Town of Okotoks
Parks

LANDSCAPE DESIGN
&
CONSTRUCTION SPECIFICATIONS

2024

Services

Community Planning 403-995-2760
Community Growth & Identity 403-995-6337
Operations & Utilities 403-938-4372
Water Services 403-938-1230
Safety Codes Officer 403-995-2797
Parks & Recreation 403-938-8958
Subdivision / Development Inspection 403-995-6337
Municipal Enforcement 403-938-8913
Engineering 403-995-6337
Business Licensing 403-938-2760
Economic Development 403-938-8052

Field Location Service Calls

Utility Safety Partners 1-800-242-3447
ATCO Gas 403-938-4206
Town of Okotoks Operations Center 403-938-4372
Water Services 403-938-1230
Dig Shaw 1-866-344-7429
Fortis Alberta 310-9473
CPKC Engineering Services 1-888-678-7272
CPKC Call Before You Dig ..... 1-800-387-1833 Option 2

Emergency Services

If you accidentally damage the coating, scrape, sever, or rupture any underground or above ground utilities, please report the incident immediately.

Emergency Calls

Utility Safety Partners 1-800-242-3447
Public Works after hours 403-938-2985
Water Services 403-477-6368
TELUS 310-2887
ATCO Gas 1-800-511-3447
RCMP (911 – Emergency Calls Only) 403-938-7046
CPKC 1-800-716-9132

Scope

These specifications form part of a contract document for construction and development within the Town of Okotoks. The primary focus of these specifications is to ensure that standard sets of overall performance objectives are realized for design, development and construction within the Town of Okotoks. All work performed within the Town of Okotoks, shall be carried out in accordance with the latest issues of the Infrastructure Design and Construction Specifications and the Landscape Design and Construction Specifications. As a result, specific site specifications may be applied where the Town of Okotoks deems it to be necessary. All deviations from these specifications and accepted construction drawings shall have the written approval of the Town of Okotoks. All design, development and construction issues not addressed within these specifications shall fall under the scope of the current adopted City of Calgary Standard Specifications unless otherwise specified.

Design and Construction Standards

The Town of Okotoks may modify the Infrastructure Design and Construction Specifications and/or the Landscape Design and Construction Specifications from time to time; or at any time by written notice to the developer if, in the reasonably held view of the Town of Okotoks, the Infrastructure Design and Construction Specifications and/or the Landscape Design and Construction Specifications no longer remain consistent with good practice. The Developer, in accordance with the Town of Okotoks Subdivision Servicing Agreement or Development Agreement, may arbitrate any such decision by the Town of Okotoks.

Notwithstanding anything contained in this document, all designs shall meet the statutory requirements of the environmental protection policies adopted by the Municipal Council of the Town of Okotoks.

Landscape Design & Construction Specifications Revisions

The following is a list of revisions to the *Landscape Design & Construction Specifications*.

Section	Changes
General	Separated Parks Specifications into a separate document entitled *Landscape Design and Construction Specifications* Updated references to documents from the Town of Okotoks, the City of Calgary, and other jurisdictions, and removed duplication. Changed Servicing and Construction Agreement to Subdivision Servicing Agreement. Updated contact names and phone numbers.
2.1	Added digital submission of drawings. Submission is to align with Infrastructure Design and Construction Specification
2.2	Changed the timing of submission of As-Built Drawings from prior to FAC to prior to CCC.
2.6.2	Added water reuse and stormwater use. Design is to align with Infrastructure Design and Construction Specification
2.13	Section added for sports fields with specifications for rectangular fields and ball diamonds
2.15	Tree protection updated to include the tree bylaw
2.16	Section added for amenities. Specifications for community gardens, outdoor washrooms, picnic shelters, fitness equipment. Pleasure ice rink and toboggan areas added
2.17	Bicycle rack and bike repair stations added to site furnishing specification
2.18	Playground section updated with park classification from the Town of Okotoks Recreation, Parks and Leisure Master Plan and miscellaneous play area and features
2.20	Standard park signage updated to align with new Town of Okotoks branding guidelines. Wayfinding signage requirements added.

Sheet Updates	
4.1.1	Park classification and potential amenities table added
4.1.3	Final inspection checklist added
4.1.4	Added the conservation of existing hydrological systems.
4.1.8	Soil volume chart added
4.1.9	Tree lists updated
4.1.10	Perennials and ground cover list added.
4.1.11	Updated graphic for standard park signage

4.1.12	Coniferous wildlife protection detail added
4.1.13	Deciduous wildlife protection fence detail added.

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1 STANDARDS AND REQUIREMENTS

1.1 Design and Construction

The current, adopted, City of Calgary's *Development and Building Guidelines and Specifications* shall be followed unless otherwise accepted or required by the Town of Okotoks. Exceptions to the City of Calgary's specifications are outlined within this document. The Town of Okotoks reserves the right to not accept any City of Calgary's specification at his/her sole discretion. These standards and specifications are intended to be the minimum standards. Where conditions dictate and good practice requires higher standards than those indicated shall be incorporated into design. It shall be the Developer's responsibility to develop the subdivision or property in accordance with standards, which conform to good engineering and construction practices, and as accepted by the Town of Okotoks. All design work must be in accordance with the Town of Okotoks Municipal Development Plan (MDP) and the Town of Okotoks' Land Use Bylaw (LUB). The Town of Okotoks encourages and will show flexibility to accommodate alternative standards to promote conservation, sustainable best practices, and unique and innovative neighborhood design when done in the context of the MDP.

2 PARKS, RESERVES, BOULEVARDS and LANDSCAPED AREAS

Park development plans must be in accordance with the Town of Okotoks' *Recreation Parks and Leisure Master Plan* (current edition) and current Town of Okotoks' *Infrastructure Design and Construction Specifications and the Landscape Design and Construction Specifications*. City of Calgary's *Development Guidelines and Standard Specifications, Landscape Construction* (Current Edition) shall apply except in the following or unless specifically and mutually agreed to by the Town of Okotoks and the Developer. In case of differences in interpretation or ambiguity, the Town of Okotoks' Municipal Development Plan shall take precedence. Construction Completion and Final Acceptance Certificates for landscaping shall be signed by a qualified Landscape Architect accepted by the Town.

Universal Design is an important consideration in the MDP (section 7.5 c) and relevant criteria are identified throughout specifications.

2.1 Submission of Plans

The submission of landscape plans applies to (but is not limited to) subdivision phases as well as development permits. The Developer shall submit to the Town detailed plans for

park, reserve, boulevard and landscape development for approval. Plans shall be **prepared by a qualified Landscape Architect** and shall include, but are not limited to:

1. Existing and proposed elevations;
2. Direction of drainage and drainage collection facilities and any associated right-of-way;
3. Proposed location, number, species and size of trees, shrubs and perennials;
4. Where permitted, irrigation system design including meter and meter box detail;
5. Perimeter fencing and any amenities (benches, signage, play equipment, garbage receptacle, etc.);
6. Detail of Fence/Posts in relation to finished grade;
7. Location of overhead and underground utilities and any right of way;
8. Location of existing and future accepted driveways at anticipated size;
9. Location of existing trees and associated tree protection plan if applicable for trees being retained;
10. Wildlife tree protection;

Irrigation plans (where permitted) must be submitted at the same time as the landscape plans.

The landscape plans must be consistent with the accepted engineering and site plans.

Landscape construction drawings are to be submitted digitally (preferred scales 1:200, 1:250, 1:500) as scaled pdf documents. Digital submissions are to align with the Town's Infrastructure Design and Construction Specifications submission requirements. A copy will be returned digitally stamped "Accepted" before construction may begin. The "Accepted" plan must be on site and available during all construction activities.

2.2 **Supporting Documents for Construction Completion Certificate (CCC)**

At time of CCC application the following documentation is to be submitted:

1. Asphalt compaction reports and core test reports, in accordance with the compaction testing section of the Town of Okotoks Infrastructure Design and Construction Specifications.
2. Seed tags and seed certificates of analysis.
3. Any additional site specific required reports (i.e. geotechnical).
4. Completed Parks Irrigation Meter Report (4.1.7) if irrigation was installed.
5. Irrigation Inspection Checklist (4.1.6) if irrigation was installed.

6. Construction Completion Checklist (4.1.3).
7. For play equipment a letter from the manufacturer/supplier attesting that equipment meets CSA Standards and written documentation confirming the inspection of play equipment by a Certified Playground Inspector if the playground is to be open to the public prior to final acceptance.
8. One set of the "as built" plans and the digital file(s) (.DWG and pdf format) must be received and accepted before a CCC can be issued.
9. If irrigation has been installed; Irrigation "as built" plans-one hard copy, one digital pdf are to be submitted.

2.3 Supporting Documents for Final Acceptance Certificate (FAC)

Written documentation confirming the inspection of play equipment by a Certified Playground Inspector must be submitted to the Town prior to issuance of FAC's. Prior to FAC, a maintenance log for the following is to be submitted:

1. Irrigation documentation.
2. Irrigation scheduling.
3. Parks Meter Report.
4. Irrigation Inspection Checklist or truck watering log.
5. Plant material replacements (Number/Species/Date/Location).
6. Weeding (Date/Location-any herbicide application to be documented here and must be in compliance with Town's Right to Know Bylaw).
7. Final Inspection checklist see (4.1.4).

2.4 Landscaping in Boulevard, Road Right of Way, Utility Right Of Way

As per the Towns' Traffic Bylaw and the Towns' Nuisance & Unsightly Premises Bylaws boulevard maintenance is the responsibility of the adjacent business or homeowner. Should a resident or business desire to change the surface of their boulevard to tie in to the rest of the property landscaping a request must be submitted to Parks with the following information:

1. Location of desired change.
2. Extent of desired change and details of what is being altered.
3. Details are to be shown on a copy of the Real Property Report.
4. No woody vegetation or large boulders are to be located in a utility right-of-way.

Regardless if the Town accepts the request to alter existing surfacing, should any damage occur to the landscape changes in the boulevard, the Town and/or associated utility is not obligated to repair or replace these items.

2.5 **Xeriscaping**

In all landscaping projects, the seven principles of Xeriscaping are to be considered and applied:

1. Planning
2. Top Soil
3. Vegetation Selection
4. Mulch
5. Turf Areas
6. Water
7. Maintenance

Minimum 40% of required landscape area, to be vegetated (can consist of a mix of drought tolerant turf, perennials, and shrubs).

Any Industrial and business sites with turf areas are to use drought tolerant turf species. These turf grass mixes are to contain less than 30% Kentucky bluegrass or be certified by the Turf Water Conservation Alliance.

Large rocks/boulders (of a size that would require equipment to move) are not to be used within a meter of sidewalk, road or pathway and should not be placed in the utility right-of-way (UROW).

Gravel: Colours are to be in a color range native to the Okotoks area - greys, beiges, whites. Samples are to be submitted to Town for acceptance prior to installation.

No rounded rocks are to be within a meter of a sidewalk, road or on slopes. Angular/shattered rock that will not roll onto adjacent surface are to be used.

Gravel mulch to be installed at same depth as organic mulch (75mm), and *all* landscaped areas including those under non vegetated areas are to still have a minimum depth of 300mm of topsoil.

Adjacent sidewalks, provide a strip of drought tolerant turf along hard surfaces or angular rock.

2.6 **Irrigation**

Irrigation systems connected to potable water are not acceptable in new subdivision areas and development permits. Developers are encouraged to design non- irrigated sites.

Functional turf: is defined as turf areas that are publicly accessible and designated for active play and recreational purposes. These areas serve as areas where turf is needed for high foot traffic activities such as sports fields, plaza sites, school sites, and other areas that will receive high foot traffic.

Non-functional turf: is defined as a ground cover surface of mowed grass that is primarily used for ornamental purposes and not intended for human recreation or gathering. Examples include grass area located in medians, boulevards and similar spaces.

Potable water may not be used for irrigation, except:

1. Sports fields (mandatory irrigation with head to head coverage).
2. Quick coupler systems for establishment of caliper size tree stock.
3. Temporary above ground irrigation for plant material establishment. Once plant material is established the above ground irrigation is to be removed. (system and schedule must be in compliance with Town Water Schedule).
4. School sites and outdoor gathering spaces such as plazas and other high foot traffic areas.

Contact Parks for open trench inspections, testing, Construction Completion Inspection including pressure test and Final Acceptance Inspection for irrigation systems.

For sites that meet the requirements for irrigation, irrigation plans must include flow rates per zone, appropriate watering schedules and application rates and total consumption per application. The developer shall provide the estimated total volumes of water used per application, per day, and per week. Before irrigation system operation, the Developer must supply the contact number for their designated Irrigation Technician for after-hours emergencies to the Town of Okotoks. Utilities account must be set up before water irrigation system operation. If any watering does occur without an account, they may be charged in accordance with the Water Bylaw.

