MEETING AGENDA

MEETING **River Systems Advisory Committee**

DATE April 18, 2018

LOCATION City Hall Meeting Room B
TIME 4:00 pm – 6:00 pm

CHAIR Mariette Pushkar

AGENDA ITEMS

ITEM #	DESCRIPTION
1	Welcome: • Roll call and certification of quorum • Declaration of pecuniary interest or conflict of interest
2	Agenda 1. Crane Park EIS a) Information from City staff and project team b) Hearing of Delegation(s) c) In Committee Discussion – Motion
3	Adoption of Minutes – February 21, 2018 and March 14, 2018
4	Other Business & Next Meeting
5	Adjournment

April 18, 2018
River System Advisory Committee

Item **Crane Park - EIS**
Report provides an overview of the EIS that has been prepared to inform formalizing a trail connection through Crane Park.

Proposal The City of Guelph initiated the Crane Park project to look at alternatives for formalizing a City maintained trail through Crane Park while also considering locations for a future trail crossing of an unnamed tributary to provide access to the South.

Location The study area includes areas adjacent to Speed River from the end of College Ave W/Dovercliffe south to the end of Stone Rd. as well as the City owned lands south to Hanlon Creek.

Back ground

- The study area for the Crane Park EIS includes portions of the Hanlon Creek subwatershed, as well as the Speed River subwatershed.
- There are also known natural heritage features and areas within the study area that are part of the City's Natural Heritage System (NHS) as identified within the Official Plan. These features include:
    - Significant Woodlands;
    - Significant Wetlands (PSW);
    - Significant Valleylands (Speed River Valley);
    - Significant Wildlife Habitat (ecological linkages, deer winter congregation areas & waterfowl over wintering habitat,etc.);
    - Surface Water and Fish Habitat;
    - Wildlife Movement Corridors (associated with the ecological linkage)
    - Habitat for locally significant species
- RSAC provided input at the terms of reference stage in March of 2017 at which time the committee passed the following motion:

THAT The River Systems Advisory Committee conditionally supports the City's EIS TOR for the Crane Park project provided that:

- Clarity around the locations of breeding bird and floristic surveys be provided;
- Clarify potential habitat for area sensitive breeding birds;
- Clarify potential habitat for terrestrial crayfish;
- Incorporate Ebird records into the background review/species records;
- Clarify that the impact analysis of the EIS will include consideration for buffers; and,
- Clarify that the EIS will look at possible crossing location(s) for the tributary and the SWM channel will be looked at.

Report

Summary of Field Study Results

Figure 4-4 of the EIS shows the locations of monitoring stations for terrestrial surveys, as well as candidate maternity roost sites for bats, and ELC communities which include locally significant flora species.

Based on the results of the breeding bird surveys a number of locally significant bird species were detected including American Redstart, Red-eyed Vireo, Magnolia Warbler, Brown Creeper, Red-breasted Nuthatch, Black-throated Blue Warbler, Rose-breasted Grosbeak and Field Sparrow.

No raptor stick nests were detected throughout the surveys, however based on habitat conditions and the proximity to the river suitable habitat is present. As such the EIS is recommending no removal of trees >20m to protect potential roost trees.

A number of suitable roosting trees for bats have also been identified and the EIS is recommending avoiding removal of potential roost trees.

Field studies also resulted in detection of both mink (Neovision vison) and Stoat/ Short tailed weasel (Mustela, erminea). The short tail weasel observation was of a dead individual which appeared to be the result of an encounter with a dog.

No suitable habitat for terrestrial crayfish was identified through the field studies.

Several sheltered inlets along the Speed River were also noted for providing sheltered spaces for overwintering waterfowl (Figure 5-11).

ELC was completed for the study area (shown on Figure 4-5). While the ELC communities identified do not include any provincially significant communities, several locally significant flora were identified, including:

- Canada Clearweed
- Slender Sedge
- Black Maple

Wetland boundaries were also confirmed in the field. The updated boundary along with the 30m buffer are shown on Figure 5-10

Significant Wildlife Habitat (SWH)

Determination of SWH should follow the City's EIS guidelines and be based on the MNRF criterion schedules. The SWH analysis includes several habitat categorizes that have been retired by the MNR and are no longer considered SWH (i.e. wild turkey winter ranges)

Given the shallow exposed bedrock and the known snake populations throughout the wetland complexes in the area – it is unclear how potential hibernacula are not possible (recognizing that none were specifically identified through the field program).

Table 7-1 – SWH summary states amphibian breeding habitat is potentially present – but Table 6-1 confirms that it is present. This should be clarified.

Ground and Surface Water Characterization Summary (unnamed tributary)
A combination of mini piezometers, temperature loggers and level loggers were used to assess the thermal regime and ground water discharge functions within the tributary (Figure 5-2 on page 40). Spotflow baseflow measurements were also collected within the tributary. Results regarding water levels and temperature are shown on Figures 5-6 and 5-7.

