



APPENDIX F

STANDARD NOTES

Construction Stormwater Control Standard Notes

The following standard notes for erosion control on construction sites must be included in each ESCP prepared for the County. The list is not exhaustive but represents the minimum requirements for addressing stormwater quality management on construction sites in the County. Additional notes addressing project specific conditions may be added.

General erosion control requirements

1. The property owner, owner's representative, developer, design engineer, general contractor, sub-contractors, or similar title for the developing entity (hereafter referred to as the Developer) has provided these erosion control materials in accordance with the erosion control criteria set forth in the Standards as an attempt to identify erosion, sediment, and other potential pollutant sources associated with these construction activities and to prevent those pollutants from leaving the project site as an illicit discharge.
2. The Developer shall make themselves thoroughly familiar with the provisions and the content of the specifications laid out in the Standards, 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 County 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 the County 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, maintained, 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 to, or different from, 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 County Erosion Control Inspector. The Developer shall ensure that all Erosion and Sediment 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 County.

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 commencement of the relevant activity. These permits or copies shall be made available upon request by the County.
11. The Developer shall furnish all conveniences and assistances to aid the Erosion Control Inspector's review of materials, workmanship, records, and self-inspections, etc., of the control measures in use at the construction site.
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 Standards.
14. The County 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 Standards.
16. Inspection: The Developer 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 Developer.
17. All temporary control measures shall be cleaned, repaired, or reconstructed as necessary 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 drainageway.

18. Any control measure may be substituted for another standard control measure so long as that control measure provides protection that is equal to or greater than the original control measure that was to be used in that location (e.g., silt fence for wattles or for compact berms). Wattles alone on commercial construction sites have shown to be an ineffective substitute for silt fence or compact berms unless accompanied by a construction fence to prevent vehicle traffic.
19. Any implementation or replacement of existing control measures with a non-standard control, or alternative control measure, shall require the review and acceptance of the County erosion control staff before the measure will be allowed to be used on this project. The control measure details shall be submitted, reviewed, and accepted as in conformance with the County's erosion control criteria based upon the functionality and effectiveness of the control measure 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 County. Disturbances beyond these limits shall 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 or by limiting grading to small areas. When practical, this should also include 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. All stockpiles shall be flattened to meet grade or removed from the site as soon as practical and no later than the completion of construction activities or abandonment of the project. 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 and sediment control plan.
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 have the ability to be tracked onto the nearby hardscape shall have some form of effective sediment control as, or as part of, the perimeter control.
 29. All exposed slopes should be protected. All exposed steep slopes (steeper than 3H:1V) 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 County 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.

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.), the Developer shall have installed at least one structural tracking control measure to prevent vehicle tracking. All areas not protected by 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 where 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 protected from the introduction of sediment into the drainage system.
34. If repeated deposit of material occurs on a site, additional structural tracking controls may be required of the Developer by the County Erosion Control Inspector.

Loading and unloading operations

35. The Developer shall apply control measures to limit traffic impacts (site worker or public) and proactively locate material delivered to the site in close proximity to the work area or immediately incorporate materials into construction to limit operational impacts to disturbed areas, vehicle tracking, and sediment deposition that could impact water quality.
36. Any materials of a non-polluting nature (steel, rock, brick, lumber, etc.) shall be routinely inspected for any residue coming off the material and will generally be located at least fifty (50) feet from any permanent or interim drainageways, where practical.
37. Any pollutant with potential for significant environmental impact that is highly likely 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 off-site storage is not practical, pollutants should be stored inside (vehicle, trailer, conex, building, etc.) and out of contact with stormwater or stormwater runoff. Where interior storage is not available, pollutants shall be stored outside in a raised (high spots or on pallets), covered (plastic or tarped), and sealed (leak proof) secondary containment location. The secondary containment or other control measure shall be adequately sized, located at least fifty (50) feet from any permanent or interim stormwater structures or drainageways (where practical), and monitored as part of the routine inspections.

Vehicle and equipment maintenance and fueling

38. Parking, refueling, and maintenance of vehicles and equipment should be limited to 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 drainageways and shall be monitored as part of the routine inspections. All areas shall keep spill kits and supplies close.

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

39. 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 drainageways and shall be monitored as part of the routine inspections. These areas shall be clearly identified, and any wash prevented 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.
40. 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 onto the dirt or in other uncontrolled locations.

Dedicated asphalt and concrete batch plants

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

Waste materials storage and sanitary facilities

42. 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 drainageways and shall be monitored as part of the routine inspections. These facilities shall be located out of the wind and covered as able. Where not able to cover, locate 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.
43. 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 conveyance 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 drainageways.