Irrigation (or alternative watering) schedules to be identified at the time of submission of irrigation and landscape plans. Irrigation schedules **must** adhere to the Town of Okotoks Outdoor Watering Schedule as per the Water Bylaw (current). Outdoor Watering Schedule can be found at: www.okotoks.ca

Unless the Developer/Contractor has a Water Exemption Permit for newly planted turf or seed, they must follow the Town's mandatory outdoor watering schedule. A Water Exemption Permit shall be obtained prior to the installation of turf or seed. A Water Exemption Permit can be obtained through the Towns website at: www.okotoks.ca.

Any connection, including irrigation, to the Town's water system needs to be approved, metered, and a utility account set up in accordance with the Water Bylaw (current). All water usage must be metered. Developers are to order a water meter from the Town and request that a utility account is set up at that time. Town water is only to be turned on by Town representatives. Town water will not be turned on until system is inspected, the meter is installed and Parks has verified the inspection of a double check valve assembly (DCVA). Proof of inspection will be required prior to turning on water. DCVA test reports to be provided annually to the Town, via Laserfiche Form until FAC. Private sites with irrigation must provide an annual DCVA test to the Town annually. https://forms.okotoks.ca/Forms/Cross_Connection_Test

2.6.1 Automated Irrigation Systems

All Town managed automated systems are to include (at Developer's expense) fully automatic controllers (Hunter ICC2 or ACC2 Decoder or equivalent with Centralus capability) with seasonal adjust features. Remote wireless valve mounted controllers are not acceptable. Automated systems, including controller cabinet, are to be installed as per City of Calgary's *Landscape Construction Specifications*. All automated irrigation systems shall be equipped with an operating rainfall sensor and flow sensor to the satisfaction of the Town.

Quick couplers of 20mm shall also be installed at the terminus of the main line and every 30m along the main line. Quick Coupler Valves to have 150mm (6") round valve box (equivalent or equal to a Carson 6" round valve box) and be flush with finished grade. A tracer wire must be installed to facilitate the future location of all pipes.

All tree and shrub beds must, have a 20mm Quick Coupler Valve installed within 30m of all tree and shrub beds, or be watered using water truck (watering log must be available upon request at anytime, and submitted with maintenance log prior to release of FAC).

Prior to the issuance of CCC's and FAC's, a completed Parks Meter Report and Irrigation Inspection Checklist must be submitted (4.1.6 4.1.7). Prior to CCC, irrigation as-built, one hard copy and one digital copy (.pdf) are to be submitted to the Town. Irrigation Information Sheet (as per City of Calgary's *Development Guidelines and Standards, Landscape Construction*, Current Edition) to be submitted with as-built. Payments are to be made on utilities prior to FAC.

In the event of a water restriction being issued Developers will be required to make provisions for watering.

2.6.2 Water Reuse and Stormwater Use

Irrigation systems using stormwater and/or water reuse systems must be in compliance with any and all applicable codes and regulations and be in accordance with the latest issue of the Infrastructure Design and Construction Specifications. Irrigation systems utilizing stormwater and/or water reuse systems for boulevards and medians are not permitted, unless under hardscaped areas.

2.7 **Berm Construction**

Where berms are constructed, the maximum side slope cannot exceed 4:1. Slopes should consist of smooth gradual arc at the base and a smoothed crown on top, sufficient to prevent scalping of the turf during grass cutting. In areas where maintaining less than a 4:1 slope is impractical, the Town of Okotoks must approve alternatives.

2.8 **Topsoil**

1. All topsoil required shall consist of a loam-textured dark topsoil, a fertile, friable material neither of heavy clay nor of very light sandy nature containing by volume a minimum of 6% to a maximum 25% organic matter (i.e. peat, rotted manure, and/or composted material) and capable of sustaining vigorous plant growth. Topsoil shall be free of subsoil contamination, roots, stones over 25mm in diameter, baler twine or subsoil clay lumps over 25mm in diameter and other extraneous matter. Topsoil shall not contain quack grass rhizomes, Canada thistle roots or other vegetative parts of prohibited noxious weeds and noxious weeds. Upon delivery or thirty (30) days following delivery, electrical conductivity shall be less than 4.00 dS/m on a saturated paste basis. The pH range shall be between 6.0 and 8.0.

2. Topsoil may be either on-site topsoil or imported topsoil (from within Town boundaries). On-site topsoil, which has been stockpiled properly can be re-used.

3. The Developer shall indicate the proposed source of topsoil a minimum of two weeks prior to placing the soil. Should the quality of topsoil be in question, the Town will request the Developer to test the topsoil (prior to placement) to these specifications.

4. The Town of Okotoks reserves the right to reject topsoil not conforming to these requirements.

5. The finished topsoil surface shall be smooth and firm with a loose texture. Ensure that finished grades meet flush and smooth with adjacent grades and surfaces such as curbs, manholes, sidewalks, etc. The minimum depth of topsoil shall be 300mm in all landscaped areas. Topsoil depth shall not exceed 500mm.

2.9 Final Grade

All park areas, playing fields, green spaces or reserves and areas of level terrain are to have a minimum slope sufficient to prevent the collection of water.

2.10 Boulevards and Medians

All boulevard areas (between sidewalk and curb and gutters or between property line and curb and gutters), medians (2.0m or greater in width, or as identified by the Town of Okotoks) and buffer strips, shall be filled to final grade with 300mm (12 inches) of topsoil. Subgrade preparation must accommodate 300 mm (12 inches) of topsoil. The slope across boulevards shall be 2%. Boulevards, medians and buffers shall not be altered without Town approval.

Turf installed in center medians is to be laid out in such a manner that a driven mower can access the median from the end of the median and drive parallel to traffic with both wheels on the median. At no time should the mower be required to run perpendicular to traffic. The minimum width of sod strip from back of curb is 1.5 m. Sod is not to be installed in a median in a manner that will not accommodate a driven mower. Where this cannot be achieved, an alternate landscape treatment must be provided.

Medians and boulevards, and other small landscaped areas that cannot accommodate a driven mower shall utilize alternative groundcovers to turf such as perennials or ornamental grasses may be required **(see list 4.1.10 for accepted perennial ground covers).**

Medians are to have a 300mm hard surface (i.e. concrete or paver stones) apron that is on a 2% slope from the back of curb.

Grass in the boulevards must be established with no bare spots in evidence before an FAC can be issued. Trees in Boulevards or Medians to follow specifications under section 2.14.

2.11 Turf

Turf areas are to be designed to accommodate efficient mowing maintenance in accordance with parcel size and layout. Areas behind private property in naturalized areas that will require a firebreak buffer, are to be planted with a 6m wide strip of fescue turf and be mowed as needed where topography permits. If big roll sod is used in any area, netting is to be removed.

2.12 Grass Seed

All grass seed shall be certified Canada No. 1 seed. It shall be free of disease, weed seeds or foreign materials, meeting the requirements of the *Seeds Act*. During seed establishment weeds must be controlled and destroyed to prevent seed production and dispersal. Species substitution on all 'Accepted' plans is not permitted without written approval from the Town. All grass seeding shall conform to the following outline:

1. The following mix, or suitable drought tolerant formulation of seed that has been approved by the Town, is to be used for slopes, non irrigated areas, boulevards substituted for traditionally manicured areas as an excellent low maintenance ground cover. *Contact Parks for site specific approval.*

    a. 30-35% Creeping Red Fescue
    b. 15-25% Chewings Fescue
    c. 15-35% Hard Fescue
    d. 15-20% Sheep Fescue
    e. 15-30% Kentucky Bluegrass

2. For irrigated areas, playfields, and joint use sites use cultivars that provide good hardiness characteristics, density as well as good early spring and late fall colour for a fine mixture composed of:

    a. 75% Kentucky Bluegrass (three cultivars)
    b. 15% Creeping Red Fescue
    c. 10% Perennial Ryegrass

3. Areas where the land has been partially stripped and/or will not be developed for one or more years and no other use will be designated, to reduce the incidents of weed and unsightly premises, the Developer will plant a cover crop of the following:

    a. 10 % Slender Wheat Grass
    b. 10 % Blue Flax
    c. 20% Red Clover
    d. 60% Perennial Ryegrass

4. Natural or environmentally sensitive areas shall be replanted with locally native species. If these areas are disturbed or stripped, the original topsoil shall be stockpiled in non-compacted low piles (not more than 3m in height) and for not more than 2 years. As each site is unique, the Town of Okotoks must approve seed mixtures and rates of application. The City of Calgary through its City of Calgary Seed Mixes has suggested mixtures for many of these sites. The Town will review and select from the seed mixes found in the City of Calgary Park Development Guideline City of Calgary Seed Mixes.

    Municipal Reserve (MRs), boulevards, slopes over 4:1, and other areas that are adjacent to a natural area, semi-natural area or Environmental Reserves (ER) must use a site specific turf species to be determined by the Town.

Should some of the above mixtures not be available or suitable for the specific habitat, the Town of Okotoks must approve a comparable substitute. **Under no circumstances will Yellow or White Sweet Clover (Melilotus officinalis or M. Alba), Crested Wheatgrass, Timothy, or Smooth Brome be allowed.**

Seed mixtures in Section 1 to 3 shall be applied at a rate of not less than 30 g/m^2 or 300 kg/ha. Seed mixtures in Section 4 shall be applied at a rate not less than 15 g/m^2 or 150 kg/ha.

The preferred time for seeding is from May 30 until September 30, or as weather permits.

The two accepted means of applying seed are Hydro-seeding or mechanical (Brillion). Hand broadcasting is unacceptable under any conditions except for isolated repair work.

Upon completion of seeding, arrange for an inspection with the Town. Forty – eight hour notice is to be given for inspection.

Protect all newly seeded or sodded areas as required. Remedy all damages, washouts and eroded areas resulting from weather, improper protection or other causes.

Prior to sodding or seeding, 12-51-0 or 11-52-0 ammonium phosphate fertilizer shall be applied at the rate of 400 kg/ha (9 lbs / 1000 ft^2). This rate may be subject to adjustment upon receipt of the topsoil analysis report. Fertilizing in natural areas must be pre-accepted regarding rates and type of fertilizer.

Rock swales are not a preferred landscape treatment, due to long term maintenance issues, areas with additional drainage requirements to have alternate solutions such as amended soils, grass paver, bio swale etc.

Rip rap areas are to be loamed and seeded/vegetated above High Water Line with site suitable species.

2.13 Sports Fields

2.13.1 Rectangular Fields

Proposed location and size of sports fields is to be identified at the Neighborhood Area Structure Plan (NASP) and be in accordance with the Recreation Parks and Leisure Master Plan (current edition**)**.

Sports fields are to be at a minimum 80m x 100m and are to have a 3m buffer.

Sports fields are to have; at the discretion of the Town, 2 moveable uprights, with three sleeves OR 2 full size portable soccer nets, OR 4 portable soccer nets (2 U12, 2 U10).

Goal posts style and location to be determined by the Town. Where goal posts are required, aluminum is to be used.

Each sports fields to have 2 sets of aluminum bleachers; 4 tiers high); a root zone mix of 300mm depth consisting of 50% topsoil, 25% horticultural grade compost (source of origin is to be provided) and 25% sand 3mm particle size (by volume). Native topsoil can be utilized. Soil is to be mixed before application. However, rocks that exceed 25mm are to be removed to facilitate cultural turf maintenance practices, such as deep tine aeration.

Any sports field will require to be sodded, if big roll sod is used, netting to be removed. Water schedule to be provided in advance of applying sod and water logs to be provided until CCC and FAC.
Playfields shall be constructed in such a manner as to provide positive drainage of water off the play surface.

Sports fields shall be crowned with a suitable cross fall, and shall be level in the long direction of the field. A 1.5% crown is the preferred drainage pattern, alternative drainage patterns can be submitted for approval by Parks.

2.13.2 Ball Diamonds

Ball Diamonds are to be designed to accommodate the maximum variety of users including slo-pitch, pee-wee, bantam, softball, midget etc. Any desire to change from the field requirements listed below will need to be discussed and approved by the associated user groups. Shale in-fields are preferred. Shale samples to be provided and source location identified.

Foul poles, where required, to be included with design and installation.

Diamonds must have a 3m wide shale warning track.

Dugouts must be provided with player's bench, chain link fence and steel roofs (with hard surface floors in dugouts such as pavers, concrete, asphalt, rubber etc.

Dimensions for in-field must be in accordance with Baseball Canada requirements:

BASEBALL DIAMOND DIMENSIONS

DIMENSIONS	RALLY CAP, 9U, 11U	13U	15U	18U, JUNIOR, SENIOR, TWILITE
Base Lines	60 ft.	70 ft.	80 ft.	90 ft.
Pitching Distance	44 ft.	48 ft.	54 ft.	60 ft. 6 in.
Centre Field Boundary	Min: 200 ft. / Pref: 225 ft.	Min: 225 ft. / Pref: 260 ft.	Min: 280 ft / Pref: 300 ft.	Min: 350 ft / Pref: 400 ft.
Foul Line Boundary	Min: 180 ft. / Pref: 200 ft.	Min: 200 ft. / Pref: 225 ft.	Min: 245 ft / Pref: 270 ft.	Min: 280 ft / Pref: 320 ft.
Backstop Setback	25 - 40 ft.	35 - 45 ft.	40 - 50 ft.	60 ft.
Fence Setback	25 ft.		50 ft.	60 ft.
Coach's Box	8 ft. x 12 ft.		8 ft. x 16 ft.	10 ft. x 20 ft.
Coach's Box Setback	10 ft.			15 ft.
Batter's Box	3 ft. - 6 ft.	4 ft. x 6 ft.		
Batter's Box to Home Plate	4 inches			6 inches

Ball Diamond fencing to be 6 gauge chain link for all ball diamond fences; fence mesh to be on the playing side of the fence posts and have a 4' high outfield fence with fence topper and a bottom rail along first and third base line with tie wires to be same gauge as fencing. Mesh is to be stretched appropriately based on gauge and fence load. Ball diamond fence not to be coated.