Based on the findings:

- The tributary represents a perennial stream, and groundwater supported flows are continually discharger from the storm sewer outfall at the head of the tributary.
- The existing storm water infrastructure is expected to be intercepting and conveying groundwater to the tributary as a pathway.
- The stream is sensitive to storm events with high magnitude, short duration increases in flows following storm events.
- The thermal regime was determined to be a cold to cool water tributary coming from a cold water source.

Aquatic Habitat and Geomorphological Assessment Summary
The aquatic characterization used a qualitative assessment following a modified OSAP protocol and looked at: watercourse characteristics; channel characteristics; substrate and bank materials; other pertinent habitat features.

The channel does have a riffle pool sequence supporting substrate variability as well as flow variability for different stages of a fish's life cycle. The majority of the reach also has dense canopy cover originating from the south side of the channel.

Four fish species were also confirmed within the channel: Creek Chub, Eastern Blacknose Dace, Longnose Dace and Northern Redbelly Dace. All of these species are cool water fish, with Northern Redbelly Dace also being tolerant of cool to warm water conditions. Brook Trout were not detected during surveys but conditions are suitable for the species, particularly given the close proximity between this tributary and the confluence of Hanlon Creek and the Speed River.

A rapid assessment was used for the fluvial geomorphological characterization and has found that while the tributary does not have a natural meander pattern; it does have a distinct riffle-pool sequence. The channel is composed of bedrock, coarse gravels and boulders, with the banks comprised of sand, silt, boulder and gravels throughout. This is consistent with the glacial outwash characteristics of the Speed River valley.

Aggradation was observed as the dominating form of adjustment within the tributary. Degradation and widening also represent significant processes within the channel.

Potential Constraints
Staff note that all references to OPA 42 should be updated to refer to the City's Official Plan as that amendment was consolidated into the OP in 2014. Further, a more recent consolidation (March 2017) has been released and should be referred to for projects moving forward.

The wetland analysis states that the MNRF has designated the wetland complex as unevaluated and that the City chose to apply provincially significant status to these features– which is incorrect. The MNRF recognizes the wetland as an unevaluated wetland under OWES. The definition of "significant wetland" in the City's Official Plan includes all provincially significant or locally significant wetlands. Locally significant wetlands are defined as "all evaluated wetland (including wetland complexes) of at least two ha. in size which are not identified as provincially significant, and unevaluated wetlands of at least 0.5ha in size.

As such the wetland confirmed through the EIS represents a locally significant wetland >0.5ha in size – meaning that it falls into the City's definition of significant wetland and receives a designation of Significant Natural Area.

Ad Hoc trails
Figure 4-1 shows the existing adhoc trails within the study area. Consideration of these adhoc routes was used in developing a recommended trail route for formalization.

Trail Routes
Figure 8-2 shows the recommendations for formalization of a trail network associated with the study area. Additional information has also been developed (see attached) regarding some the trail related recommendations.

With respect to trail design – the formalized trials will not be fully accessible in order to avoid significant grading along the valley slopes and associated vegetation removal. See the attached DRAFT design drawings for more information.

In addition substantial rerouting of the southern trail connection will not be completed to minimize impacts, and formalization of the existing path will be pursued.

Some of the informal trails are recommended to be maintained through a partnership with local nature groups, subject to some small improvements, including a crossing of an intermittent channel that is the result of a storm water outlet.

Other existing informal trails south of the unnamed tributary are recommended for decommissioning and restoration, while a potential future connection to the GRCA owned lands is also identified.

Mitigation recommendations
Updated plans showing refined areas for planting and restoration, along with areas for invasive buckthorn removal are also attached.

A suggested planting list is also included on Figure 5 consisting of a seed mix, tree and shrubs. Notably herbaceous species are not specifically recommended (beyond seed mix application). Plantings may be completed through community events and local stewardship opportunities.

An interpretive sign will also be located near the trail segment closest to the Speed River.

Pedestrian Crossing of the Unnamed Tributary
Two crossing alternatives were considered to facilitate a future crossing of the unnamed tributary.

Crossing 1 is in the area where people currently cross the tributary as part of the adhoc trail system. This location is immediately above a point within the tributary where additional widening is noticeable and braiding of the channel begins. It is a wide, shallow and stable area of the channel and would require a roughly 10m span for a crossing structure, also allowing some space for channel migration. As the south bank grades move upwards from the tributary, additional grading and vegetation removal are anticipated in order to formalize a trail connection. Bedrock is not visible on either shoreline, however it is assumed bedrock would be close to surface.

Crossing 2 is located about 10m upstream of crossing 1. This crossing would require a shorter span (estimated 7-8m) and would be directly on top of the bedrock. It would also avoid the additional grading as the slopes adjacent to the south bank are flatter in this area. Less tree removal would also be required.

Environmental planning staff consider (based on the information available to date) that crossing 2 is a preferred location due to its reduced potential for impacts. Geotechnical studies would need to be completed as part of detailed design to determine structural footings, etc. for a structure.

