**CURRENT PLANNING DIVISION**

410 E. 5th Street | Loveland, CO 80537 | 970-962-2523

eplan-planning@cityofloveland.org | cityofloveland.org/DC

**Civil Construction Plans (CCP) Checklist**

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| --- |
| Subdivision: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Project Name: ­­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Name of Person filling out form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| The “Applicant Validation” columns to the left of the plan requirements below are provided for the convenience of both staff and the Design Engineer. The Design Engineer should indicate if the items are included in the plans or if they are not applicable for the specific project.  The “Required Submittal Timing” column indicates if the item must be submitted as part of the initial preliminary CCP process, or if the item is required with the final CCPs, after the preliminary CCPs have been reviewed. Items designated with a **“P” are preliminary CCP requirements** and items designated with a **“F” are final CCP requirements**. If the preliminary CCPs were waived then all of the items identified as “F” and “P” are required to be submitted.  The Stamp and signature of the Design Engineer is required on the final CCPs in accordance with current State Statutes and Board Rules and not required for the plan set submitted for review. |

## I . Cover (& Notes) Sheet(s)

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| **Applicant Validation** | | **Required Submittal Timing** | **Requirements** |
| *Included* | *N/A* |
|  |  | P | 1. Preamble title of "Civil Construction Plans” followed by the legal name of the addition or subdivision. The marketing name and the address may be used on the plans, but must be subordinate to the subdivision name. |
|  |  | P | 1. The Signature review block for the City of Loveland. |
|  |  | P | C. Signature review blocks from other applicable entities: Ditch company, C.D.O.T., County, Water Districts, etc. |
|  |  | P | 1. Index to all sheets in the plan set. The sheets shall be sequentially numbered beginning with “1”. Copies of the landscape plans (and hydrozone and irrigation plans if utilized) shall be part of the final CCP set. |
|  |  | P | 1. The number and elevation of the benchmark (must reference the “City of Loveland 1995 Level Net Survey”). |
|  |  | P | 1. Vicinity map, scale and north arrow. The vicinity map must be clearly legible and show the streets to access the development. 1” = \_\_\_\_\_\_\_. |
|  |  | P | 1. General Construction Notes, Street Construction Notes (Appendix I-B), Storm Drainage Notes, Waterline Note (Appendix E-1), Sediment & Erosion Control Construction Notes (per City of Loveland Stormwater Standards), and Specific Notes related to Water/Wastewater (per Water/Wastewater Standards Appendix B). Use additional sheets as necessary. |
| □ | □ | P | 1. If requested, provide an overall phasing plan that clearly indicates what is proposed to be constructed within each phase. Phase lines shall be shown by heavy dark gray lines; all phases shall be identified by number or letter. |
| □ | □ | F | 1. Provide the name of the Qualified Stormwater Manager who is the person responsible for installing & maintaining temporary sediment/erosion control BMPs along with contact information on the Cover Sheet. Note: If the Qualified Stormwater Manager has not identified yet, please designate someone, i.e., Planner, Engineer, etc.  who is knowledgeable in the principles and practices of erosion and sediment control and pollution prevention and include the name of the designee along with any contact information on the Cover Sheet.   The responsibility can be transferred to another party at a later date. |