Backstops to be provided in accordance with City of Calgary's specifications;

Site specific requirements may require additional requirements (i.e. proximity to roads or parking areas or playgrounds may require additional/higher sections of fence. Sites that are surrounding ball diamonds and sports fields are to have a maximum grade of 10% to accommodate spectator and maintenance activities. Sites may require power drops and conduit for any future lighting and scoreboard requirements or solar would be an an approved source of power providing that it meets all requirements for the amount of light needed for the site.

2.14 Trees and Shrubs

Maintaining a healthy urban forest is identified in the Town of Okotoks Municipal Development Plan (section 7.4). All landscape plans to indicate any mature trees that exist on site and if they will be retained or removed.

Trees shall be planted in MR sites at the rate of:

1. Minimum of 20 to maximum of 40 trees per acre (minimum 50 to maximum 100 trees per hectare) for Regional, District and Community parks.
2. Minimum of 15 to maximum of 30 trees per acre (minimum 40 to maximum 80 trees per hectare) for Neighbourhood parks.

The total number of trees planted in any park or landscape area is per each phase of development for subdivisions and must conform to the following:

1. Minimum 30% maximum 50% Coniferous. No more than 50% of either Spruce, Pine or Larch.
2. Maximum 50% of any one species.
3. Minimum of 5 different species.
4. Minimum 99% from Preferred List.
5. Maximum 1% from Trial list (based on availability).

Species substitution on any 'Accepted' plans is not permitted without written approval from the Town.

1. Planting areas are to provide minimum rooting volumes following industries best practice. Where rooting volumes cannot be achieved, applicant to propose alternative planting methods such as use of soil cells to achieve required volumes. See 4.1.8 for volumes required for different size trees.

2. Planting setbacks to follow City of Calgary with the following exception: ALL Poplar species, including native Trembling Aspen and Swedish Columnar Aspen to be 10m back from pathways, property lines.

3. All boulevards and landscaped medians shall have trees of alternating groups of species, using a minimum of 3 different species, coniferous **trees may be planted on boulevards and medians provided visibility and clearance requirements are met. Please request permission from the Town prior to submission of plans.** All plantings must take into consideration "Line-of-sight" near traffic signs, intersections and vehicular access to parks. If obstacles such as driveways or streetlights interfere with tree spacing, tree groupings of similar species must be provided to maintain minimum tree density requirements. If the minimum density requirements cannot be met, the remaining trees shall be planted in an accepted alternate location to maintain the density requirement. Trees and shrubs should be planted in groups, in mulched planting beds.

4. Residential street trees are located in the unpaved portion of the road right of way from the back of the concrete curb up to the common property line. The Town of Okotoks requires residential street trees to be planted, adhering to the guidelines of the City of Calgary's *Complete Streets Guide*.

5. Individually planted trees in parks, are to have a mulch well 2X the diameter of the root ball, except in boulevards and medians, trees shall be planted in continuous tree trenches. Surface of tree trench will be either turf, alternate ground covers or mulch depending on location. Planting Detail 4.1.2. Trenches will not be excavated any deeper than the depth of the root ball to avoid settling. Trenches are to be scarified.

6. Trees must exhibit two years of new growth beyond original condition at CCC before an FAC will be issued. At time of CCC and FAC, plant material must be true to name and type; structurally sound; well branched; healthy and vigorous and free from disease, insect infestations, rodent damage, sun scald, frost cracks, and other untreated abrasions to the bark; and densely foliated with a healthy well developed root system. Pruning wounds must show vigorous wound wood growth on all edges and all parts must show live and green cambium tissue when cut. Final inspection of all plant material will be made at the end of the specified warranty period. Maintenance periods for trees and shrubs shall be two years following CCC. Deciduous trees exceeding 90mm calliper and coniferous trees taller than 4m will require a warranty and maintenance period of five years.

7. Planting beds (Tree or shrub) should be set back from areas designed for play structure a minimum of 3.5m from the outside edge of the play area. Type and spacing of plants shall ensure clear sight lines into the play structure area. A minimum of 2 meters between a tree and any other object in the park (fences, pathways, etc.) is required. Trees are not to be planted on a slope of greater than 3:1 or within 2 meters of the base or crest of a slope. Top of the root ball to be level with finished grade on down slope side. **Spruce trees must be planted at least 3 meters from back of curbs, buildings, concrete swales, sidewalks and pathways. Shrubs shall be setback a minimum 1.5 meters from curbs, pathways and amenities.**

8. The trees listed at 4.1.9, may be planted on MR, MSR, and SR sites within the Town of Okotoks according to the guidelines set out in item 2 above (unless otherwise noted).

9. All trees planted must have at least 300mm of topsoil surrounding the sides of the root ball including those planted with a tree spade. The base of the root ball must sit on undisturbed sub-soil (option is to compact bottom of hole to 95% standard proctor density). Plant with root (trunk) flare at finished grade level unless otherwise specified. At the time of planting cut away all strapping and **remove** the top 1/3 of the wire and burlap. Ensure the ring located below the removed 1/3 is cut in a minimum of three places.

10. All trees and shrubs must be mulched with 75mm depth of accepted wood mulch (local spruce and pine mulch).

11. Shrub/tree beds should be grouped in contiguous/continuous pits/trenches. Trenches must be backfilled with topsoil and allow for 300mm of topsoil on sides of root balls. Beds containing trees and shrubs are to be excavated to depth of tree root ball.

12. Minimum 600mm depth is required for beds containing shrubs only. Trench subsoil to be scarified.

13. Trees planted should have a minimum caliper of 50mm. Bur Oak are to have a maximum caliper of 60mm.

14. Prior to any pesticide application on trees, the Town of Okotoks must be made aware and approve any application. Pesticide application shall be performed in accordance with the Town of Okotoks' Pesticide Right to Know Bylaw, as amended, by a certified pesticide applicator.

15. Plant material to follow Canadian Nursery Landscape Association (CNLA) standards. Elm and Ash are to be sourced from Alberta and British Columbia only.

16. Phytosanitary Certification Program Standards are to follow City of Calgary specifications. Alternatively, a letter from an independent ISA certified arborist confirming trees have been inspected and are visually free from pest and disease can be submitted to the Town. Documentation to be presented when trees arrive on site (prior to CCC).

17. Trees shall be pruned by an ISA certified arborist. Tree maintenance pruning (between CCC and FAC) to adhere to City of Calgary's specifications (VII Landscape Maintenance 21 Tree Pruning, except item 4.29 item 4, double leaders do not need

to be pruned out). Prior to any pruning, notify the Town of Okotoks (minimum of 24 hours notice required) to arrange a start up meeting with the ISA certified arborist.

18. Edible Plants for Town managed lands - The following species can be incorporated into the landscape, without deer protection fencing, provided that sufficient space and distance from pathways and adjacent lots are provided: Saskatoon, Currants, and Raspberries.

19. Trees identified at CCC as having been damaged and or killed by antler rubbing or browsing are to be replaced and have wildlife protection fencing installed. Wildlife protection fencing to be provided as per sheets 4.1.12 and 4.1.13.

2.15 Tree Protection

Tree protection plans are required to be provided with the Development Site Servicing Plan and Stripping and Grading plan submission for any development site where existing trees are planned to be retained within the construction zone, and are to include any public tree within 6m of the construction zone. Tree Protection zones must also be shown on the landscaping plans. Tree protection plans are to be prepared by either the consulting landscape architect or an ISA certified arborist and are to be submitted to the Town and be in accordance with the Tree Protection bylaw (current edition). Tree protection must be in place prior to stripping and grading. Barrier fencing is to be installed as close to the outside edge of the existing drip line of the tree(s) as feasible.

Tree protection plans must identify protection zones, type of fencing to be used, construction limits, stockpiling and hoarding areas and provide a contact name for construction representative responsible for the protection fencing throughout the project. Protection fencing is to be maintained throughout the construction of the project. Metal panel construction fencing is the preferred type of barrier fencing and in certain situations may be required. **Tree protection areas must not be used for storage or stockpiling of construction materials at any time**. The Town of Okotoks is to be contacted for an inspection once fencing is installed. Soil compaction outside the tree protection zone under the drip line may need to be mitigated (i.e. access areas across the boulevard). Typical mitigation measures may include plywood, rig matting etc.

If a publicly owned tree must be removed or is damaged, compensation to be calculated utilizing the Guide for Plant Appraisal (current edition) as per the Tree Protection Bylaw (current).

2.16 Amenities

The following section corresponds to the amenity list for required amenities from the Town of Okotoks Recreation Parks and Leisure Master Plan (current edition). For a table of amenities by park classification see 4.1.1.

All amenities are to be located at least 1m off a pathway.

Provide concrete foundation or engineered geo-fabric under all cobblestones, interlocking bricks or decorative brick walkways to prevent sinking, if utilized for vehicular traffic.

Unless otherwise accepted by the Town of Okotoks, benches and picnic tables must be installed on a suitable hard surface (concrete, pavers, pavement, etc.) which will allow for efficient landscape maintenance and designed such that all portions of the bench or picnic table are over the pad. Benches and picnic tables are to be all steel construction, unless otherwise approved.

If the bench is along a pathway or sidewalk, it must have armrests. Bench seating surface to be 440-457mm above finished grade.

Seating nodes shall be located every 250m along shared pathways and trails for Regional, District, Community and Neighborhood parks as per the following recommendations:

1. Neighborhood and Community Parks: Provide a minimum of one seating node.
2. District parks: Provide a minimum of two seating nodes.
3. Regional parks: Provide a minimum of three seating nodes.

Seating nodes to include a minimum of two benches. Larger seating nodes are to include a minimum of one picnic table and at least one table per 3 is to be barrier-free (ADA compliant).

2.16.1 Community Gardens

A water service is to be provided to parks with a community garden. Non wood shed (i.e. cinder block, pre-cast concrete, or composite under 10' x 10' to be provided for tools.

Community gardens to have a minimum 6' high fence (deer deterrent) and allow for visibility and light into the garden (i.e. chain link or square mesh California chain link etc.); fencing to

be enhanced aesthetically and align with the Town Land Use Bylaw. Community Gardens shall have one vehicle access gate in a location easily accessible by compost/waste collection vehicles. A minimum area of $10m^2$ to be provided for compost area and waste area. Low maintenance surfacing (e.g. mulch or crushed rock) to be provided between boxes (not turf).

Gardens in new development areas to be identified at the Neighbourhood Area Structure Plan; Gardens in existing neighbourhoods are recommended to follow the Town's neighbourhood led process.

Community gardens shall be considered for Regional, District and Community Parks.

Design considerations typically for community gardens outside include:

1. Raised planting beds.
2. Adequate seating.
3. Sufficient space within the garden and around planting beds to ensure wheelchair access.
4. Hard surfaced or wheelchair friendly pathways/trails. Provide barrier-free access to garden beds, and ensure that areas surrounding garden beds are constructed of firm, stable, low maintenance materials to be provided between boxes (not turf).

Universal design principles to apply for access to 25% of the plots. Raised garden plots to be made with a food safe material for bed construction.

Seating areas shall be available within or directly adjacent to the garden. Consider natural elements like trees to offer protection from the elements or provide shade (without shading garden plots).

Provide raised planting boxes between 450mm and 915mm from the ground to ensure accessibility for a variety of ages and abilities. Watering source shall be located in an appropriate area between 450mm and 915mm from the ground. The faucet shall include a lever-style control for ease of use. Planters shall not be more than 1200mm in width and must provide adequate barrier-free shared pathways around the planting bed and allow for continuous and meaningful access to and from adjacent public sidewalks.

2.16.2 Outdoor Washrooms

LEKO pre-cast concrete toilet buildings with vault or approved alternative (Woody-Vault-non vestibule or approved equal) to be provided for Regional, District and Community Parks. Neighborhood Park placement, if proposed, is to be identified at detailed design.

2.16.3 Picnic Shelters

Picnic shelter shall be a minimum 6m x 9m with an approved accessible (concrete, asphalt, poured in place rubber) surfacing underneath and made of vandalism resistant materials (not wood). Shelters shall be accessible by persons using mobility aids or those who have visual impairments. Universal Design principles to apply. Shelters in a community park shall be outfitted with a power outlet (duplex 15 amp, GFI receptacle) to allow for recharging of electric accessibility aids. Vandalism shall be a design consideration for these outlets.