Suggested Motion

Staff recommends that the River System Advisory Committee provide the following as it relates to the Crane Park EIS:

THAT the River System Advisory Committee support the following in relation to the mitigation plan design options to formalize a trail system in Crane Park:

- That the City minimize the disturbance to the NHS through the construction of the formalized trail by using appropriate ESC measures and demarcating work zones and stock piles.
- Implement an effectiveness monitoring program to assess the success of implemented mitigation measures as outlined in the EIS addendum.
- That herbaceous species be incorporated into the restoration plan to increase species diversity within open communities to promote a range of edge habitat (rather than trees and shrubs focused of reforestation)

- Road
- Watercourse
- Study Area
- Wetland
- Wetland Buffer (30m)
- Invasive Removal Location

Trail Type
- Formal
- Informal

Reference: please refer to reference spreadsheet

1:1,500 metres
10 0 10 20
NAD 1983 UTM Zone 12N

Matrix Solutions Inc.
ENVIRONMENT & ENGINEERING

City of Guelph
Crane Park Environmental Impact Study

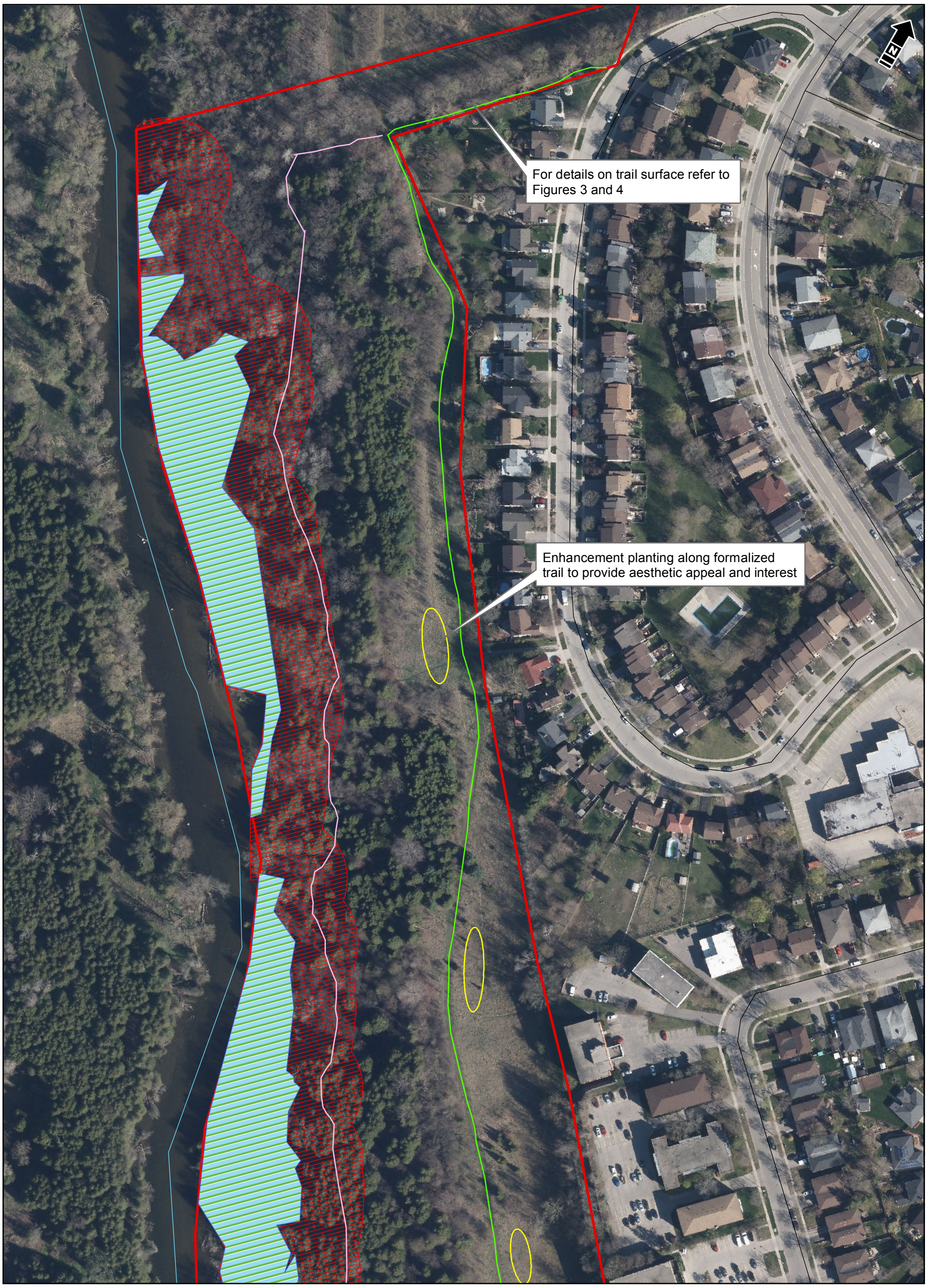
Construction Guidance Overview Invasive Removal