## II . Grading, Drainage & Sediment/Erosion Control Plan(s)

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| **Applicant Validation** | | **Required Submittal Timing** | **Requirements** |
| *Included* | *N/A* |
|  |  | P | 1. Grading Plan show and label:    1. Existing and proposed contours in a minimum of two-foot intervals. Show contours extending a minimum of 50’ off-site, and tying into existing contours    2. Existing utilities that will remain |
| □ | □ | F | 1. Finish grade spot elevations for streets, lot corners, building corners, and finish floor elevation or alternately top of foundation elevation of buildings shown for all lots. |
|  |  | F | 1. This statement on the final grading plan: “The top of foundation elevations shown are the minimum elevations required for protection from the 100-year storm. The lowest opening elevations shown are at least one foot above the 100-year storm elevation of adjacent streets, channels, ditches, swales, or other drainage facilities. Minimum finished floor elevations above 100-year water surface in streets, channels, ditches, swales, or other drainage facilities, as illustrated by a final grading plan are to be shown.” |
|  |  | F | 1. This statement (if adjacent to or immediately downstream of an irrigation ditch or lake or pond or reservoir) on the final grading plan: “A minimum 3-feet separation between the residential home foundation bearing elevation and the peak seasonal groundwater level is required for all new residential home construction. Refer to the geotechnical investigation report titled “xxx”. An asterisk (\*) is to be placed adjacent to the statement and on each residential lot impacted by high groundwater levels. As an alternative to adding this note, you may design and construct a separate private gravity groundwater underdrain system within the street right-of-way with connections to each home foundation drain. See “Groundwater Underdrain System Plan & Profile” below for requirements. |
|  |  | F | 1. Plans to have positive drainage to streets (showing drainage arrows across lots) or to an approved discharge facility. |
|  |  | F | 1. All drainage improvements are to be designed to include all necessary improvement details on the detail sheet, including structural details for concrete hydraulic structures and retaining walls. |
|  |  | F | 1. Cross-check front lot elevations with plan & profile sheets for continuity. Also check for elevations and datum match where streets will meet an adjoining subdivision, especially when the adjoining street is designed but not built. |
|  |  | F | 1. Show phase lines. Include phasing of drainage infrastructure and temporary erosion control, if phasing is desired. |
|  |  | F | 1. Grading Criteria: 2. Minimum of 2.0% profile grade on grass and a maximum side slope of 4:1. If special circumstances warrant a steeper cross slope, it will be evaluated on a case-by-case basis 3. Minimum grade away from building foundations and window wells is 5% for first 5 to 10 feet 4. Finished grades at building foundations are a minimum of 6 inches below the top of foundation elevation 5. If three or more rear lots combine their drainage waters in a common rear lot line swale, a concrete trickle channel shall be provided within the common rear lot line swale and extend to the nearest public street 6. Drainage outlets and ending pans typically should have some type of erosion protection indicated. Example: If rip-rap is to be used, details should include size of rock D-50 and dimensions of placement, length, width, depth 7. Accessible sidewalk grades must comply with current adopted codes 8. On graded sites, the top of any exterior foundation shall extend above the elevation of the street gutter at point of discharge or the inlet of an approved drainage device not less than 12 inches (305 mm) plus 2 percent per the adopted IBC |
| □ | □ | F | 1. Roof Drains: 2. Show and label the locations of each roof downspout and the direction of flow at each drain 3. If exact locations of structure roof drains are unknown, then map the roof drainage patterns to demonstrate the resulting surface drainage patterns and which storm drainage facilities will receive the roof runoff 4. If the roofs will be drained via underground roof drain systems, show the systems and label the pipe lengths, material, size, slope and each tee, cleanout, and bend |
|  |  | F | 1. Inlets, fire hydrants and utility poles are not to be constructed where they would conflict with handicap ramps, or be a hazard to traffic. Maintain a 3’ minimum clearance from flowline. |
| □ | □ | F | 1. All applicable design related items from the “Appendix A: Design Checklists for Final Drainage Reports and Public Improvements Construction Plans” from the Loveland Storm Drainage Criteria Manual. |
| □ | □ | F | 1. Sediment/Erosion Control Plans need to be separate from grading and drainage plans and need to be phased to show grading, infrastructure, vertical construction and permanent BMPs & final stabilization phases on a minimum of two plan sheets. |
|  |  | F | 1. All applicable design related items (not permitting paperwork) items from the Sediment/Erosion Control Development Submittal checklist. |

