grading, utility installations, stockpiling, filling, etc.) shall be kept in a roughened condition at all times by equipment tracking, scarifying or disking the surface on a contour with a 2 to 4 inch minimum variation in soil surface until mulch, vegetation, and/or other permanent erosion control is installed.
- 24) No soil stockpile shall exceed ten (10) feet in height. All soil stockpiles shall be protected from sediment transport through the use of surface roughening, watering, and down gradient perimeter controls. All soil stockpiles shall be protected from sediment transport by wind in accordance with Municipal Code §12-150. All stockpiles shall be flattened to meet grade or removed from site as soon as practical, and no later than the completion of construction activities or abandonment of the project. All off-site stockpile storage locations in City limits shall have a stockpile permit from the City Engineering Department prior to using the area to store material. If frequent access from hardscape to the stockpile is needed a structural tracking Control Measure shall be implemented.
- 25) All required Control Measures shall be installed **prior** to any land disturbing activity (stockpiling, stripping, grading, etc.). All of the required erosion Control Measures must be installed at the appropriate time in the construction sequence as indicated in the approved project schedule, construction plans, and erosion control report.
- 26) All inlets, curb-cuts, culverts, and other storm sewer infrastructure which could be potentially impacted by construction activities shall be protected with Control Measures. Material accumulated from this Control Measure shall be promptly removed and in cases where the protection has failed, the pipes shall be thoroughly cleaned out.
- 27) All streams, stream corridors, buffers, woodlands, wetlands, or other sensitive areas shall be protected from impact by any construction activity through the use of Control Measures.
- 28) All exposed dirt shall have perimeter control. Any perimeter controls that drain off or has the ability to be tracked onto the nearby hardscape shall have some form of effective sediment control as the, or as part of the, perimeter control.
- 29) All exposed slopes should be protected. All exposed steep slopes (Steeper than 3:1 H:V) shall be protected from erosion and sediment transport through use of Control Measures.
- 30) No soils shall remain exposed by land disturbing activity for more than thirty (30) days after activity has ceased before required temporary seeding or permanent erosion control (e.g. seed/mulch, landscaping, etc.) is installed. This is not just limited to projects that are abandoned; this includes any project that is temporarily halted and no immediate activity is to resume within the next thirty (30) days, unless otherwise approved by the City Erosion Control Inspector. During a season when seeding does not produce vegetative cover, another

temporary erosion control shall be implemented with or until temporary seeding or permanent erosion control can be performed.

- 31) All individual lots shall have effective sediment controls located on the street side and any down gradient side. Typically most lots drain to the front yet on those cases where houses are along a pond or drainage swale have the lot drain in a different direction than the street, those individual lots will need protection on that down gradient side to prevent sediment from leaving the lot. See the Individual Lot Details for further clarification.

### **Vehicle Tracking**

- 32) At all points where vehicles exit or leave the exposed dirt area on to a hardscape or semi hardscape (concrete, asphalt, road base, etc.) shall have installed at least one structural tracking Control Measure to prevent vehicle tracking. All areas not protected by an adequate perimeter control shall be considered a point where vehicles exit the site. Access points should be limited to as few entrances as possible (All perimeter areas shall be protected from tracking activities).
- 33) In all areas that the structural tracking Control Measures fail to prevent vehicle tracking, collection and proper disposal of that material is required. All inlets located near access points and affected by tracking activities shall be prevented from the introduction of sediment into the drainage system.
- 34) City Municipal Code §20-62, among other things, prohibits the tracking, dropping, or depositing of soils or any other material onto city streets by or from any source. City Municipal Code, §26-498, among other things, prohibits the discharge of pollutants on public or private property if there is a significant potential for migration of such pollutant. Therefore, all tracked or deposited materials (intentional or inadvertent) are not permitted to remain on the street or gutter and shall be removed and legally disposed of by the Developer in a timely and immediate manner. Dirt ramps installed in the curb-lines are not exempt to these sections of code and shall not be permitted in the street right of way (public or private).
- 35) If repeated deposit of material occurs on a site, additional structural tracking controls may be required of the Developer by the City Erosion Control Inspector.