Other site operations and potential spill areas

44. Spills: For those spills less than 5 gallons that have no potential to impact state waters, notify the County by email at eng-stormwater@larimer.org. For spills 5 gallons or greater or that have the potential to impact state waters or human health, contact the County Health Department (LCDHE) through Larimer County Sheriff Dispatch (970) 416-1985. All spills shall be cleaned up immediately.
45. Selection of "plastic welded" erosion control blankets shall not be used in areas where wildlife, such as snakes, are likely to be located as these have proven to cause entrapment issues.

Final stabilization and project completion

46. Any stormwater facilities used as temporary control measures shall be restored and storm sewer lines shall be cleaned upon completion of the project and before turning maintenance over to the owner, Homeowners Association (HOA), or other party responsible for long term maintenance of those facilities.
47. All disturbed areas designed to be vegetated shall be amended, seeded and mulched, or landscaped as specified in the landscape plans within 14 working days of final grading.
48. All seeding shall refer to landscaping plans for species mixture, application rates, and depth requirements.
49. 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 3H:1V 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.

50. All seeded areas must be mulched within twenty-four (24) after planting. All mulch shall be mechanically crimped and/or have an adequately applied tackifier. The use of crimped mulch or tackifier may require multiple re-applications if not properly installed or if weathering or degradation occurs 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.
51. 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.
52. The Developer shall maintain, monitor, repair, and replace 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 the site has been deemed stabilized and verified by the County Erosion Control Inspector, all temporary control measures can be fully removed. 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. All measures shall be removed within 30 days after final stabilization is achieved.
53. 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 measures have been 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.

Other Standard Notes

The following notes are adapted from the LC Urban Area Street Standards and should also be included in the ESCP.


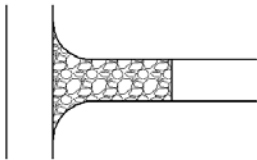

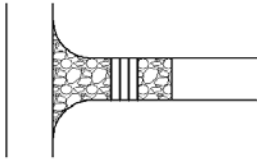

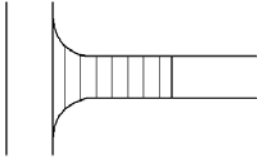
1. All references to any published Standards shall refer to the latest revision of said Standard, unless specifically stated otherwise.
2. The Developer shall comply with all terms and conditions of the Colorado Permit for Storm Water Discharge (Contact Colorado Department of Health, Water Quality Control Division, (303) 692-3517), the Storm Water Management Plan, and the Erosion and Sediment Control Plan.
3. The Local Entity shall not be responsible for the maintenance of storm drainage facilities located on private property. Maintenance of onsite drainage facilities shall be the responsibility of the property owner(s).

4. Prior to final inspection and acceptance by the Local Entity, certification of the drainage facilities, by a registered engineer, must be submitted to and approved by the Stormwater Utility Department. Certification shall be submitted to the Stormwater Utility Department at least two weeks prior to the release of a certificate of occupancy for single family units. For commercial properties, certification shall be submitted to the Stormwater Utility Department at least two weeks prior to the release of any building permits in excess of those allowed prior to certification per the Development Agreement.
5. All recommendations of the final drainage and erosion control study (name of the study and date) by (Engineering Firm) shall be followed and implemented.
6. Temporary erosion control during construction shall be provided as shown on the Erosion and Sediment Control Plan. All erosion control measures shall be maintained in good repair by the Developer, until such time as the entire disturbed area is stabilized with hard surface or landscaping.
7. The Developer shall be responsible for ensuring that no mud or debris shall be tracked onto the existing public street system. Mud and debris must be removed within 24 hours by an appropriate mechanical method (i.e., machine broom sweep, light duty front-end loader, etc.) or as approved by the Local Entity's street inspector.
8. At all times during construction, the Developer shall be responsible for preventing and controlling on-site erosion including keeping the property sufficiently watered so as to minimize wind-blown sediment. The Developer shall also be responsible for installing and maintaining all erosion control facilities shown herein.
9. The stormwater volume capacity of detention ponds will be restored, and storm sewer lines will be cleaned upon completion of the project and before turning the maintenance over to the Owner or Homeowners Association (HOA).

References

Larimer County, 2021. *Larimer County Urban Area Street Standards*.

Construction BMP Plan Symbols

<u>TITLE</u>	<u>KEY</u>	<u>SYMBOL</u>
VEHICLE TRACKING CONTROL		
VEHICLE TRACKING CONTROL W/ WHEEL WASH		
VEHICLE TRACKING CONTROL W/ CONSTRUCTION MAT		
VEHICLE TRACKING CONTROL W/ TRM	