## III . Street Plan & Profiles

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| --- | --- | --- | --- |
| **Applicant Validation** | | **Required Submittal Timing** | **Requirements** |
| *Included* | *N/A* |
|  |  | P | A. Minimum street widths are per Table 7-2 and 7-4 (unless project is a PUD or a waiver or variance is approved). |
|  |  | P | B. Tapers: When shifting an entire directional stream of traffic, the taper length (L) = WS for design speeds of >45mph; and L=WS2/60 for design speeds of <40mph; and for turning bay tapers L=WS/3. (L=length of transitional taper section in feet, W=width of lateral lane shift in feet, S=design speed in m.p.h.). |
|  |  | P | C. Access ramps shall be constructed at all corners of street intersections, including one ramp opposite from corners of tee intersections. It is recommended by the Handicap Advisory Committee that access ramps be installed midblock when blocks exceed 600 feet in length street. |
|  |  | P | D. Inlets/catch basins, fire hydrants, utility poles and electric appurtenances are not to be constructed where they would conflict with handicap ramps. |
|  |  | P | E. Show all raised medians and include all details for construction. Show interior median treatment and design. (i.e., trees, sprinklers, pavement, rock, splash pan, etc.). Trees shall not block signing. For detail see LCUASS Standard drawings. |
|  |  | P | F. Gutter cross pans are not to be designed to cross arterial or major collector streets. Gutter pans widths are as follows:   |  |  | | --- | --- | | Width | Intersection Type | | 6’ | Local-Local | | 8’ | Local-Collector | | 8’ | Collector-Collector | | 10’ | Local-Arterial | | 10’ | Arterial-Collector | | 12’ | midblock on local street | | 30’ | midblock on collector street | |
|  |  | P | G. Gutter pans or concrete edge protection may be constructed in place of curb and gutter within industrial zoned areas. A minimum 4’ compacted fill to be placed between back edge of concrete edge protection or gutter and top of slope of roadside ditch. |
|  |  | P | H. Minimum curb radii at intersections will be as follows (measured to flowline):   |  |  |  |  | | --- | --- | --- | --- | |  | Local | Collector | Arterial | | Local | 20’ | 20’ | 30’ | | Collector | 20’ | 25’ | 30’ | | Arterial | 30’ | 30’ | 35’ |   Note: As per state highway regulations, a minimum of a 50’ flowline radius is required when an arterial street intersects a state highway, unless otherwise approved through traffic engineering. |
|  |  | P | I. Roadway Types and Geometrics - Preliminary   1. Typical roadway sections based on roadway classifications 2. Roadway Names and Classification (local, collector, etc) 3. Cross-pans 4. Centerline radius data 5. Preliminary roadway center line horizontal and vertical profiles of all public roads (excludes private drives and alleys) showing vertical curves and sags 6. Design speed/posted speed 7. Sidewalk and tree lawn dimensions 8. Street intersections at right angles, max. skew = 10° 9. FL to FL dimensions 10. R.O.W. dimensions 11. Curb return radius data 12. Curb and gutter radius data 13. Label 100’ stations and show 50’ stations |
|  |  | P | J. Document on the plans that there is sufficient sight distance for all movements at intersections, and on crest vertical curves on arterial streets. |
|  |  | P | K. Existing utilities and structures. |
|  |  | F | L. Profile grades:  1. See Table 7-4 for maximum grades. Minimum grade allowed is 0.5%  2. Street grades within 100’ of an approaching intersection shall be a maximum grade of 4%  3. Maximum grade through the intersection is 3%   1. 10’ min. length for each segment prior to a grade break. 2% max. algebraic difference between segments for Collectors and Arterials. 4% max. grade break on local streets. This is to provide a smooth ride through the intersection 2. Provide flowline grades for intersections with cross-pans. Check the grades for correctness. Make sure they drain 3. Provide the percent grade for all curb returns at intersections |
|  |  | F | M. Vertical curve is required when the algebraic difference in grades is >1.0% except flowline grades in sumps.  1. Check actual grades and length for accuracy and correctness  2. All K-values shall be noted on the profile view; minimum K-values shall be in accordance with design speed. Reference Table 7-4 for minimum K-values based on road classification  3. All proposed streets to match with existing streets and adjacent topography/projects. Show the existing streets profile and topography grade and where the proposed will match it Existing street and topography grades are to be shown for an adequate distance beyond the proposed improvements to facilitate a smooth transition  4. Check stationing of plan and profile for errors in design and/or discrepancies between the two. Keep the street names the same. (Don’t change names of streets at intersections) |
|  |  | F | N. Provide 2” P.V.C. schedule 40, 36” deep with pull boxes at and between intersections that will be signalized now or in the future. Includes 90° sweeps. Pull boxes shall be provided at deflection points or at least every 500’. |
|  |  | F | O. The plans should show and label all easements that are to be dedicated by separate document that will not be dedicated on the final plat. Check the easements for accuracy and check that all roadway improvements (i.e., curb and gutter, walk, etc.) are located within dedicated public R.O.W. or pedestrian easements where applicable. |
|  |  | F | P. Identify the numeric phasing designation and the physical limits of each construction phase.  1. Type III barricades with “End of Road” sign, and any related pre-warning signs at all dead-ends of roads and sidewalks. For detail se LCUASS Standard drawings  2. Secondary access provided for dead ends of length > 400’ shall be all weather surface, 20’ wide, 6” minimum thickness of Class 5 or 6 ABC or recycled HBP  3. 50’ outside radius all weather turn around at dead-end roadways longer than 150’ |
|  |  | F | Q. Roadway Geometrics - Final   1. Profile grades, in percent 2. Vertical curve data (including K-values, length, etc.) 3. Centerline profile and FL profile on both sides of roadways as required (i.e., curves, intersections, etc.) |