Date:	Project:	Submitter:	Reviewer:
Mar 2018	24367	A. Fausto	E. Wilkinson

Figure 1

I:\City of Guelph\24367\Figures and Tables\EIS\2018\Figure-1-Construction_Guidance_Overview_Invasive_Removal.mxd - Tabloid_L - 28-Mar-18, 11:02 AM - gisguest - TIDO04

I:\CityofGuelph\24367\FiguresandTables\EIS\2018\Figure-2-1-Construction_Guidance_Overview_Restoration_and_Enhancement_Planting.mxd



Road
Watercourse
Study Area
Wetland
Wetland Buffer (30m)
Enhancement Planting Location

Trail Type
Formal
Informal

1:1,800
m
10 0 10 20
NAD 1983 UTM Zone 17N

Reference: Imagery obtained through the City of Guelph; used with permission. Data obtained through Land Information Ontario (LIO) and Geobase 2013; used under licence.

Matrix Solutions Inc.
ENVIRONMENT & ENGINEERING

City of Guelph
Crane Park Environmental Impact Study

Construction Guidance Overview Restoration and Enhancement Planting

Date:	Project:	Technical:	Reviewer:	Drawn:
Mar 2018	24367-504	S. Davies	A. Fausto	E. Wilkinson

Figure 2-1

Enhancement planting along formalized trail to provide aesthetic appeal and interest

Restoration planting to be located where invasive species are removed

Enhancement plantings to provide maximum buffer between trail and watercourse

Road
Watercourse
Study Area
Wetland
Wetland Buffer (30m)
Restoration Planting
Enhancement Planting

Trail Type
Formal
Informal

Reference: please refer to reference spreadsheet

1:1,500 metres
10 0 10 20
NAD 1983 UTM Zone 12N

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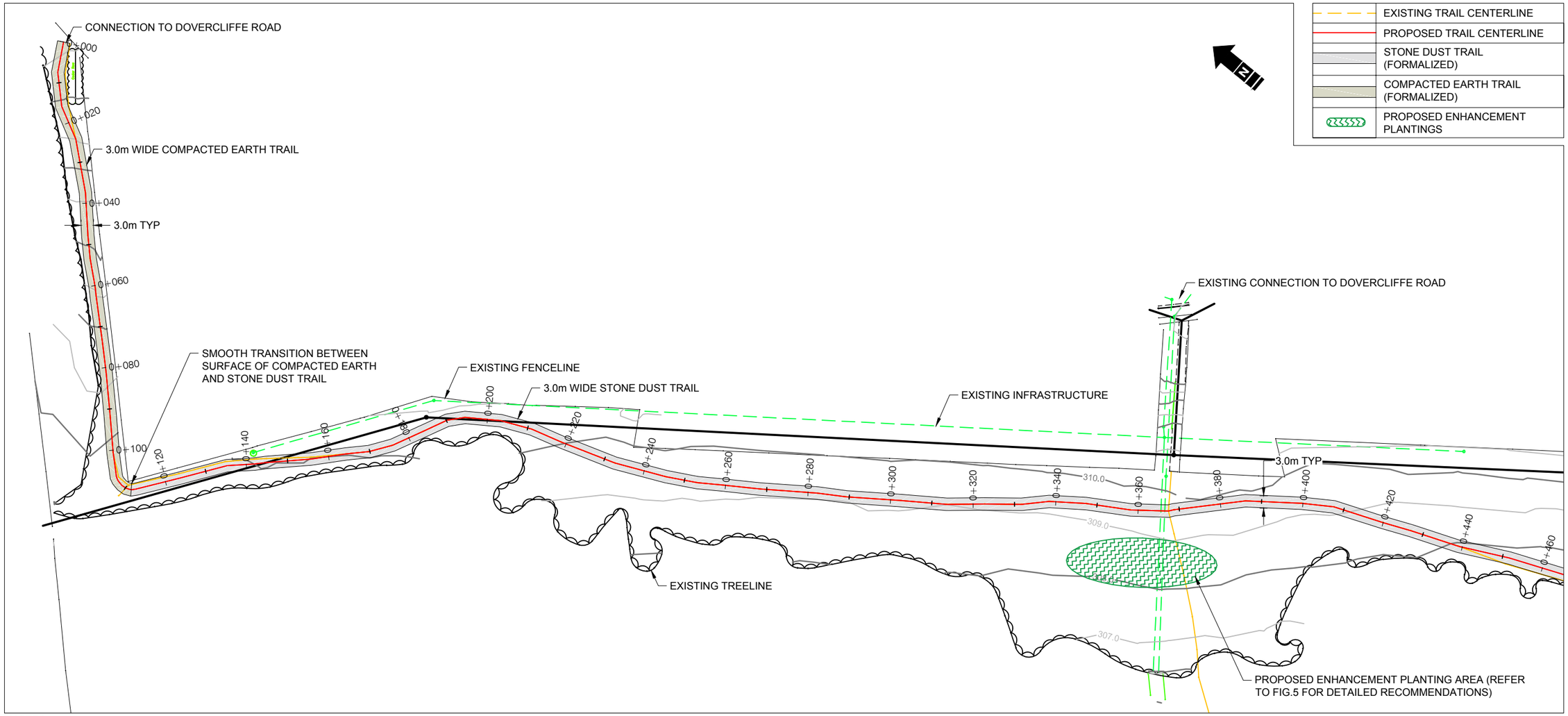
ENVIRONMENT & ENGINEERING