All picnic areas shall include at a minimum, 20% of the total number of picnic tables and no less than one, barrier-free (ADA compliant) picnic tables and a variety of seating options to promote socialization.

2.16.4 Fitness equipment

To be offered in clusters (minimum 3 apparatus per cluster) and to be installed within sight of a playground. Non-pathway activity items preferred (no walking, running or cycle machines). Surfacing (not dirt) to be provided.

2.16.5 Pleasure Ice Rink and Skating Areas

Minimum space of 60′ x 60′ area to have a maximum slope of 0.5% with a drainable surface (i.e. French drain under turf, amended soil etc.) Rink area to be accessible off the road for water truck access and be within 200′ of a fire hydrant without crossing a street. A frost free hydrant must be provided if a fire hydrant is not within 200′. If the rink is part of a new subdivision development, Developers will be required to provide and maintain the ice during the first two winters. This ensures everything is functioning as designed and sets the expectation for a rink in the neighbourhood. Rink areas to have at least two benches.

2.16.6 Toboggan areas

Toboggan areas can be provided where runs are clear of obstacles (such as trees and signage), fences, open water, roads and pathways.

2.17 Site Furnishing

2.17.1 Garbage Receptacles

Garbage receptacles must be of all steel construction, all bins (and any utility items) are to have an anti graffiti wrap. Town to approve image or can use a previously Town-approved image. Unless otherwise requested by the Town, with wind and weatherproof self-closing lid and placed on a concrete pad. Concrete pad to be flush with finished grade. The bag must be completely enclosed, non-locking, and have a slide out bag feature. Capacity must be 120L (Haul All Hide-a-bag type). Sites with sports fields or other high use recreational facilities to have all steel beverage recycling containers adjacent to garbage receptacles.

2.17.2 Dog Bag Dispensers

Install at least one Dog-i-pot, the Junior Bag Dispenser (model # 1002-2), in all parks. Parks with multiple entrances may require more than one. Dispensers are to be maintained by the developer (until FAC).

2.17.3 Bicycle Racks

Bicycle racks are to be installed at key amenities in parks such as playgrounds, sports fields, community gardens etc. The racks shall be of all steel construction, permanently fixed, and the functional area shall be an appropriate hard surface located adjacent to the logical point of access.

2.17.4 Bike Repair Station

Bike repair stations are to be installed in parks where cycling amenities are proposed. (I.e. pump tracks). Cyclohalt Standard bike repair station powder coated finish, black. www. Halt-inc. com is to be used.

2.18 Playgrounds

Playground equipment must meet or exceed current CSA Standard CAN/CSA-Z614 for playground equipment and play spaces. The Developer must provide a letter from the

manufacturer/supplier attesting that equipment meets CSA Standards and have the equipment inspected by a Certified Playground Inspector prior to being open to the public. The Town may accept playground equipment installed on stringers. Written documentation confirming the inspection must be submitted to the Town prior to issuance of CCC.

New play structures or equipment are the sole responsibility of the Developer prior to FAC; this includes, but is not limited to, inspections and maintenance. After issuance of FAC, the equipment is taken over by the Town. All below ground components of the playground equipment must be steel. No plastic slides or tubes will be allowed. The Developer shall provide copies of construction plans and drawings as well as installation and maintenance details.

2.18.1 Play Equipment

Play equipment must meet or exceed current CSA Standard CAN/CSA-Z614- for play equipment and play spaces. The following outlines the minimum playground requirements based on park type.

Regional/District parks:
Playground to be fenced, facility to have an inclusive and accessible ramped structure with roller slide, play panels, climbing components, minimum of 4 double swing bays, group play components (group spin etc.), accessible surfacing, one unique/challenging piece not provided in other parks (over head glider etc.) amenities to include benches, waste receptacles, and accommodate both age groups 2-5 years old and 5-12 years old.

Community Parks:
Where standard play equipment is utilized, the following must be included: facility to have an inclusive and accessible ramped structure with roller slide, climbing components, minimum of 3 double swing bays, group play components (group spin etc.) accessible surfacing, and accommodate both age groups 2-5 years old and 5-12 years old amenities to include benches, waste receptacles. Where non-standard play space is proposed, unique play elements can be proposed that provide interest and opportunity for engagement at all ages.

Neighbourhood Parks:
Playgrounds to include a main structure and may have additional components. The playground should contain at least five components (i.e. slide, swing bay, climber, play panel, spinning, and overhead) and accommodate both age groups 2-5 years old and 5-12 years

old. All playgrounds are to have at minimum, 1 inclusive component (i.e. roller tables, saucer swings, inclusive see saw, roller slide).

Urban Parks/Plazas:
Accessible surfacing (poured in place), incorporate unique elements that are suited to surrounding park/plaza (i.e. contemporary pieces, playable sculptures, parkour etc.) Components to be very open to allow clear sight-lines onto equipment/play area, and accommodate both age groups 2-5 years old and 5-12 years old amenities to include benches, waste receptacles, and bike racks.

Natural Areas:
Playgrounds in a natural area or adjacent an environmentally significant area are to be of a natural theme and use natural materials as appropriate (wood, stone, or manufactured to resemble natural elements). If the Natural Area is also a Community or Regional park, poured in place and accessibility/inclusivity and associated play components requirements will apply. If the Natural Area is in a community park or neighbourhood park, play components and associated amenities apply.

New equipment shall:

Foster the full development of children's motor, sensory, and social skills. Provide excitement and challenge. Provide for and encourage a full range of play activities:

1. Quiet and passive;
2. Active and physical; running, crawling, climbing, sliding, swinging, balancing;
3. Social;
4. Imaginative;
5. Solitary to group.

Provide good "flow" and alternative routes of circulation among the various elements of the play components. Any playgrounds utilizing a natural theme is to be made of natural materials such as wood or stone, or manufactured to resemble natural elements.

The protective surfacing for playgrounds shall be Engineered Wood Fiber in accordance with CSA Standards acceptable to the Town. Landscape fabric to be provided beneath Engineered Wood Fiber. Depth to meet or exceed current CSA standards. Wear mats to be provided for swings and slide exits.

If Poured in Place (PIP) surfacing is proposed, the Town will review on a case-by-case basis and will provide the required minimum specifications.

Playground Edge Restraints to follow City of Calgary specifications. Where a grass berm is required (due to overland drainage issues), build according to supplied detail. Concrete edging to be installed along hard-surface walkway areas. If PIP is proposed, a concrete edge will be required that is notched in order to accept the PIP surfacing.

Playgrounds are prohibited within a 100 meter radius of the upper water line of Public Utility Land or Municipal Reserves contiguous with said Public Utility Land.

Install weeping tile in playground equipment area to ensure drainage and do not locate playgrounds in areas where surface drainage water will collect.

2.18.2 Miscellaneous play areas/features

The following amenities are to be considered where space permits for non programmed leisure activities and specific details are to be reviewed by the Town and must be designed to withstand all weather conditions and be vandal resistant.:

1. Leisure play area
    - horse shoe pits
    - croquet space
    - slacklining
2. Game tables
    - chess
    - Backgammon

2.18.3 Optional Amenities

Are non-standard infrastructure development (ornamental/upgraded fencing, gazebos, sculptured, entrance features/signs etc.). Developers wanting to incorporate optional amenities, are to identify this at the Neighborhood Area Structure Plan stage and will be required to enter into an optional amenity agreement with the Town. New optional amenities that are stand alone entrance features will not be permitted in the median, road right of way, environmental reserve or private residential lots. Optional amenities that are stand alone entrance features will need to be located on a public utility lot that is adjacent an area that will be maintained by the Town (i.e. MR or Town maintained boulevard).

Optional Amenities will be subject to Town review and approval, and must be sensitive to the existing aesthetics of the area in which they are proposed.

2.19 Fencing

Wood post and chain fencing shall be provided as per City of Calgary specs, with a difference in spacing and cable. Wood posts shall be no further than 2.4m (8') apart. Fencing is to be 1.5m back from sidewalk, where practicable. Park access points to be 3.65m (12') wide minimum (with a removable bollard) to allow for water truck and emergency services vehicle access with topography/park design to permit the appropriate turning radius. 5/16" zinc plated general utility low carbon steel chain is to be used instead of cable. Chain is to have a slight loop in between posts, and bolted through or to each post with lag bolt, 5/6" x 3.5" plated.

Town encourages and may approve amenities comprised of recycled products; all projects proposed to use recycled fencing products will be reviewed and approved by the Town.

Minimum 1.2m chain link fencing shall be provided adjacent to all MR's unless otherwise designated by the Town of Okotoks. The mesh must be 9 gauge steel galvanized. No vinyl coated coloured mesh permitted on MR/PUL land.

Where black chain link is desired, 9 gauge steel galvanized is to be powder coated and painted prior to installation.

2.20 Park Signage

2.20.1 Standard Park Signage

1. Standard Town of Okotoks Parks Signage (4.1.11) must be installed at all normal points of access to a park. The contractor shall obtain the park name and address shall from the Town of Okotoks prior to fabrication. Park signs must be installed prior to CCCs for landscaping. All signs must take into consideration visibility with relation to trees and placement related to vehicular access to parks.

2. Town will provide park name and address prior to fabrication.

3. Signs to be mounted on 2 3/8" OD galvanized steel pipe concreted into the ground, with the bottom of the sign to be 7 ft. from the ground. Signs are to be fastened to posts with carriage bolts or other approved alternative banding system (not clamped to post).

2.20.2 Wayfinding Signage

Any wayfinding and interpretive signage shall conform to the Towns Wayfinding Design Specifications. Wayfinding locations and requirements to be determined at NASP. Wayfinding Design guidelines will be provided.

2.21 Pathways

All pathways shall be constructed in accordance with both the current adopted Town Specifications and City of Calgary *Development Guidelines and Standard Specifications Landscape Construction*. Lines should not painted. Horizontal root barrier is required under all pathways. Vertical root barrier will be required where there are species of willow or poplar within 5 metre setback of the edge of pathway. A flat (2% max) 1 meter clear turf edge is to be provided on either side of the pathway. Pathways shall be constructed to the following minimum widths:

1. Primary/Regional pathways within parkways as identified by the Municipal Development Plan: 3.0m.
2. Regional multi-purpose pathways: 3.0m.
3. Primary pathways will be the preferred option, local pathways will be approved on a case by case basis, but the overall intent is more primary pathway and fewer local.
4. Local pathways: 2.5m.

Wherever a regional pathway intersects a road, at least a 3.0m break in the fence at the roadway exposure shall be provided to accommodate maintenance and/or emergency vehicle.

The Town of Okotoks may require that segments of the pathway required to accommodate movement of maintenance and/or emergency vehicle are constructed to a minimum 3.0m width. Pathways that are for storm pond and facility access/maintenance shall be 4.0m in width and shall be constructed to a road standard.

Regional Pathways shall be constructed as part of the park system in all developments as deemed necessary by the Town of Okotoks. Where a mid-block crossing is necessary for the pathway system, special treatment and consideration to active transportation users is required. Special treatment may include, but is not limited to paving stones, lighting, signage, landscaping, etc. Referring to the *Municipal Development Plan*, the pavement

should be tapered (remove parking lanes) at the crossing location where appropriate and feasible.

Asphalt testing for paved pathways shall be in accordance with the Infrastructure Design and Construction Specifications.

Pathways are to fully circumnavigate any storm ponds or large wetland (cannot just be on one side).

Any pathway that connects to a private development site (Commercial/Residential) will be built by the associated developer and will be fully accessible by the public. Routes and construction to be approved by Parks, align with the Town's Infrastructure Design and Construction Specifications and the Town's Landscape Design and Construction Specifications and will require CCC/FAC documentation.

2.22 Bollards

Standard Permanent Bollards and Removable Bollards shall only be installed where deemed necessary by the Town of Okotoks. As an alternative, 'T' (traffic/shape) 'L' bollards may be used. The bollard style and colour must be accepted by the Town of Okotoks. Upon receipt of FAC, an appointment shall be made with the Town of Okotoks to change Developers locks to Master Lock #1KA-2001. Parks' direction is to reduce significantly, the number of bollards on the Pathway.

2.23 Lighting

Park and pathway lighting will be installed where deemed appropriate by the Town of Okotoks. A decorative light fixture (accepted by the Town of Okotoks) shall be used. Consideration to light pollution will be incorporated into the design. All outdoor lighting must meet the Town of Okotoks' Outdoor Lighting Standards (Dark Sky Compliant) as per of Town of Okotoks' Land Use Bylaw.

2.24 Protection of Work

The developer is responsible to appropriately protect all new landscaping (trees, shrubs, turf, amenities, etc.) from any potential damage until properly established, including (but not limited to) damage caused by people, vehicles, machines or equipment, wildlife, weather, etc. The Developer is responsible to replace or repair any damaged items as directed by the Town of Okotoks.

2.25 Weed Management

A Weed Awareness and Weed Management Plan is required for all construction activities. All areas of gravel must have an accepted weed management plan. Weed thresholds are to be managed in accordance with Goal 2 of the Town's Integrated Pest Management Plan, at: www.okotoks.ca.