IV. Street Cross-sections

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| --- | --- | --- | --- |
| **Applicant Validation** | | **Required Submittal Timing** | **Requirements** |
| *Included* | *N/A* |  |  |
|  |  | F | 1. Surveyed cross-sections in 50’ intervals are required on all arterial streets. Cross-sections will also be required on other streets and driveways if special conditions warrant it (i.e., widening of existing streets). The interval frequency may be adjusted where warranted due to unique site topography. The use of aerial photography is not acceptable. |
|  |  | F | 1. Provide cross slopes between 1.5% to 4%. |
|  |  | F | 1. Check cuts and fills on all proposed streets. Check catch points vs. R.O.W. line. Too much of either may result in slopes which extend beyond the R.O.W. Where any cut or fill slopes extend beyond the R.O.W., a construction/slope easement will be required and these easements shall be shown and labeled on the plans to be dedicated by separate document or dedicated on a plat. |
|  |  | F | 1. Information to be shown on each cross section: 2. Curb and gutter, existing and proposed 3. Roadway surface, existing and proposed 4. Sidewalk, existing and proposed 5. Pavement, base and subgrade thickness, existing and proposed 6. Cross grades, existing and proposed 7. R.O.W., existing and proposed 8. Easements, existing and proposed 9. Side slopes, existing and proposed |
|  |  | F | 1. Pavement sections are to be designed using a Soil Investigation Report as a basis for design, or by using the City’s default values as found in these Standards. 2. This design will include: 3. Methods of stabilizing the subgrade. The most common method is to scarify to a minimum depth of six inches and re-compact to a uniform minimum of 95% relative density as determined by AASHTO T-99 4. Thickness of the aggregate base course. Compacted to 95% in accordance with T-180 5. Thickness of asphalt pavement 6. “Default pavement design” may be chosen vs. a full pavement design based on a soils report. The default pavement design is based on the following coefficients 7. Aggregate Base Course (A.B.C.) strength coef. = 0.11 per inch, unless R Value tests are submitted which show R values > 78 8. Pavement Grading “C” & “G” Hot Bituminous pavement strength coefficient =0.44 per inch 9. The minimum sums of the coefficients for the default pavement design are listed below:  |  |  |  | | --- | --- | --- | | Street Clarification | WSN | (full depth HBP) | | Local | 2.22 | 5.5” | | Minor Collector | 2.97 | 7.0” | | Major Collector | 3.48 | 8” | | 2-lane Arterial | 4.08 | 9.5” | | 4-lane Arterial | 4.51 | 10.5” | | 6-lane Arterial | 4.77 | 11” |  1. Show the min/max lift thickness for Grading “SX” HBP =1.5” and 2.5” respectively 2. Show the min/max lift thickness for Grading “S” HBP =2” and 3” respectively 3. Show the min/max lift thickness for Grading “SG” HBP =3” and 5” respectively 4. Minimum allowable pavement thickness shall be as shown in Table 10-1 5. The report shall recommend methods of stabilizing the subgrade when groundwater is within 3’ of the pavement section. Details of the methods of construction of the roads, in high ground water areas, shall be shown and described in the appropriate typical cross-section |