City of Guelph
Crane Park Environmental Impact Study

Construction Guidance Overview Restoration and Enhancement Planting

Date:	Project:	Submitter:	Reviewer:
Mar 2018	24367	A. Fausto	E. Wilkinson

Figure 2-2



NOTES:

1. LOCATIONS OF ALL UTILITIES AND INFRASTRUCTURE TO BE VERIFIED PRIOR TO COMMENCING WORK
2. OVERALL DESIGN INTENT IS TO MATCH EXISTING WHERE POSSIBLE, WHILE SMOOTHING OVERALL TRAIL SLOPES TO AVOID PONDING AT LOW POINTS AND/OR IMPROVE ACCESSIBILITY BY PROVIDING A CONSISTENT SURFACE ELEVATION.
3. TRAIL CONSTRUCTION TO INCLUDE MINOR GRADE CORRECTIONS TO BASE COURSE(S) AS NECESSARY TO ENSURE TRAIL SURFACE IS SMOOTH AND CORRECT ANY EXISTING BUMPS, LOW POINTS OR OTHER IMPERFECTIONS, WHERE FEASIBLE GIVEN EXISTING TOPOGRAPHY.
4. CONSTRUCTION FOOTPRINT TO BE LIMITED AS FEASIBLE TO REDUCE IMPACTS TO SURROUNDING VEGETATION. STOCKPILING SHOULD OCCUR IN PREVIOUSLY DISTURBED AREAS WHEN POSSIBLE.
5. TREE REMOVALS TO ACCOMMODATE TRAIL CONSTRUCTION SHOULD TAKE PLACE OUTSIDE OF THE BREEDING BIRD WINDOW (MAY 24 - JULY 10) TO PREVENT DISTURBANCE OR DESTRUCTION OF ACTIVE NESTS. IF A TREE NEEDS TO BE REMOVED DURING THIS WINDOW, IT SHOULD BE SCANNED FOR ACTIVE NESTS BY A QUALIFIED ECOLOGIST PRIOR TO REMOVAL; IDEALLY, ACTIVE NESTS SHOULD BE LEFT UNDISTURBED UNTIL YOUNG HAVE FLEDGED OR NEST IS ABANDONED. LOUD NOISE AND USE OF MACHINERY AROUND ACTIVE NESTS SHOULD BE MINIMIZED TO THE EXTENT FEASIBLE, AND UNDERTAKEN BETWEEN THE HOURS OF 10AM AND 6PM DAILY.
6. BUCKTHORN (*RHAMNUS CATHARTICA*) REMOVALS SHOULD BE COMPLETED PER BEST PRACTICE TECHNIQUES FOR THIS INVASIVE SPECIES; PRIORITIES INCLUDE REMOVAL OF MATURE BERRY YIELDING PLANTS AND TREATMENT OF STUMPS (USUALLY WITH HERBICIDE) TO PREVENT RE-SPROUTING. BUCKTHORN OFTEN TAKES MULTIPLE YEARS TO REMOVE ENTIRELY, AND CONTROLLING ITS GROWTH AND SPREAD IN CRANE PARK SHOULD BE CONSIDERED A MULTI-YEAR PROJECT.
7. TRAIL TO BE CROSS SLOPED OR CROWNED AT 2.0%
8. EXISTING IMPACTED AREA WILL BE FILLED AND GRADED TO MATCH EXISTING USING HIGH QUALITY TOPSOIL, WITH VEGETATION RESTORED TO MATCH EXISTING SURROUNDING COMMUNITY.
9. ALL EXPOSED SOILS TO BE SEEDED AND/OR PLANTED FOLLOWING COMPLETION OF GRADING.
10. GRADING ADJACENT TO TRAIL TO BE LIMITED AS MUCH AS IS PRACTICAL TO PRESERVE ROOTS OF ADJACENT TREES.
11. EXCAVATION AND REMOVAL OF EXISTING TREE ROOTS AS PART OF TRAIL CONSTRUCTION AND RESURFACING TO BE COMPLETED ONLY UPON APPROVAL OF CITY OF GUELPH REPRESENTATIVE AND SHOULD BE OVERSEEN BY A QUALIFIED ARBORIST.
12. SURVEY BASE PROVIDED BY CITY OF GUELPH

1:1000 Meters
10 0 10 20
Datum

REVISION					
No.	DATE	DESCRIPTION	BY	CHK.	DRN.