3 Bibliography

Links to current versions as of the time of writing are provided. It is the responsibility of Developers and their Consultants to ensure they are using the most up to date versions.

Town of Okotoks *Municipal Development Plan*

Town of Okotoks Infrastructure Design and Construction Specifications

Town of Okotoks *Stormwater Master Plan and Flood Mitigation Plan* Infrastructure Studies and Reports | The Town of Okotoks

Town of Okotoks Integrated Pest Management Plan

Town of Okotoks *Water Bylaw 15-24*

Town of Okotoks *Water Conservation, Efficiency, and Productivity Plan*

Town of Okotoks *Roadway, Parks, Neighbourhoods, and Facilities Naming Policy*

City of Calgary Guidelines and Specifications

City of Calgary *Complete Streets Guide*

City of Calgary *Development Guidelines and Standard Specifications: Landscape Construction*

City of Calgary Calgary.ca Park Development Guidelines City of Calgary Seed Mixes

City of Calgary *Guidelines for Supply of Stormpond Water for Irrigation Use Industry Bulletin June 2022*

City of Calgary *Rainwater Harvesting Guidelines*

City of Calgary *Roads Construction Standard Specifications*

City of Calgary *Standard General Conditions*

City of Calgary *Standard Specifications for Erosion and Sediment Control*

City of Calgary *Temporary Traffic Control Manual*

4 Appendix

Please refer to City of Calgary specifications for Standard Drawings and details except for the following:

4.1 List of sheets

1. Parks Classifications pages 31-35
2. Planting Detail
3. Construction Completion Checklist
4. Final Inspection Checklist
5. Playground Berm Detail
6. Irrigation Inspection Checklist
7. Parks Irrigation Meter Report
8. Soil Volume Chart
9. Tree Lists pages 43 - 49
10. Perennial/Ground Cover List
11. Park Signage

4.1.1 Park Classifications/Potential Amenities

Class	Purpose/ Description	Service Area and Size	Location Criteria	Potential Amenities
Regional Parks	Regional parks are destination spaces that facilitate multiple activities and functions for regional residents and visitors	• >20 hectares • Serves a broad, regional market	Located outside Town boundaries • Jointly owned by the Town and one or more regional municipalities • Highway access in close proximity to population centers	Regional destination recreation and leisure facilities • Year-round support amenities • Sufficient parking (primarily "drive to" sites) • Pathway connection between amenities/ facilities on the site Outdoor Year round toilet amenity (can be part of building)
District Parks	Park spaces that support major indoor recreation infrastructure and/or schools and/or offer outdoor recreation infrastructure	• Ideally 16 to 24 hectares • Serves Town and regional residents and/or schools	Located within Town boundaries • Access via major arterial roadways • Appropriate site servicing for major infrastructure	• Major indoor recreation infrastructure • Parking • Connectivity to Town trail and pathway system • Adjacent outdoor recreation, parks and leisure facilities and amenities as deemed appropriate • Adjacent or in close proximity to school sites

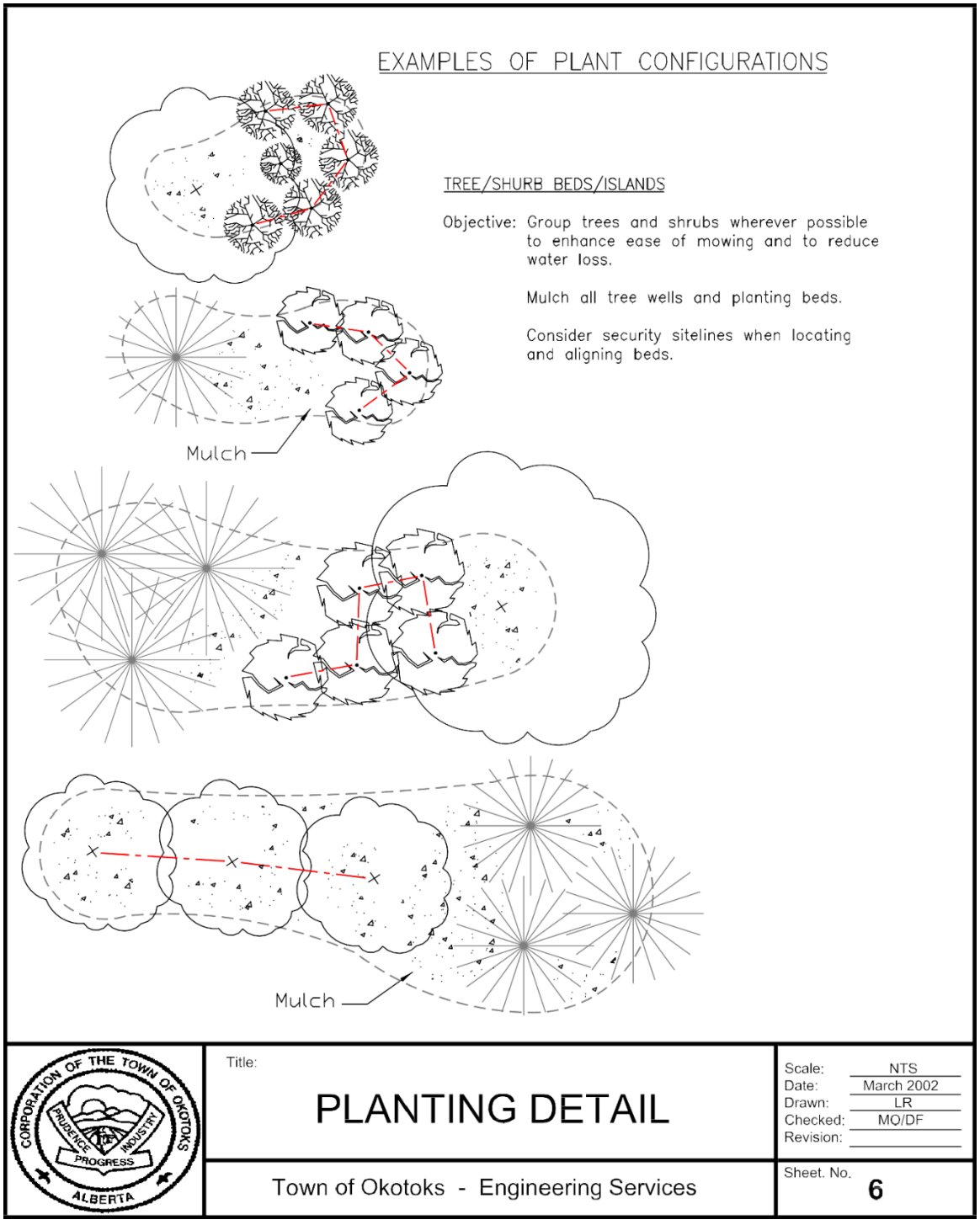
Community Parks	Community parks are destination parks for all residents of Okotoks. These spaces are primarily geared towards outdoor amenities and uses.Multiple activities should be able to occur simultaneously within the site, with activities geared towards various age groups. They are areas for hosting special events, and that offer unique or enhanced opportunities for recreation or gathering. It is therefore important that the parks are easily accessible by motorized and non-motorized travel. Includes MSRs	• Serves all Town residents •Approximately 4.0 hectares	• Located on a major roadways, ideally in close proximity to community facilities • Attempt to locate prior to new development or in Industrial Business, or Agriculture Reserve Districts to reduce conflict with adjacent residents relating to noise,parking etc.	• Trees, landscaping,gardens • Open areas for informal play • Year round amenities • Winter sports area(skating, skiing,tobogganing,snowshoe) • Picnic areas, BBQareas, and shelters • Public toilet access,change rooms and drinking water fountains • Destination play structures and water play features • Dog off leash areas • Public Art • Pathways connections to community, internal circulation paths, seating and waste receptacles • Active sports areas (courts, sports fields, running tracks, etc.) • Youth activities (skateboard, BMX, etc.) • Lighting • Irrigation • Parking • Community gardens

Neighborhood Parks	Neighborhood Parks provide open space venues in close walking or biking proximity to residents within its general vicinity. The purpose of the park is to accommodate passive use and informal play for residents of all ages.The Neighborhood Parks category replaces pocket parks in new developments.	Serves 1 neighborhood • 0.4 to 4.0 hectares • Use ratio of 1.5ha./1,000 people • Service radius of 0.5to 0.8 km •Maximum walking distance:Neighborhood layout should be such that all residents of the development should be able to walk to the park in under 10 minutes assuming a walking speed of 5.0km per hour; therefore, all routes to the park should be less than 0.8km • Where possible,should be connected to utility corridors or environmental reserve to improve perception of size and space	Centrally located within a neighborhood to reducewalking distance • Flat, well drained site preferably adjacent to community hall or school site • Along a collector road Discontinue the allocation of MR for Pocket Parks wherever possible in favor of larger neighborhood parks	Active and passive elements • Open areas for informal play • Community gardens • Play structures or elements • Trails • Benches and trash receptacles • Picnic facilities • Lighting • Sports (nonscheduled) or formal play areas preferably associated with an adjacent school

Natural Areas	Natural areas are intended to promote biodiversity, ecological conservation and sustainability.	As required to conserve existing natural features or promoted ecological diversification.	As appropriate to meet intent.	• Trails • Seating and waste receptacles • Picnic tables • Interpretive signage
Linear Parks	The primary purpose of linear parks is to accommodate trails or to serve as environmental buffer/ screening.	• As required to adequately provide desired connections and buffer spaces • Minimum 6 meter width should be taken as PUL to accommodate pathway connectors	Maximize connections between destinations and neighborhood trail systems.	• Trails • Seating, rest stops, and waste receptacles • Toilets • Access to public toilets and drinking water • Lighting • Parking • Signage and directional maps • Dog waste bag dispenser
Streetscapes	Streetscapes are included in the proposed open space hierarchy as they provide valuable pedestrian links and can have profound impact on the visual appeal and urban forestry of a community.	In accordance with Town of Okotoks Infrastructure Design and Construction Specifications	Although the design of streetscapes is important throughout the Town, the importance of streetscapes increases with density and the amount of traffic along a street.	• Although the design of streetscapes is important throughout the Town,the importance of streetscapes increases with density and the amount of traffic along a street • May or may not be permitted in road right of ways,pending approval of the Town
Urban Parks/ Plazas	A public outdoor open space adjacent to commercial or public buildings suitable for hosting special events yet able to accommodate individuals enjoying the outdoors.	• Serves all Town residents • Size would vary depending on open space opportunity and use	Proximity to community facilities, public building, or commercial area in the urban core.	• A paved gathering area with seating • Lighting • Shade structure/trees • Electrical receptacles • Public toilet access and water fountains • Public art • Bike racks/shelter and storage areas • Year round amenities

Pocket Parks	Pocket parks are small parcels of open space that contain a limited amount of recreational facilities (i.e. a play structure). As the Town continues to develop open space resources, it is recommended that pocket parks be LIMITED to areas where yard space is perceived to be inadequate for residents to enjoy the outdoors (high density areas).	• Inclusion of Pocket Parks within a development to be at the discretion of the Planning and Development Services Department based on aforementioned criteria • 0.1 to 0.4 hectares • Where possible, should be connected to utility corridors or environmental reserve to improve perception of size and space	• Discouraged as stand-alone spaces • Located to best meet the needs of residents and the neighborhood in which it is intended to serve	• Open areas for informal play • Community gardens • Play structures or elements • Benches and trash receptacles • Picnic facilities

4.1.2 Planting Detail



4.1.3 Construction Completion Checklist

Construction Inspection Checklist and Construction Completion Report

Open Spaces ■ Town of Okotoks, Box 20 (1112 North Railway), Okotoks AB, T1S 1K1 ■ inspections@okotoks.ca ■ Phone: 403-938-8958 ■ Fax: 403-938-2784

Subdivision & Phase				Plan	Block	Lot			
Municipal Address									
Consultant				Contact Person				Phone	
Contractor				Contact Person				Phone	
CCC Inspection Request Received	Yes		No					Date	
PART A- CONSTRUCTION INSPECTIONS									
	Work Inspected	Approved Yes	No	Date YYYY/MM/DD	Parks Ins.	Dev. Rep.	Def. Cor.	Comments and Notes	
A.	**Inspection #1**								
	Approved Plans &Letter								
	Line Assignment								
	Layout and P.L. Stakes								
	Erosion / Sediment Controls								
	Restoration/Reclamation Signage								
	Tree Protection								
B.	**Inspection #2**								
	Approved Plans &Letter								
	Survey Stakes - Grades-								
	Subgrade Preparation								
	Irrigation Layout								
	Plumbing Permit								
	Survey Stakes, Grades								
	Layout, Pathways, Trees, Furniture, Sports Fields, Playgrounds, etc.								
C.	**Inspection #3**								
	Approved Plans &Letter								
	Topsoil depth (after topsoil is placed)								
	Tree and Shrub Pits								
D.	**Inspection #4**								
	Approved Plans &Letter								
	Trees and Shrubs as per drawing								
	Meter received by Contractor	Tag #			Serial #				
	Open Trench								
	Trees planted at specified Grade								
	Rootball, Caliper Standards Met								
	C.N.L.A. Specifications Met								
	Insect/Disease / Damage Free								
	Structurally Sounds								
	Tree Setback Spacing								
	Trees properly stored/cared for on site								
E.	**Inspection #5**								
	Approved Plans &Letter								
	Finish grade to plan and spec								
	Topsoil and finish grade to pre-existing								
	Native Profile & pre-development drainage Patterns & rates								
	Seeding and Sodding								
	Tags, Burlap straps, top 1/3 wires removed rolled back								
	Amenities to Plan & Spec (i.e. 1 m off pathway)								
	Playgrounds to Plan & Spec								
	Asphalt pathway to Plan to spec								
	Parks Signage								
PART B- Documents to be submitted prior to release of CCC									
	DOCUMENT	Received Yes	No						
	Playground Certificate of Compliance								
	Asphalt Compaction Density Reports (Core sample on Regional Pathways)								
	Irrigation –Open Spaces Meter Report, Irrigation Inspection Checklist								
	Annual DCV report								
	Any additional reports (i.e. Geotechnical)								
	General Comments & Prior to F.A.C. Conditions								