## V. Striping Plan

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| **Applicant Validation** | | **Required Submittal Timing** | **Requirements**  *NOTE: SIGNING & STRIPING PLANS ARE REQUIRED on all streets classified minor collector and greater. Major Collector and Arterial street signing and striping plans shall have a minimum scale of 1”=30’ and shall be per M.U.T.C.D. and the City Standards.* |
| *Included* | *N/A* |
|  |  | P | 1. Travel lanes w/dimensions for all tapers, angle points, turning bays, medians, symbols, etc. |
|  |  | P | 1. R.O.W., easements. (All traffic control devices must be located within right-of-way or easements.) |
|  |  | P | 1. All street improvements (i.e., curb and gutter, walk, asphalt, etc.) w/dimensions. |
|  |  | P | 1. Layout data/geometrics to all angle points, end points, symbol locations, and sign locations. |
|  |  | F | 1. Bike lanes w/symbols and dimensions (7’ min. adjacent to curb and gutter, 5’ min. adjacent to travel lanes w/o curb and gutter.). |
|  |  | F | 1. Location of all existing and proposed signs, including size and MUTCD designation (i.e., no parking/bike lane, stop, speed, warning, etc.). |
|  |  | F | 1. Add note to signing and striping sheet: “The layout of all signing and striping using 3-M temporary tape at a minimum of 50’ spacing shall be approved by the City Street Inspector prior to the installation.” |
|  |  | F | 1. Preformed thermo-plastic for arrows, cross walks, bike symbols, etc. |

## VI. Utility Plan (Overall)

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| --- | --- | --- | --- |
| **Applicant Validation** | | **Required Submittal Timing** | **Requirements**  *Note: Subsequent Utility Plan sheets are required if the overall Utility Plan cannot show the information at an acceptable scale.* |
| *Included* | *N/A* |
|  |  | P | 1. All Utilities - show the following:    1. R.O.W. and easements    2. Phase/construction lines    3. Existing and proposed utilities    4. Horizontal clearance to other utilities |
|  |  | P | 1. Water System Plan - preliminary show and label: 2. Water mains: sizes & material 3. Water service & meter pits/vaults size 4. Valves at each leg of crosses and tees 5. Fire hydrants spaced according to LFRA requirements |
|  |  | P | 1. Wastewater Plan - preliminary show and label: 2. Wastewater main sizes 3. Wastewater manholes 4. Access provided to every manhole 5. Services size |
|  |  | P | 1. Storm Drain System: show existing and proposed public and private storm system including MHs, junction structures, inlets, storm sewer pipes, detention pond outlet structures and waterways. |
|  |  | P | 1. Groundwater Underdrain System (if warranted): Show cleanouts, connections/services to each residential home foundation drain, and outlet. |
|  |  | P | 1. Traffic Operations: On all arterial streets between intersections or every 1000 feet, whichever comes first, provide 3” P.V.C. schedule 40 conduit, 36” deep with pull boxes. These conduits and pull boxes will be used for future signal controls. |
|  |  | P | 1. Site Lighting: show all existing public and private light poles. |
|  |  | P | 1. Power: show the desired location for electric transformers and services.    1. A coordination layout based on the site plan and infrastructure needs will be provided after the first round of review    2. Any significant layout changes from the provided coordination layout must be discussed with Power prior to resubmittal |
|  |  | F | 1. Power: Residential and Commercial Subdivisions: show and label    1. Electric substructure as provided in the coordination layout    2. Label the power equipment locations with a square containing a ‘T’ for a transformer, ‘H’ for a handhole, ‘V’ for an electric vault, and the electric primary power lines and conduits    3. Commercial site plans shall show the electric service entrance location on buildings and label service information (amps, voltage, etc.) |
|  |  | F | 1. Water System Plan - final show and label: 2. Stationing along CL of pipe 3. Stationing of all appurtenances (taps, tees, bends, services, etc.) (northings and eastings are not required) 4. Horizontal curvilinear alignments: curve data: (PC (begin joint deflection), PT (end joint deflection), radius, delta, length joint deflection per joint and pipe segment lengths 5. Length type and size of the service between the tap and the pit/vault 6. Curb stops shown for water meter vaults 7. Horizontal distances from nearest valve to proposed tap 8. Connection to existing mains as wet-tap or cut-in tee 9. Fire service valves to have locking lids 10. Joint restraint design: thrust blocks or if mechanical joint restraint is used then the restrained pipe lengths shall be noted by stationing 11. All fire hydrant laterals to be fully MJ restrained 12. For residential subdivisions if the alternative water service layout is requested: then coordinate with the Power department and show the design location of handholds and transformers 13. Crossings indicated by separation, if a lowering is required then reference profile 14. Location markers for bends if located outside pavement 15. Independent individual services for all duplexes, townhomes and single-family units 16. Services cannot extend under or through other dwelling units or cross property lines |