### **Loading and Unloading Operations**

- 36) The Developer shall apply Control Measure to limit traffic (site worker or public) impacts and proactively locate material delivered to the site in close proximity to the work area or immediately incorporated in the construction to limit operational impacts to disturbed areas, vehicle tracking, and sediment deposition that could impact water quality.

**Outdoor Storage or Construction Site Materials, Building Materials, Fertilizers, and Chemicals**

- 37) Any materials of a non-polluting nature (steel, rock, brick, lumber, etc.) shall be inspected for any residue coming off the material during routine inspection and will generally be located where practical at least fifty (50) feet from any permanent or interim drainage ways.
- 38) Any high environmental impact pollutant materials that have a high likelihood to result in discharge when in contact with stormwater (lubricants, fuels, paints, solvents, detergents, fertilizers, chemical sprays, bags of cement mix, etc.) should not be kept on site where practical. When not practical, they should be stored inside (vehicle, trailer, connex, building, etc.) and out of contact with stormwater or stormwater runoff. Where not available, they shall be stored outside in a raised (high spots or on pallets), covered (plastic or tarped), and sealed (leak proof container) in secondary containment location. The secondary containment or other Control Measure shall be adequately sized, located, where practical, at least fifty (50) feet from any permanent or interim stormwater structures or drainage ways and shall be monitored as part of the routine inspections.

**Vehicle and equipment maintenance and fueling**

- 39) Parking, refueling, and maintenance of vehicles and equipment should be limited in one area of the site to minimize possible spills and fuel storage areas. This area shall be located, where practical, at least fifty (50) feet from any permanent or interim stormwater structures or drainage ways and shall be monitored as part of the routine inspections. All areas shall keep spill kits and supplies close.

**Significant Dust or Particulate generating Process**

- 40) The property must be actively preventing the emission of fugitive dust at all times during construction and vegetation activities. All land disturbing activities that result in fugitive dust shall be in accordance with Municipal Code §12-150 to reduce the impacts to adjacent properties and community health. All required practices shall be implemented and additional ones shall be followed. These practices include watering the sites and discontinuing construction activities until the wind subsides as determined by any City Inspectors.

**Concrete truck / equipment washing, including the concrete truck chute and associated fixtures and equipment**

- 41) All concrete and equipment washing shall use structural Control Measures appropriate to the volume of wash and frequency of use. These Control Measures shall be located, where practical, at least fifty (50) feet from any permanent or interim stormwater structures or drainage ways and shall be monitored as part of the routine inspections. These areas shall be clearly identified and protected from any wash from leaving the Control Measure. If frequent



access from hardscape to the Control Measure is to occur, a structural tracking Control Measure shall be implemented. These Control Measures shall be frequently cleaned out.

- 42) The Developer is responsible for ensuring washing activity is taking place at the appropriate Control Measure and site workers are not washing or dumping wash water on to the dirt or other uncontrolled locations.

#### **Dedicated Asphalt and concrete batch plants**

- 43) Dedicated asphalt and concrete batch plants are not acceptable on construction sites within the City of Fort Collins without an expressed written request and plan to reduce pollutants associated with that type of activity and approval by the City of Fort Collins specifically the Erosion Control Inspector. The Developer shall inform the erosion control inspection staff of any dedicated asphalt, or concrete batch plants that is to be used on site.

#### **Concrete Saw Cutting Materials**

- 44) Saw cutting material shall be in accordance with Municipal Code §12-150 for air emissions and all water applications to the saw cutting shall prevent material from leaving the immediate site and collected. These cutting locations, once dried, shall be swept and scraped of all material and shall have proper and legal disposal.

#### **Waste Materials Storage and Sanitary Facilities**

- 45) Trash, debris, material salvage, and/or recycling areas shall be, where practical, at least fifty (50) feet from any permanent or interim stormwater structures or drainage ways and shall be monitored as part of the routine inspections. These facilities should be located out of the wind and covered as able. Where not able to cover, locating said areas on the side of other structures to reduce exposure to winds, and follow maximum loading guidelines as marked on the container. The Developer is required to practice good housekeeping to keep the construction site free of litter, construction debris, and leaking containers.
- 46) Sanitary facilities shall be prevented from tipping through the use of anchoring to the ground or lashing to a stabilized structure. These facilities shall also be located as far as practical from an inlet, curb cut, drainage swale or other drainage conveyances to prevent material transport from leaving the local area. This consists of the facility being located, where practical, at least fifty (50) feet from any permanent or interim drainage ways.