NOTE: Contract Documents and The Town of Okotoks General Design and Construction Specifications Override the Inspection Check List and Report

Developer's representative name and signature:_____

Park Inspector name and signature:_____

Inspection date:_____

Application expiry date:_____

N:\Operations Services\Open Spaces\020 - Admin\591 - New Development Review\Processes for Landscape Inspector\Construction Inspection Checklist and Construction Completion Report working.docx

4.1.4 Final Inspection Checklist

Final Inspection Checklist and Report

Open Spaces ■ Town of Okotoks, Box 20 (1112 North Railway), Okotoks AB, T1S 1K1 ■ openspaces@okotoks.ca ■
Phone: 403-938-8958 ■ Fax: 403-938-2784

Subdivision & Phase	Plan Block Lot		
Municipal Address			
Consultant	Contact Person		Phone
Contractor	Contact Person		Phone
CCC Request Received	Yes ☐ No ☐	Date	
Work Inspected	Deficiency	Inspection Report Detail	
SURFACE CONDITIONS			
Settlement			
Ponding/drainage			
Repair required			
TURF			
Turf quality acceptable			
Bare spots requiring top dressing			
Weed problems			
Others			
AMENITIES			
Benches			
Garbage receptacles			
Playground			
Other			
IRRIGATION			
As-builts			
Maintenance manuals received			
Annual DCV report			
Irrigation Information sheet			
Meter Information sheet			
Extended Warranty required			
Maintenance Log Submitted			
TREES			
Tree replacement			
Pruning required (Dead or broken branches, pest or disease)			
Guying removed			
Tree well cultivation			
Soil settlement i.e. tree too low			
Other			
SHRUBS			
Shrubs replacement			
Pruning required			
Bed cultivated			
Weed free bed			
Mulch intact			
Other			
FENCING			
PATHWAY/ HARD SURFACE			
Documents to be submitted prior to release of FAC:			
Document	Received Yes	No	
Irrigation As Builts (One hard copy, one digital pdf)			
Irrigation Open Spaces Meter Report, Irrigation Inspection Checklist			
Written documentation of inspection by a Certified Playground Inspector			
Three sets of the "as built" plans and the digital files (.DWG format preferred) and pdf			

NOTE: Contract Documents and The Town of Okotoks General Design and Construction Specifications Override the Inspection Check List and Report

☐ Deficiencies Noted

Developer's representative name and signature:_____

Park inspector name and signature:_____

Inspection date:_____

Application expiry date:_____

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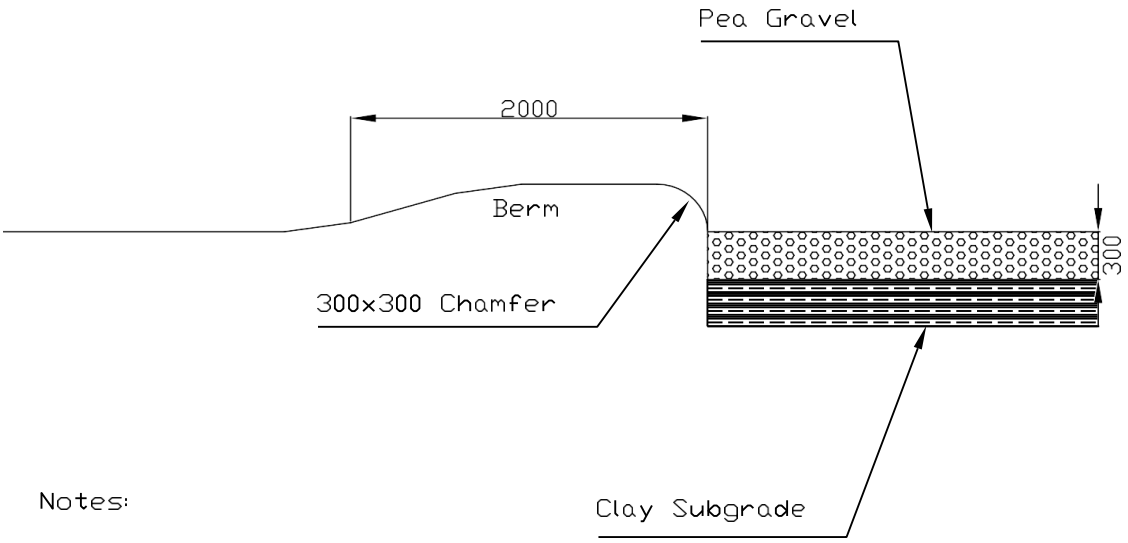
4.1.5 Playground Berm Detail

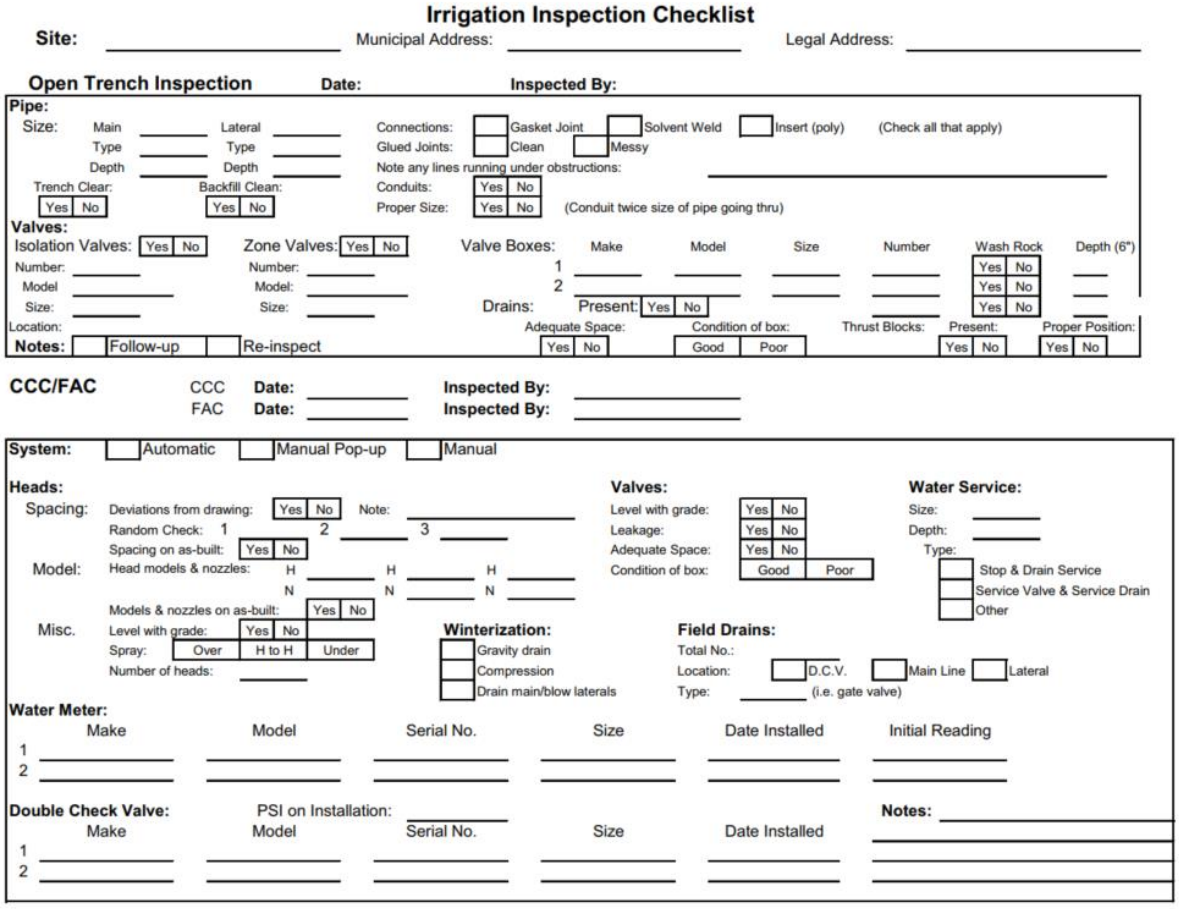


Notes:

-No plastic liner is to be used ontop of the prepared clay sub grade,
-No filtercloth is to be used,
-Big O pipe or equivalent is to be installed in the pea gravel for drainage.
-All dimensions are in millimetres.

CORPORATION OF THE TOWN OF OKOTOKS – PRUDENCE INDUSTRY PROGRESS – ALBERTA	Title: PLAYGROUND BERM DETAIL	Scale: NTS Date: March 2005 Drawn: WRM Checked: JN Revision:
	Town of Okotoks - Engineering Services	Sheet. No. 7

4.1.6 Irrigation Inspection Checklist



Irrigation Inspection Checklist

Site: _____ Municipal Address: _____ Legal Address: _____

Open Trench Inspection **Date:** **Inspected By:**

Pipe:

Size: Main _____ Lateral _____ Connections: ☐ Gasket Joint ☐ Solvent Weld ☐ Insert (poly) (Check all that apply)

Type _____ Type _____ Glued Joints: ☐ Clean ☐ Messy

Depth _____ Depth _____ Note any lines running under obstructions: _____

Trench Clear: Yes No Backfill Clean: Yes No Conduits: Yes No

Proper Size: Yes No (Conduit twice size of pipe going thru)

Valves:

Isolation Valves: Yes No Zone Valves: Yes No Valve Boxes: Make Model Size Number Wash Rock Depth (6")

Number: _____ Number: _____ 1 _____ Yes No _____

Model _____ Model: _____ 2 _____ Yes No _____

Size: _____ Size: _____ Drains: Present: Yes No Yes No _____

Location: Adequate Space: Yes No Condition of box: Good Poor Thrust Blocks: Present: Yes No Proper Position: Yes No

Notes: ☐ Follow-up ☐ Re-inspect

CCC/FAC

CCC **Date:** _____ **Inspected By:** _____

FAC **Date:** _____ **Inspected By:** _____

System: ☐ Automatic ☐ Manual Pop-up ☐ Manual

Heads:

Spacing: Deviations from drawing: Yes No Note: _____

Random Check: 1 _____ 2 _____ 3 _____

Spacing on as-built: Yes No

Model: Head models & nozzles: H _____ H _____ H _____

N _____ N _____ N _____

Models & nozzles on as-built: Yes No

Misc. Level with grade: Yes No

Spray: Over H to H Under

Number of heads: _____

Valves:

Level with grade: Yes No

Leakage: Yes No

Adequate Space: Yes No

Condition of box: Good Poor

Water Service:

Size: _____

Depth: _____

Type:

☐ Stop & Drain Service

☐ Service Valve & Service Drain

☐ Other

Winterization:

☐ Gravity drain

☐ Compression

☐ Drain main/blow laterals

Field Drains:

Total No.:

Location: ☐ D.C.V. ☐ Main Line ☐ Lateral

Type: _____ (i.e. gate valve)

Water Meter:

	Make	Model	Serial No.	Size	Date Installed	Initial Reading
1						
2						

Double Check Valve: PSI on Installation: _____

	Make	Model	Serial No.	Size	Date Installed
1					
2					

Notes: _____

4.1.7 Parks Irrigation Meter Report

IRRIGATED SITE INFORMATION			
Address:		Legal Desc:	
Community:		Phase:	
Developer:		Consultant:	
Contact Person:		Telephone:	

METER LOCATION DIAGRAM

METER INFORMATION			
Meter Pit Location:		Meter Size	
Tag #:		Serial #	
Irrigation Contractor		Inspector	
Install Reading		Install date:	
June Reading			
July Reading			
August Reading			
September Reading			

4.1.8 Soil Volume Chart

Soil Volume Chart		
Size of Tree	Mature Height	Soil Volume Required (M3)
Small (S)	Less than 10 m	10
Medium (M)	10-15m	20
Large (L)	Greater than 15 m	30