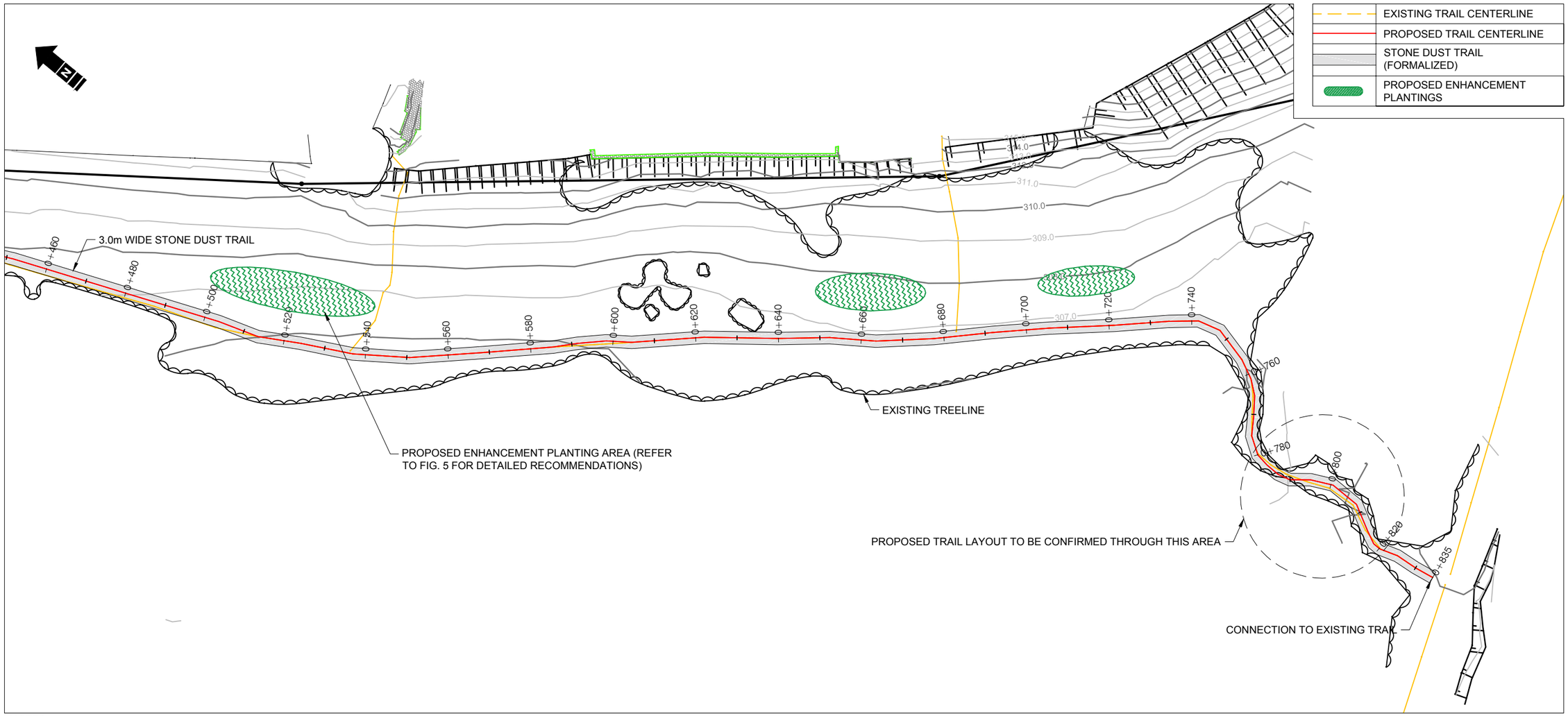
Matrix Solutions Inc.
ENVIRONMENT & ENGINEERING

CITY OF GUELPH
CRANE PARK CONSTRUCTION GUIDANCE

Proposed Secondary Trail Alignment 0+000 to 0+460

Date:	Project:	Technical:	Reviewer:	Drawn:
28-03-2018	24367 - 01	D.Relyea	A.Fausto	D.Relyea

Figure 3



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7. TRAIL TO BE CROSS SLOPED OR CROWNED AT 2.0%
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11. EXCAVATION AND REMOVAL OF EXISTING TREE ROOTS AS PART OF TRAIL CONSTRUCTION AND RESURFACING TO BE COMPLETED ONLY UPON APPROVAL OF CITY OF GUELPH REPRESENTATIVE AND SHOULD BE OVERSEEN BY A QUALIFIED ARBORIST.
12. SURVEY BASE PROVIDED BY CITY OF GUELPH

1:1000 Meters
10 0 10 20
Datum

REVISION					
No.	DATE	DESCRIPTION	BY	CHK.	DRN.