## VII. Electric Plan and/or Profile

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| **Applicant Validation** | | **Required Submittal Timing** | **Requirements**  *Notes:*   1. *Coordinate with the City of Loveland Electric Utility Division.* 2. *Plan and profile sheets are required for all existing power infrastructure installed in or adjacent to the parcel/tract/lot being developed.* |
| *Included* | *N/A* |
|  |  | F | 1. Electric Plan and Profile - show and label: 2. Vertical and horizontal grid with scale 3. Existing, proposed and future grades, 4. Existing and proposed utility crossings, with station, size and separation 5. Existing and proposed electric conduit and equipment (i.e. electric concrete vaults, transformers (concrete pad and/or fiberglass box pad), handholes, street light bases, etc.) |

## VIII. Water Plan and/or Profile

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| --- | --- | --- | --- |
| **Applicant Validation** | | **Required Submittal Timing** | **Requirements**  *Notes:*   1. *Plan and profile sheets are required for all 12” and larger water mains.* 2. *All hard bend water main lowerings can be a profile only* |
| *Included* | *N/A* |
|  |  | F | 1. Water Profile - show and label: 2. Vertical and horizontal grid with scale 3. Existing, proposed and future grades, 4. Profile of the water main including the diameter, material, slope, lengths between all appurtenances 5. Size, type and station of all appurtenances (bends, tees, crosses, valves, and hydrants) 6. Existing and proposed utility crossings, with station, size and separation 7. Deflections and bends shown with stations, pipe grades, and degree of deflection/bend 8. If required, steel casing shown with stationing, size and CP design |

## IX. Wastewater Plan and Profile

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| **Applicant Validation** | | **Required Submittal Timing** | **Requirements**  *Note: Plan and Profiles are required for all public wastewater mains.* |
| *Included* | *N/A* |
|  |  | F | 1. Wastewater Plan - show and label: 2. Stationing along CL of pipe 3. Manholes with unique number, horizontal station, rim and invert elevations 4. Length between manholes 5. Location identification markers when outside pavement 6. For any wet taps the linear distance between the nearest MH to the tap 7. Stations for residential services 8. MHs are accessible 9. Independent individual services for all duplexes, townhomes and single-family units. Services cannot extend under or through other dwelling units or cross property lines |
|  |  | F | 1. Wastewater Plan & Profile - show and label: 2. Vertical and horizontal grid with scale 3. Existing, proposed and future grades 4. Profile of the wastewater main and manholes including the diameter, material, slope, and length between manholes 5. Manhole rim and invert elevations 6. Typical 0.20 foot drop through manholes 7. Groundwater barriers provided upstream of manholes, maximum spacing of 400 feet 8. Existing and proposed utility crossings, with station, size and separation 9. If required, steel casing shown with stationing, size and CP design |