4.1.9 Tree Lists

Preferred Species			
Botanical Name	Common Name	Mature Size	Lifespan
*Abies balsamea**	Balsam Fir	L	long
*Abies lasiocarpa**	Alpine Fir	L	long
Acer ginnala	Amur Maple	S	average
Acer negundo 'Baron'	Baron Manitoba Maple	L	average
Acer saccharinum 'Silver Cloud'	Silver Cloud Maple	L	long
Acer tataricum	Tatarian Maple	S	short to average
Aesculus glabra	Ohio Buckeye	S-M	long
*Alnus sp.**	Alder sp.	S-M	short to average
*Betula occidentalis**	River Birch	S	average
Betula papyrifera 'Chikadee'	Chickadee Birch	L	average
*Betula papyrifera**	Paper Birch	L	average
Betula pendula (verrucosa)	European Weeping Birch	L	average
Betula pendula 'Gracilis'	Cutleaf Weeping Birch	L	average
Celtis occidentalis	Common Hackberry	L-M	long
Fraxinus Americana 'Durgar'	Tuxedo White Ash	L	long
Fraxinus americana'Durkar'	Calypso White Ash	L	long
Fraxinus pennsylvanica lanceolata	Green Ash	L	long
Fraxinus pennsylvanica 'Heuver'	Foothills Green Ash	L	long
Fraxinus pennsylvanica 'Patmore'	Patmore Green Ash	L	long
Fraxinus pennsylvanica 'Rugby'	Prairie Spire Green Ash	L	long
*Juniperus scopulorum cvs.**	Rocky Mountain Juniper	S	long
*Larix laricina**	Tamarack	M	long
*Larix lyallii**	Alpine Larch	M	long
Larix sibirica	Siberian Larch	L	long
Picea abies	Norway Spruce	various	long
*Picea engelmannii**	Engelmann Spruce	L	long
Picea glauca 'Densata'	Black Hills Spruce	L	long
*Picea glauca**	White Spruce	L	long
*Picea mariana**	Black Spruce	L	long
Picea omorika	Serbian Spruce	L	long
Picea pungens	Colorado Spruce	L	long
*Pinus albicaulis**	Whitebark Pine	M	long
Pinus aristata	Bristlecone Pine	M	long
*Pinus banksiana**	Jack Pine	M	long
Pinus cembra	Swiss Stone Pine	M	long
*Pinus contorta latifolia**	Lodgepole Pine	L	long
*Pinus flexilis**	Limber Pine	M	long

Preferred Species continued			
Botanical Name	Common Name	Mature Size	Lifespan
Pinus nigra	Austrian Pine	L	long
Pinus ponderosa	Ponderosa Pine	L	long
Pinus uncinata	Mountain Pine	M	average
Pinus sylvestris	Scots Pine	L	long
Prunus maackii	Amur Cherry	M	short
*Pseudotsuga menziesii glauca**	Rocky Mountain Douglas Fir	L	long
Quercus macrocarpa	Bur Oak	L	long
Syringa reticulata	Japanese Tree Lilac	M-S	long
Tilia cordata 'Greenspire'	Littleleaf Linden	L	long
Tilia flavescens 'Dropmore'	Dropmore Linden	L	long
Tilia mongolica	Mongolian Linden	M	long
Ulmus americana	American Elm	L	long
Ulmus pumila	Siberian/Manchurian Elm	L	long

* Species Native to Alberta

Trial Species			
Botanical Name	Common Name	Mature Size	Lifespan
Abies concolor	White Fir	L	long
Abies sibirica	Siberian Fir	L	long
Acer platanoides 'Prairie Splendor'	Prairie Splendor Norway Mapl	L	average to long
Acer rubrum (cultivars)	Red Maple	L	long
Acer saccharum	Sugar Maple	L	long
Aesculus hippocastanum	Horse Chestnut	L	long
Alnus hirsuta 'Harbin'	Prairie Horizon Alder	M	average
Betula davurica	Dahurian Birch	L	average
*Betula neoalaskana**	Alaska Birch	M	average

* Species Native to Alberta

Trial Species continued			
Gleditsia triacanthos	Honey Locust	L	long
Larix decidua	European Larch	L	average to long
Larix gmelinii (dahurica)	Dahurian Larch	L	long
Maackia amurensis	Amur Maackia	M	short
Phellodendron amurense	Amur Corktree	M	average to long
Pinus resinosa	Red Pine	L	long
Pinus strobus	Eastern White Pine	L	long
Quercus alba	White Oak	L	long
Quercus borealis	Northern Red Oak	L	long
Quercus ellipsoidalis	Northern Pin Oak	L	long
Quercus mongolica	Mongolian Oak	L	long
Quercus robur	English Oak & fastigiata	L	long
Quercus rubra	Red Oak	L	long
Syringa pekinensis	Peking Tree Lilac	S	average
Tilia americana	American Linden	L	long

* Species Native to Alberta

Species Native to Alberta			
Botanical Name	Common Name	Mature Size	Lifespan
Abies balsamea	Balsam Fir	L	long
Abies lasiocarpa	Alpine Fir	L	long
Alnus sp.	Alder sp.	S	short to average
Betula occidentalis	River Birch	S	average
Betula neoalaskana	Alaska Birch	M	average
Betula papyrifera	Paper Birch	L	long
Crataegus succulenta	Fleshy Hawthorn	S	short
Juniperus scopulorum cvs.	Rocky Mountain Juniper	S	long
Larix laricina	Tamarack	L	long
Larix lyallii	Alpine Larch	M	long
Picea engelmannii	Engelmann Spruce	L	long
Picea glauca	White Spruce	L	long
Picea mariana	Black Spruce	L	long
Pinus albicaulis	Whitebark Pine	M	long
Pinus banksiana	Jack Pine	M	long
Pinus contorta latifolia	Lodgepole Pine	L	long
Pinus flexilis	Limber Pine	M	long
Populus balsamifera	Balsam Poplar	L	short
Populus deltoides (sargentii)	Plains Cottonwood	L	short
Populus tremuloides	Trembling Aspen	M	average
Prunus pensylvanica	Pincherry	S	short
Prunus virginiana melanocarpa	Western Chokecherry	S	short
Pseudotsuga menziesii	Douglas Fir	L	long
Salix discolor	Pussy Willow	S	short to average
Sorbus scopulina	Greene's Mountain Ash	S	short to average

* Species Native to Alberta

Species Permitted on Boulevards and Medians				
Limited **P**referred **T**rial	Botanical Name	Common Name	Mature Size	Lifespan
P	*Acer ginnala*	Amur Maple	S-M	average
P	*Acer negundo 'Baron'***	Baron Manitoba Maple	L	average
P	*Acer saccharinum* 'Silver Cloud'	Silver Cloud Maple	L	long
P	*Acer tartaricum*	Tartarian Maple	S-M	average
P	*Aesculus glabra*	Ohio Buckeye	L-M	long
T	*Celtis occidentalis*	Common Hackberry	L-M	long
P	*Fraxinus americana 'Durkar'*	Calypso White Ash	L	long
P	*Fraxinus americana 'Durgar'*	Tuxedo White Ash	L	long
P	*Fraxinus pennsylvanica 'Heuver'*	Foothills Green Ash	L	long
P	*Fraxinus pennsylvanica lanceolata*	Green Ash	L	long
P	*Fraxinus pennsylvanica 'Patmore'*	Patmore Green Ash	L	long
P	*Fraxinus pennsylvanica 'Rugby'*	Prairie Spire Green Ash	L	long
T	*Phellodendron amurense*	Amur Corktree	M	average to long
T	*Quercus alba*	White Oak	L	long
T	*Quercus borealis*	Northern Red Oak	L	long
P	*Quercus ellipsoidalis*	Northern Pin Oak	L	long
P	*Quercus macrocarpa*	Bur Oak	L	long
T	*Quercus mongolica*	Mongolian Oak	L	long
T	*Quercus rubra*	Red Oak	L	long
P	*Syringa pekinensis*	Peking Lilac	M-S	long
P	*Syringa reticulata*	Japanese Tree Lilac	M-S	long
P	*Ulmus americana* **	American Elm	L	long
P	*Ulmus pumila*	Siberian/Manchurian Elm	L	long

** Prone to aphid/scale and is only to be used on Boulevards where parking is not permitted

Species permitted within 8m of a power line				
Limited **P**referred **T**rial NA only	Botanical Name	Common Name	Mature Size	Lifespan
P	*Acer ginnala*	Amur Maple	S	average
P	*Acer tataricum*	Tartarian Maple	S	average
P	*Aesculus glabra*	Ohio Buckeye	L-M	long
P	*Alnus sp.**	Alder sp.	S	short to average
P	*Betula occidentalis**	River Birch	S	average
P	*Crataegus X mordenensis 'Snowbird'*	Snowbird Hawthorn	S	short
P	*Crataegus X mordenensis 'Toba'*	Toba Hawthorn	S	short
P	*Juniperus scopulorum cvs.**	Rocky Mountain Juniper	S	long
P	*Picea pungens 'fastigiata'*	Columnar Blue Spruce	S-M	average to long
P	*Pinus uncinata*	Mountain Pine	M	average
P	*Pinus mugo*	Mugo Pine	S	average
P	*Pinus aristata*	Bristlecone Pine	M	long
P	*Prunus maacki*	Amur Cherry	M	average
P	*Syringa pekinensis*	Peking Tree Lilac	S	long
P	*Syringa reticulata*	Japanese Tree Lilac	S	Short to average
	* Species Native to Alberta			

Species for Limited Use				
Botanical Name	Common Name	Mature Size	Lifespan	Reason for Limitation
Acer negundo	Manitoba Maple	L	average to long	Pest susceptibility/ Seed Production
Caragana arborescens 'Sutherland'	Sutherland Caragana	S	average	Poor branch structure
Cotoneaster acutifolia	Cotoneaster Hedge	S	short	Disease Susceptibility/ Invasive Tendencies
Crataegus arnoldiana	Arnold's Hawthorn	S	short	Suckering
Crataegus cerronis	Chocolate Hawthorn	S	short	Suckering
Crataegus chlorosarca	Black Hawthorn	S	short	Suckering
Crataegus X mordenensis 'Snowbird'	Snowbird Hawthorn	S	short	Disease / Suckering
Crataegus X mordenensis 'Toba'	Toba Hawthorn	S	short	Disease / Suckering
Crataegus succulenta	Fleshy Hawthorn	S	short	Suckering
Fraxinus mandschurica	Manchurian Ash	M	long	Pest susceptibility
Fraxinus nigra and cultivars	Black Ash	L	long	Pest susceptibility
Malus spp.	Crabapple and apple cvs.	M	average to long	High frequency / Disease susceptibility/ Deer attractant
Populus tremula 'Erecta'	Swedish Columnar Aspen	M	average	High frequency / Disease susceptibility / suckering
*Populus jackii 'Northwest'**	Northwest Poplar	L	average	
Populus X canescens 'Tower'	Tower Poplar	L	short	Suckering/Poor branch structure
Populus X 'Griffin'	Griffin Poplar	L	short	Suckering/Poor branch structure
Populus X 'Thevestina'	Theves Poplar	L	short	Suckering/Poor branch structure
Populus X 'Walker'	Walker Poplar	L	short	Suckering/Poor branch structure
Populus X 'Assiniboine'	Assiniboine Poplar	L	short	Suckering/Poor branch structure
Populus X 'Brooks #6'	Brooks #6 Poplar	L	short	Suckering/Poor branch structure
Populus X 'Byland Green'	Byland Green Poplar	L	short	Suckering/Poor branch structure
Populus X 'Prairie Sky'	Prairie Sky Poplar	L	short	Suckering/Poor branch structure
Populus X 'Tristis'	Tristis Poplar	L	short	Suckering/Poor branch structure
Prunus mandshurica	Apricot	M	short	Disease susceptible
Prunus nigra (americana)	Canada Plum	M	average to long	Disease susceptible
Prunus padus commutata	Mayday	M	short	Disease susceptible
Prunus virginiana 'Schubert'	Schubert Chokecherry	S	short	Disease susceptible
*Prunus virginiana melanocarpa**	Western Chokecherry	S	short	Disease susceptible
Pyrus ussuriensis	Ussurian Pear	M	average	
Ulmus americana 'Brandon'	Brandon Elm	L	Long	High frequency / Pest susceptibility
Salix acutifolia	Sharp Leaf Willow	M	short to average	Disease susceptible
Salix alba varieties	White Willow	M	short to average	Disease susceptible
*Salix discolor**	Pussy Willow	S	short to average	Disease susceptible
Salix pentandra	Laurel Leaf Willow	L	short to average	Disease susceptible
Sorbus spp.	Mountain Ash	M	short to average	Disease susceptible
* Species Native to Alberta				

Prohibited Species				
Botanical Name	Common Name	Mature Size	Lifespan	Reason for Limitation
*Berberis vulgaris**	Common Barberry	S	average to long	Prohibited Noxious Weed in Alberta
Caragana arborescens	Common Caragana	S	average	Invasive Tendencies
Caragana arborescens 'Sutherland'	Sutherland Caragana	S	short to average	suckering/poor branch attachments
Elaeagnus angustifolia	Russian Olive	M	short to average	Invasive Tendencies
*Elaeagnus umbellata**	Autumn Olive	M	average to long	Prohibited Noxious Weed in Alberta
Hippophae rhamnoides	Sea Buckthorn	S	short to average	Invasive Tendencies
*Rhamnus cathartica**	Common Buckthorn	M	average to long	Prohibited Noxious Weed in Alberta
*Tamarix ramosissima**	Saltcedar	M	average to long	Prohibited Noxious Weed in Alberta
*Prohibited Noxious Woody Shrubs from current edition Alberta Weed Act				