Matrix Solutions Inc.
ENVIRONMENT & ENGINEERING

CITY OF GUELPH
CRANE PARK CONSTRUCTION GUIDANCE

Proposed Secondary Trail Alignment 0+460 to 0+835

Date:	Project:	Technical:	Reviewer:	Drawn:
28-03-2018	24367 - 01	D.Relyea	A.Fausto	D.Relyea

Figure 4

RECOMMENDED SPECIES FOR VEGETATON RESTORATION AND ENHANCEMENT PLANTINGS

SPECIES LISTED ARE APPROPRIATE FOR USE IN RESTORATION PLANTINGS ALONG THE STONE ROAD - SPEED RIVER MAIN TRAIL AS WELL AS ENHANCEMENT PLANTING AREAS INDICATED ON FIGURES 3 AND 4

Trees	
Common Name	Species
Sugar maple	*Acer saccharum*
Red maple	*Acer rubrum*
Choke cherry	*Prunus virginiana*
Black cherry	*Prunus serotina*
American beech	*Fagus grandifolia*
Bur oak	*Quercus macrocarpa*
Red oak	*Quercus rubra*
White cedar	*Thuja occidentalis*

Shrubs	
Common Name	Species
Smooth service berry	*Amelanchier laevis*
Red osier dogwood	*Cornus sericea*
Common ninebark	*Physocarpus opulifolius*
Choke cherry	*Prunus virginiana*
Purple flowering raspberry	*Rubus odoratus*
American elderberry	*Sambucus canadensis*
Pussy willow	*Salix discolor*
Nannyberry	*Viburnum lentago*

Restoration Seed Mix		
Common Name	Species	% of Mix
Fowl manna grass	*Glyceria striata*	2%
Fowl bluegrass	*Poa palustris*	30%
Fox sedge	*Carex vulpinoidea*	30%
Pathrush	*Juncus tenuis*	8%
Virginia wild rye	*Elymus virginicus*	30%
		100%

Application Rate: 250g/90m² ($\frac{1}{2}$ lb / 1000 sq.ft)
CVC3 - Valley Land Mixture available through OSC Seeds

NOTES:

1. ALL SPECIES RECOMMENDATIONS FOR VEGETATION ENHANCEMENT PLANTINGS BASED ON SPECIES PREVIOUSLY IDENTIFIED AT THE SITE AND/OR ARE NATIVE SPECIES KNOWN TO BE GENERALLY SUCCESSFUL IN LOCAL RESTORATION PROJECTS. INDIVIDUAL SPECIES' PLANTING REQUIREMENTS MUST BE CONSIDERED PRIOR TO DEVELOPING A DETAILED RESTORATION PLAN, AND AMENDMENTS TO THE RECOMMENDED SPECIES LIST SHOULD BE MADE AS REQUIRED BASED ON SITE CONDITIONS
2. RESTORATION SEED MIX SHOULD BE APPLIED TO ALL DISTURBED AREAS AS SOON AS CONSTRUCTION IS COMPLETE. AT A MINIMUM, A NURSE CROP OF WHEAT (*TRITICUM AESTIVUM*) SHOULD BE SEEDED AT A RATE OF 25KG/HA ON ALL DISTURBED AREAS THAT WILL BE LEFT FOR MORE THAN 10 DAYS PRIOR TO APPLICATION OF ANY RESTORATION SEED MIX. ADDITIONAL SEED MIXES MAY BE REQUIRED TO ACCOMMODATE VARYING SITE CONDITIONS.
3. THE USE OF CITY OF GUELPH DETAILS AND TYPICALS IS RECOMMENDED FOR THIS PROJECT.
4. ALL DETAILS AND TYPICALS PROVIDED FOR REFERENCE ONLY, OTHER DETAILS MAY BE SUBSTITUTED AS APPROPRIATE WITH APPROVAL OF CITY OF GUELPH REPRESENTATIVE