#### **Other Site Operations and Potential Spill Areas**

- 47) Spills: For those minor spills that; are less than the State's reportable quantity for spills, stay within the permitted area, and in no way threaten any stormwater conveyance, notify the

City of Fort Collins Utilities by email at [erosion@fcgov.com](mailto:erosion@fcgov.com) or phone (970) 817-4770. For any significant, major, or hazardous spills, notify the City of Fort Collins Utilities by phone only after Emergency Response (911) has been notified and is on route, County Health Department (LCDHE) has been notified through Larimer County Sheriff Dispatch (970) 416-1985, and the State Spill Hotline Incident Reporting have been contacted 1-877-518-5608. Written documentation shall be provided to the City within 5 days of the event. All spills shall be cleaned up immediately.

- 48) Selection of “plastic welded” erosion control blankets shall not be used in areas that wildlife, such as snakes, are likely to be located as these have proven to cause entrapment issues.

#### **Final stabilization and project completion**

- 49) Any stormwater facilities used as a temporary Control Measure will be restored and storm sewer lines will be cleaned upon completion of the project and before turning the maintenance over to the Owner, Homeowners Association (HOA), or other party responsible for long term maintenance of those facility.
- 50) All final stabilization specifications shall be done in accordance with the Manual, Chapter 4: Construction Control Measures.
- 51) All disturbed areas designed to be vegetated shall be amended, seeded & mulched, or landscaped as specified in the landscape plans within 14 working days of final grading.
- 52) Soil in all vegetated (landscaped or seeded) areas, including parkways and medians shall comply with all requirements set forth in Sections 12-130 through 12-132 of the City Municipal Code, as well as Section 3.8.21 for the City Land Use Code.
- 53) All seeding shall refer to landscaping plans for species mixture and application rates and depths requirements.
- 54) All seed shall be drilled where practical to a depth based upon the seed type. Broadcast seeding shall be applied at double the rate as prescribed for drill seeding and shall be lightly hand raked after application. Hydroseeding may be substituted for drill seeding on slopes steeper than 3(H):1(V) or on other areas not practical to drill seed and crimp and mulch. All hydroseeding must be conducted as two separate processes of seeding and tackification.
- 55) All seeded areas must be mulched within twenty-four (24) after planting. All mulch shall be mechanically crimped and or adequately applied tackifier. The use of crimped mulch or tackifier may require multiple re-applications if not properly installed or have weathered or degraded before vegetation has been established. Areas of embankments having slopes greater than or equal to 3H:1V shall be stabilized with an erosion mat or approved equal to ensure seed will be able to germinate on the steep slopes. During a season when seeding does

- not produce vegetative cover, another temporary erosion control shall be implemented along with, or until, temporary seeding or permanent erosion control can be performed.
- 56) The Developer shall warranty and maintain all vegetative measures for two growing seasons after installation or until seventy percent (70%) vegetative cover has been established, whichever is longer and meets all the Criteria outlined in the Fort Collins Stormwater Criteria Manual Chapter 4: Construction Control Measures.
- 57) The Developer shall maintain, monitor, repair, and replace any and all applicable Control Measures until final stabilization has been obtained. All Control Measures must remain until such time as all upstream contributing pollutant sources have been vegetated or removed from the site. When any Control Measure is removed, the Developer shall be responsible for the cleanup and removal of all sediment and debris from that Control Measure. At the point at which the site has been deemed stabilized and verified by City Erosion Control Inspector, all temporary Control Measures can then be fully removed. All measures shall be removed within 30 days after final stabilization is achieved.
- 58) The responsible party shall maintain and keep current all payments or related forms of security for the Erosion Control Escrow until 1) stabilization has been reached and 2) all Control Measures and/or BMPs have sediment materials collected and the Control Measure removed from the site. At that time the site will be considered completed and any remaining Erosion Control Escrow shall be returned to the appropriate parties.