4.1.10 Perennials and Ground Covers

Perennial Species Suitable for Use in Boulevards and Median					
Botanical Name	Common Name	Mature Size	Lifespan	Performance	Considerations
*Achillea millefolium**	Common Yarrow	L	short	Medium	moderatly salt tolerant
Aegopodium podogaria 'varigatum'	Snow on the mountain/Goutweed	S	long	Not yet used	Invasive Tendencies-contained areas only
Alchemilla mollis	Lady's mantle	L	average	Not yet used	not deer resistant - remove?
Allium giganteum	Giant Allium	L			Tolerant of urban pollution and salt, spreading nature
Allium schoenoprasum	Chives	S	long	Not yet used	deer resistant and robust
Anemone canadensis	Canada Anenome	S			
Artemisia cana	Silver sagebrush				Low growing attractive shrub with silver foliage; does well in Calgary area although naturally found southeast of the city
Artemisia schmidtiana 'Silver Mound'	Silver Mound Artemesia	M	average	Strong	
Artemisia stelleriana 'Silver Brocade'	Silver Brocade Artemesia	M	average	Medium	too low, too much work for weeding?
Calamagrostis x acutiflora 'Karl Foerster'	Karl Foerester Grass	S	short	Strong	
Campanula rotundifolia	Harebell	M			Only plant that one native bee feeds on in Alberta; spreads readily; blooms
Coreopsis grandiflora?	Tickseed coreopsis	M	short (self seeds)	Not yet used	deer resistant and robust
Echinops ritro	Globe thistle	L			Salt and drought tolerant; will self-seed; can deadhead to extend blooming time
Erigeron compositus	Cut-leaved Fleabane	M			Can function as somewhat of a ground cover; very drought tolerant; likely some salinity tolerance
Eupatorium purpureum	Joe pye weed				
Filipendula ulmaria	Meadowsweet	L	long	Not yet used	deer resistant and robust
*Gaillardia aristata**	Gaillardia (blanketflower)	S/M			Native species more salt tolerant
Galium boreale	Northern Bedstraw	S			Withstands shade, full sun and some disturbance; seems to be one of the last native plants to die out in urban parks; somewhat salt tolerant but inconsistent results regarding salinity tolerance; best not to plant in middle medians along main roadway
Geranium macrorrihizum	Perennial Geranium	M/L			
Helianthus pauciflorus ssp. subrhomboideus	Rhombic leaved sunflower	L			Drought and disturbance tolerant; somewhat salt tolerant
Helianthus petiolaris	Prairie sunflower	L			Similar to common annual sunflower
Helictotrichon sempervirens	Blue Oat Grass	L	short	Weak	salt tolerant
Hemerocallis sp.	Daylily sp.	S	short	Medium	salt tolerant
Heterotheca villosa	Golden aster (hairy golden aster)	S			Low in stature and aids as a groundcover; drought tolerant; colonizes roadsides and disturbed areas; salinity tolerance; salt spray tolerant
Leymus arenarius 'Blue Dune'	Blue Dune Lyme Grass	S	short	Strong	Invasive Tendencies-contained areas only; not to be planted with trees
Liatris punctata	Dotted blazingstar	M			Establishes from seed but takes multiple years to flower; can withstand taller adjacent vegetation once established; HCR grassland health indicator species; somewhat salt toleran
Liatris spicata	Liatris	Shrub	average to long	Strong	
Malva moschata	Musk Mallow	M/L	long	Not yet used	deer resistant and robust
Narcissus	Daffodils	S			Deer & salt resistant
Nepeta spp	Cat mint	S			Somewhat salt tolerant and fairly drought tolerant; appears tolerant to salt spray and some soil salinity due to its ability to overwinter in median planters
Perennial Species Suitable for Use in Boulevards and Median					
Botanical Name	Common Name	Mature Size	Lifespan	Performance	Considerations
Oxytropis sericea	Early yellow locoweed	S			Drought and salt tolerant; will tolerate occasional mowing; frequently comes up within turf grass on roadsides in the city's northwest where the seed bank has persisted
Oxytropis splendens	Showy locoweed	S			Drought tolerant; likely somewhat salt tolerant; HCR grassland health indicator species
Paeonia sp.	Peony	M	long	Medium	salt tolerance?
Phalaris arundinacea 'Picta'	Variegated Ribbon Grass	S	short	Strong	Invasive Tendencies-contained areas only; only to be planted by itself, or with other ornamental grasses
Rheum palmatum	Ornamental Rhubarb	L	short	Strong	Preferred for parking lots and medians, not parks
Rheum rhabarbarum	Rhubarb	L	short	Strong	
Rhus trilobata	Skunkbush				Naturally found in southern Alberta prairies; drought tolerant; salt tolerance not mentioned in literature but in saline ephemeral wetland
Salvia spp.	Salvia				Drought tolerant, tolerates poor soil,
Solidago canadensis	Canada goldenrod	L			Salt and drought tolerant although low goldenrod is more tolerant of saline, poor dry soils
Solidago missouriensis	Low (Missouri) goldenrod	M			Drought and salt tolerant; ensure that short stature of plant is accounted for in planting plan so that it is not outcompeted
Stachys byzantina	Lambs ear	M		Not yet used	moderatly drought tolerant, deer resistant
Symphyotrichum laeve	Smooth aster	S/M			Drought and salt tolerant; hardy and can withstand disturbance pressure
Symphoricarpos occidentalis	Buckbrush				Tends to come in on its own in natural areas; somewhat salt tolerant and can be used in medians; low growth tends to catch garbage in roadway plantings; do not confuse with snowberry; cultivars available but little information available regarding cultivar performance in the Calgary area
Thermopsis rhombifolia	Golden bean				Early season pollinator forage; can function somewhat as a ground cover; salt and drought tolerant
Typha latifolia	Cattails	L	long	Strong	require some standing water
Veronica spicata	Veronica/Speedwell	S/M	Average	Medium	
Veronica spicata	Veronica/Speedwell	S/M	Average	Medium	

**where salt tolerance is questioned, plants may still be suitable on boulevards/medians that won't be priority for snow clearing

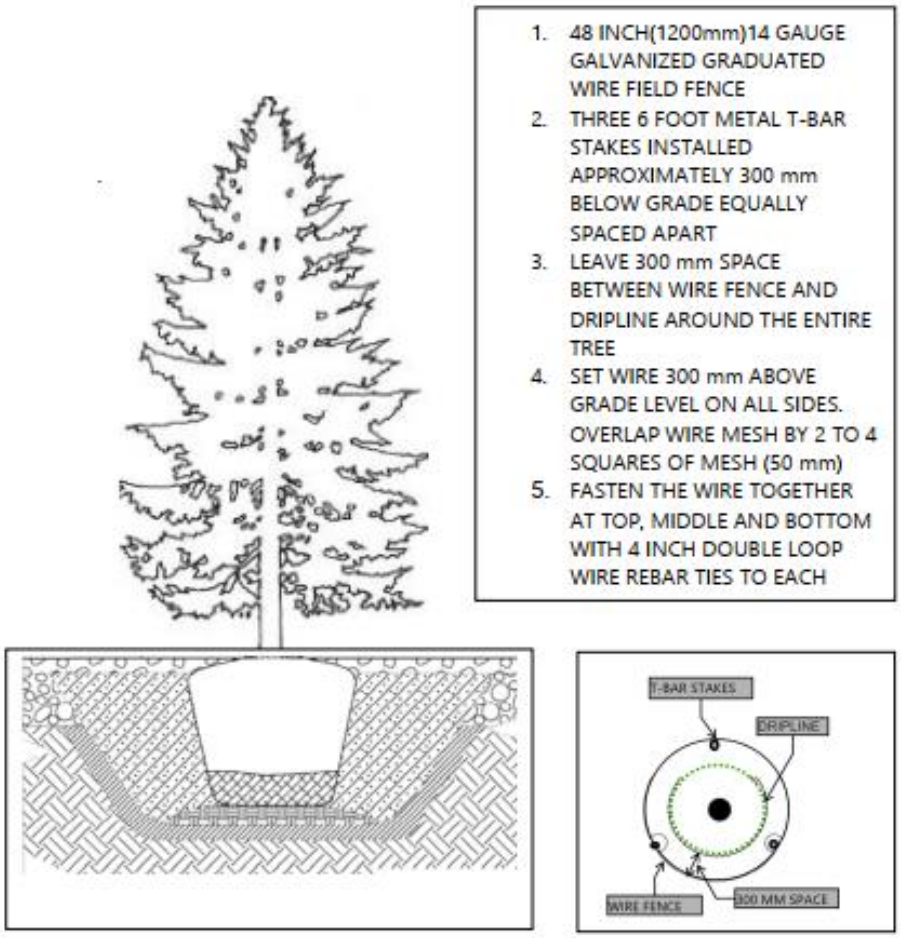
* No species with invasive tendencies are to be planted adjacent private property *

4.1.11 Parks Signage

30 x 45 cm
081 Sign Grade
Hi Int. Reflective

4.1.12 Coniferous Wildlife Protection Fence

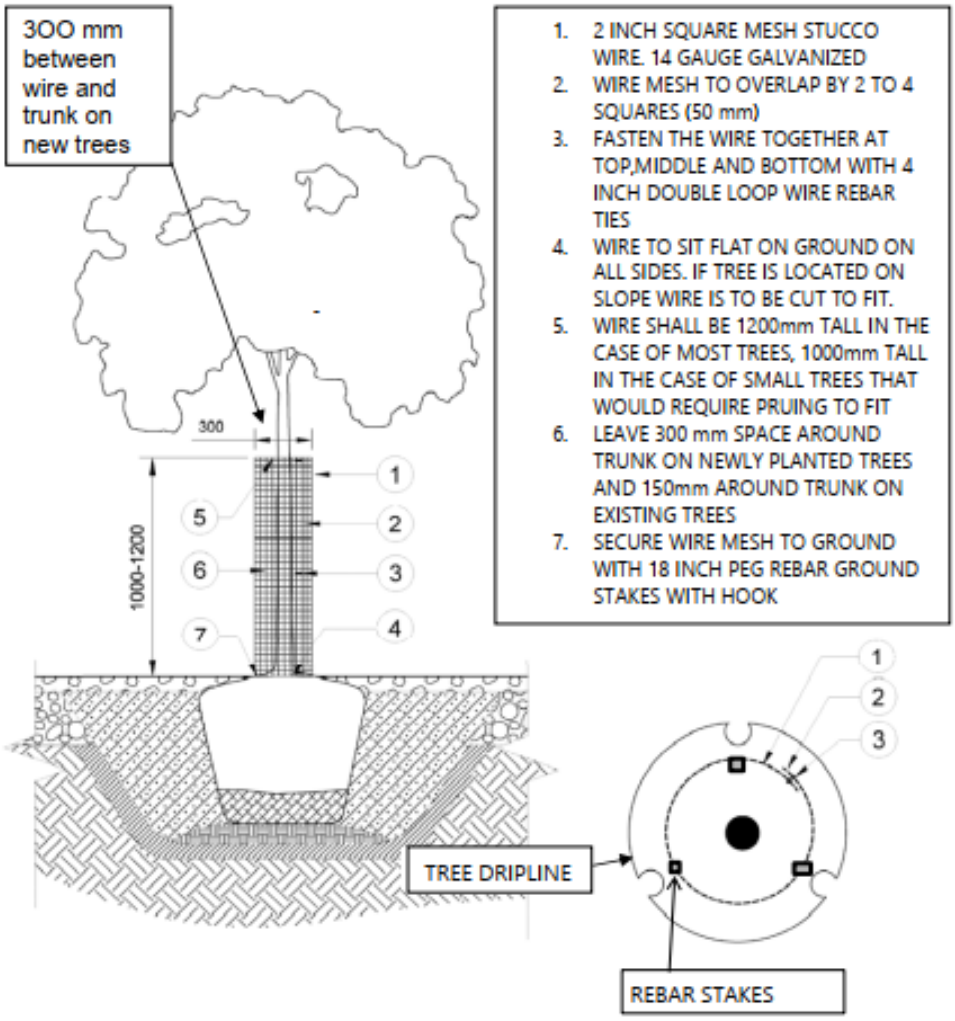
Coniferous Wildlife Protection Fencing



TOWN OF OKOTOKS	**INDIVIDUAL TREE CONIFEROUS WILDLIFE PROTECTION FENCING**

4.1.13 Deciduous Wildlife Protection Fence Detail

Deciduous Wildlife Protection Fencing



TOWN OF OKOTOKS

INDIVIDUAL TREE DECIDUOUS WILDLIFE PROTECTION FENCING