PLANT MATERIAL AND INSTALLATION GUIDELINES

1. SOIL QUALITY TO BE ASSESSED PRIOR TO ANY PLANTING TO ENSURE SOIL IT NOT COMPACTED OR LACKING IN ORGANIC MATTER.
2. IF SOIL IS HEAVILY COMPACTED, MECHANICAL TILLAGE TO 0.3M AND THE INCORPORATION OF 0.15M ORGANIC COMPOST AS REQUIRED.
3. PLANTING LOCATIONS AS SHOWN IN THE PLANS MUST BE ADHERED TO UNLESS DIRECTED OTHERWISE BY DESIGNER.
4. WHEN FIELD FIT OF PLANTINGS IS REQUIRED TO ACCOMMODATE SITE CONDITIONS, LOCATION OF ALL PLANTED MATERIAL TO BE STAKED/FLAGGED OUT BY CONTRACTOR AND APPROVED BY OVERSEEING AGENCY IN THE FIELD PRIOR TO PLANTING.
5. NO TREE IS TO BE PLANTED UNDER THE CANOPY OR WITHIN THE DRIPLINE OF AN EXISTING TREE.
6. ALL PLANT MATERIAL MUST BE LOCALLY GROWN NATIVE NURSERY STOCK FREE OF DISEASE AND OF THE SPECIFIED SIZE AND SPECIES; NO CULTIVARS WILL BE ACCEPTED.
7. NO SUBSTITUTIONS OF SPECIES, SIZE OR PLANT TYPE WILL BE PERMITTED WITHOUT PRIOR AUTHORIZATION FROM THE DESIGNER.
8. ALL PLANTS SHALL BE WELL FURNISHED WITH LIVING FOLIAGE OR BUDS (DEPENDING ON SEASON OF INSTALLATION) AND BE OF NORMAL COLOUR DURING THE GROWING SEASON.
9. PLANT MATERIAL SHALL NOT BE COLLECTED OR DUG FROM NATIVE STANDS OR ESTABLISHED WOODLOTS.
10. PLANT MATERIAL SHALL NOT BE CUT BACK FROM LARGER SIZES TO MEET MATERIAL REQUIREMENTS.
11. THE SEED SOURCE OF THE SPECIFIED PLANT MATERIAL AND THE PLANT MATERIAL ITSELF SHALL BE SUPPLIED FROM NO MORE THAN ONE HARDINESS ZONE DIFFERENCE FROM THE HARDINESS ZONES IN THE CONTRACT.
12. ALL TREES MUST HAVE A STRONG, WELL DEFINED LEADER IN GOOD CONDITION. PLANTS WITH DOUBLE, BROKEN OR OTHERWISE DAMAGED LEADERS WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
13. ALL PLANT MATERIAL TO BE DELIVERED TO THE SITE IN GOOD CONDITION, AND MAY BE SUBJECT TO INSPECTION PRIOR TO INSTALLATION.
14. PLANT MATERIAL INSTALLED WITHOUT THE APPROVAL OF THE INSPECTING PARTY MAY BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
15. PLANT MATERIAL SHALL BE CONSIDERED ACCEPTABLE WHEN IT IS TURGID, STRUCTURALLY SOUND, SHOWS ADEQUATE GROWTH AND FORMATION OF BUDS, AND IS FREE FROM BLIGHT OF ANY DESCRIPTION. PLANT MATERIAL WHICH DOES NOT MEET THIS CONDITION OR HAS 'DIED BACK' AND REGROWN FROM A SHOOT OR BUD SHALL BE CONSIDERED UNACCEPTABLE.
16. PLANT MATERIAL WHICH IS OVERLY DRY, YELLOWING, LIMP, HAS A HIGH PERCENTAGE OF DEAD OR DAMAGED BRANCHES, POOR STRUCTURE OR DOES NOT OTHERWISE MEET THE SATISFACTION OF THE INSPECTING PARTY WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
17. PLANT MATERIAL IS TO BE MAINTAINED IN GOOD CONDITION AND WATERED PRIOR TO INSTALLATION.
18. ALL PLANT MATERIAL TO BE INSTALLED PER DETAIL(S) PROVIDED.
19. FERTILIZER USED AT THE TIME OF PLANTING SHALL BE IN GRANULAR FORM, DRY, FREE FLOWING, FREE OF LUMPS AND SHALL CONSIST OF SUPERPHOSPHATE, WITH A MINIMUM ANALYSIS OF 20% PHOSPHORIC ACID.
20. ALL PLANT MATERIAL SHALL BE INSTALLED DURING APPROPRIATE SEASONAL CONDITIONS. PLANTS MAY NOT BE INSTALLED IN FROZEN OR SATURATED GROUND.
21. PLANTING PITS TO BE BACKFILLED WITH ORGANIC LOAM, OR EQUIVALENT NATIVE SOIL, IN A FRIABLE CONDITION FREE OF LUMPS, STONES OR OTHER DEBRIS.
22. ALL BACKFILL MATERIAL SHALL BE HAND TAMPED TO ELIMINATE AIR POCKETS AND MINIMIZE SETTLING.
23. ALL PLANT MATERIAL TO BE WATERED IMMEDIATELY FOLLOWING INSTALLATION.
24. UPON THE COMPLETION OF PLANTING OF EACH DECIDUOUS TREE OR SHRUB, PRUNING SHALL BE CARRIED OUT TO REMOVE DEAD, BROKEN OR INJURED BRANCHES. THE NATURAL SHAPE OR HABIT OF THE PLANT SHALL NOT BE CHANGED. CONIFEROUS TREES SHALL BE PRUNED ONLY TO REMOVED DEAD, BROKEN OR INJURED BRANCHES.
25. PLANTING AND SEEDING IS TO BE COMPLETED IN SUCH A MANNER WHERE NO DISTURBANCE TO COMPLETED PLANTING IS REQUIRED ONCE INSTALLED.
26. UPON COMPLETION OF PLANTING ALL EXCESS MATERIAL AND DEBRIS WILL BE REMOVED FROM THE PROJECT SITE AT THE CONTRACTORS EXPENSE, AND TO THE SATISFACTION OF ALL AGENCIES.

REVISION					
No.	DATE	DESCRIPTION	BY	CHK.	DRN.

Matrix Solutions Inc.
ENVIRONMENT & ENGINEERING

CITY OF GUELPH
CRANE PARK CONSTRUCTION GUIDANCE

NOTES AND RECOMMENDATIONS

Date:	Project:	Technical:	Reviewer:	Drawn:
28-03-2018	24367 - 01	D.Relyea	A.Fausto	D.Relyea

Figure 5