## X. Storm Sewer Plan and Profile

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| **Applicant Validation** | | **Required Submittal Timing** | **Requirements** |
| *Included* | *N/A* |
|  |  | F | 1. Make sure water tight joints are used on all storm drainage pipes and specify/spec thereto on the sheet(s). |
|  |  | F | 1. Include phasing of construction and development if phasing is desired. |
|  |  | F | 1. Provide a profile for each storm sewer and culvert being proposed. 2. Profiles must include and label the hydraulic grade lines of the storm event for which the storm sewer is being designed 3. Residential/Commercial/Industrial Subdivisions: After initial review, label the storm sewers in the profile views, per City Stormwater Engineering redlines, to delineate between public and private storm sewers |
| □ | □ | F | 1. Vertical and horizontal locations of each existing and proposed utility crossing shown in both the plan and profile views. |
| □ | □ | F | 1. All public storm sewers shall be located under the asphalt within rights-of-ways. If public storm sewers must be located outside of rights-of-way, then provide a 20-foot utility easement (except for tracts that are dedicated as utility or drainage easements) that is unobstructed with fences, landscaping, or other structures/features that would block access. A minimum 12-foot wide maintenance vehicle access path consisting of an all-weather surface will need to be provided within the easement, as well. A note to this regard will be needed on the construction plans as well as the final plat. |
|  |  | F | 1. All Storm Sewer Improvements - show and label: 2. Curb inlets and outlets (to have grates for sidewalks) 3. Irrigation lines and diversion boxes 4. Drainage structures (inlets and outlets) 5. Bridges, box culverts 6. Drainage pans 7. Retaining wall structures |

## XI. Groundwater Underdrain System Plan and Profile (if warranted)

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| **Applicant Validation** | | **Required Submittal Timing** | **Requirements**  *Note: Private underdrain systems also require a formal written agreement with the city and approval by the Loveland City Council at a Public Hearing* |
| *Included* | *N/A* |
|  |  | P | 1. The underdrain system is a gravity system tied into each residential home foundation drain. Designed as a separate line located within the street right-of-way or located within a rear lot line easement, in accordance with the LCUASS (Loveland Portion). |
|  |  | P | 1. Show and label cleanouts and connections/services to each residential home foundation drain. |
|  |  | F | 1. Provide a plan and profile. Label each profile pipe as “Private”. |

## XII. Detail Sheet(s)

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| --- | --- | --- | --- |
| **Applicant Validation** | | **Required Submittal Timing** | **Requirements** |
| *Included* | *N/A* |
|  |  | F | 1. All standardized improvements shall be depicted by the appropriate City Standard Detail Drawings (Water/Wastewater, Storm Drainage, Underdrain) or LCUASS standard details (current version). |
|  |  | F | 1. Standard Details 2. Access ramp 3. Gutter pan 4. Curb and gutter (vertical or driveover) 5. Sidewalk (detached or attached) 6. Elevated sidewalk crossings at driveway (detached walk only) 7. Monolithic curb and gutter/walk (driveover or vertical) 8. Commercial drive approach (flared or radius) 9. Residential drive approach (flared or radius) 10. Curb chase 11. Crown transition 12. Industrial edge protection |
|  |  | F | 1. Signage (include MUTCD designations): 2. 4” diameter cutout/PVC sleeve in concrete 3. Sign post and stub 4. Street name sign and block numbers 5. Type III barricade with closure sign (road or sidewalk) 6. No parking sign spacing 7. Speed limits 8. With school zones: Routing plans for X-walks, stop signs, school flashers, etc. 9. No signs in sidewalks |
|  |  | F | 1. Striping 2. Arrow, only, arrow 3. Diamond, bike, arrow 4. Intersection detail (crosswalk, stop bar) 5. Crosswalk. (Denver Style) |
|  |  | F | 1. Non-Standard Details – Speed hump, traffic circles, cleanouts, hydraulic structure(s) structural reinforcing, retaining wall structural reinforcing, gates, removable fencing, utility access roads, etc. |

## XIII. Landscape Plan

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| **Applicant Validation** | | **Required Submittal Timing** | **Requirements** |
| *Included* | *N/A* |  |  |
| 1. **Concurrent SDP Submittal:** If the CCPs are submitted concurrently with a site development plan (SDP), the landscape plan in the SDP submittal shall be also included in the final CCP set (as a reference copy). Refer to the SDP checklist for requirements for the landscape plan. | | | |
| 1. **All Other Submittals**: If the CCPs are submitted concurrently with a final subdivision plat or as a standalone infrastructure submittal, the following items are required. | | | |
|  |  | P | 1. Show, label and denote size of all existing vegetation and identify what landscaping is to be preserved and what is to be relocated or removed. Tree mitigation is required for the removal of any significant tree. |
|  |  | P | 1. Place the following tree protection notes on the landscape plan for all properties with existing trees and vegetation that will be preserved: 2. No cut or fill with greater than a four-inch depth shall occur within the dripline or root area of any preserved tree without evaluation by a qualified arborist or forester and City approval of the cut or fill 3. No cutting or filling, nor storage of building materials or debris, nor disposal of wastes, shall take place within the larger of the dripline or critical root zone of any protected tree 4. No impervious paving shall be placed within the critical root zone of any protected tree 5. The larger of the dripline or critical root zone of all protected trees shall be barricaded prior to grading activities, and shall remain in place during construction to prevent damage to the trees and their roots by construction equipment |
|  |  | P | 1. Show all proposed landscaping within the right-of-way and private and public access easements including all median treatments and tree lawns. Clearly identify the maintenance responsibilities for the landscaping. Identify tree species and caliper size for deciduous trees, height for coniferous trees, gallon size for shrubs, and turf types/seed mix in accordance with the Unified Development Code. |
|  |  | P | 1. Where street trees are required in the UDC and the street trees are unable to be located in the right-of-way, the Director of Development Services may approve an alternative design. In such case, street trees must be located within 10 feet of the sidewalk. If an alternative design is approved, show and label the required street trees on the landscape plan. |
|  |  | P | 1. Annotate intersection sight distance triangles and horizontal curve stopping sight distance triangles on all proposed streets. Private easements may be needed which restrict installation of certain landscape material. |
|  |  | P | 1. Show all proposed and existing underground and above surface utilities including power lines and transformers, water, wastewater, groundwater underdrains, storm drainage facilities, including laterals, services, meter pits/vaults, hydrants, blowoffs, air vacs, etc. Maintain minimum clearance distance of the following:   Trees   1. 10 feet to water meter pits and public waterlines 2. 10 feet to public storm sewer lines 3. 10 feet to front of transformers 4. 5 feet to power lines, handholds, and side and rear of transformers 5. 50 feet to front of stop, yield, warning and regulatory signs. 20 feet from parking signs   Shrubs   1. 5 feet to water meter pits and public waterlines 2. 5 feet to public storm sewer lines 3. 10 feet to front of transformers 4. 5 feet to side and rear of transformers 5. 18-inches to handholds   Large ornamental grasses   1. 5 feet to water meter pits and public waterlines 2. 10 feet to front of transformers 3. 5 feet to side and rear of transformers 4. 18-inches to handholds |
|  |  | P | 1. Label the location, size and type of water meter that will be used to irrigate the proposed landscaping. |
|  |  | F | 1. All sites proposing native grass or other grass seeding in disturbed areas of the site must include a description of the irrigation system on the landscape plan, that serves the native grass or grass seeding areas. |
|  |  | F | 1. Final landscape plan must be stamped by a Colorado Registered Professional Landscape Architect. |

**XIII. Hydrozone Landscape Plan** - Optional plan encouraged for water conservation and cost-saving benefits (requires a dedicated irrigation meter)

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| **Applicant Validation** | | **Required Submittal Timing** | **Requirements** |
| *Included* | *N/A* |
| 1. **Concurrent SDP Submittal**: If the Hydrozone Program is desired and the CCPs are submitted concurrently with a site development plan (SDP), the hydrozone plan and irrigation plan in the SDP submittal shall also be included in the final CCP set. Refer to the SDP checklist and the Hydrozone Landscape Plan Requirements on the City’s Current Planning website for the submittal requirements. | | | |
| 1. **All Other Submittals:** If the CCPs are submitted concurrently with a final subdivision plat or as a standalone infrastructure submittal and the Hydrozone Program is desired for landscaping in the right-of-way, a hydrozone plan and irrigation plan shall be submitted in compliance with the submittal requirements in the Hydrozone Landscape Plan Requirements on the City’s Current Planning website. | | | |