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Consultants

Legend

- SITE BOUNDARY
- 15m BUFFER LIMIT
- PROPOSED DECIDUOUS WHIPS
- PROPOSED CONIFEROUS SAPPLINGS
- EXISTING TREE TO REMAIN
- PROPOSED SHRUBS
- 1.5m HEIGHT PARK CHAINLINK FENCE
- 1.5m HEIGHT PARK CHAINLINK FENCE C/W CRAYFISH EXCLUSION FENCE
- ONTARIO NATIVE DRY MEADOW SEED MIX
- ONTARIO NATIVE DRY MEADOW SEED MIX (ONLY IN AREAS DISTURBED BY CONSTRUCTION)
- BASKING LOG
- ROOTWAD
- TREE PROTECTION FENCE
- EXISTING TREE LINE

Notes

1. DRAWINGS NOT INTENDED FOR CONSTRUCTION.
2. REFER TO SHEET L-2 FOR CONCEPTUAL PLANT LIST AND LANDSCAPE NOTES.
3. REFER TO SHEET L-3 FOR LANDSCAPE DETAILS.
4. REFER TO ENGINEERING DRAWINGS FOR EROSION AND SEDIMENT CONTROL PLANS.

1. REVISED PER CoL AND UTRCA COMMENTS	JAC	HS	15.12.01
Revision	By	Appd.	YY.MM.DD

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File Name: 160900761.dwg	EB	HS	EB	15.06.16
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project

905 Samia Road Inc.

905 SARNIA ROAD

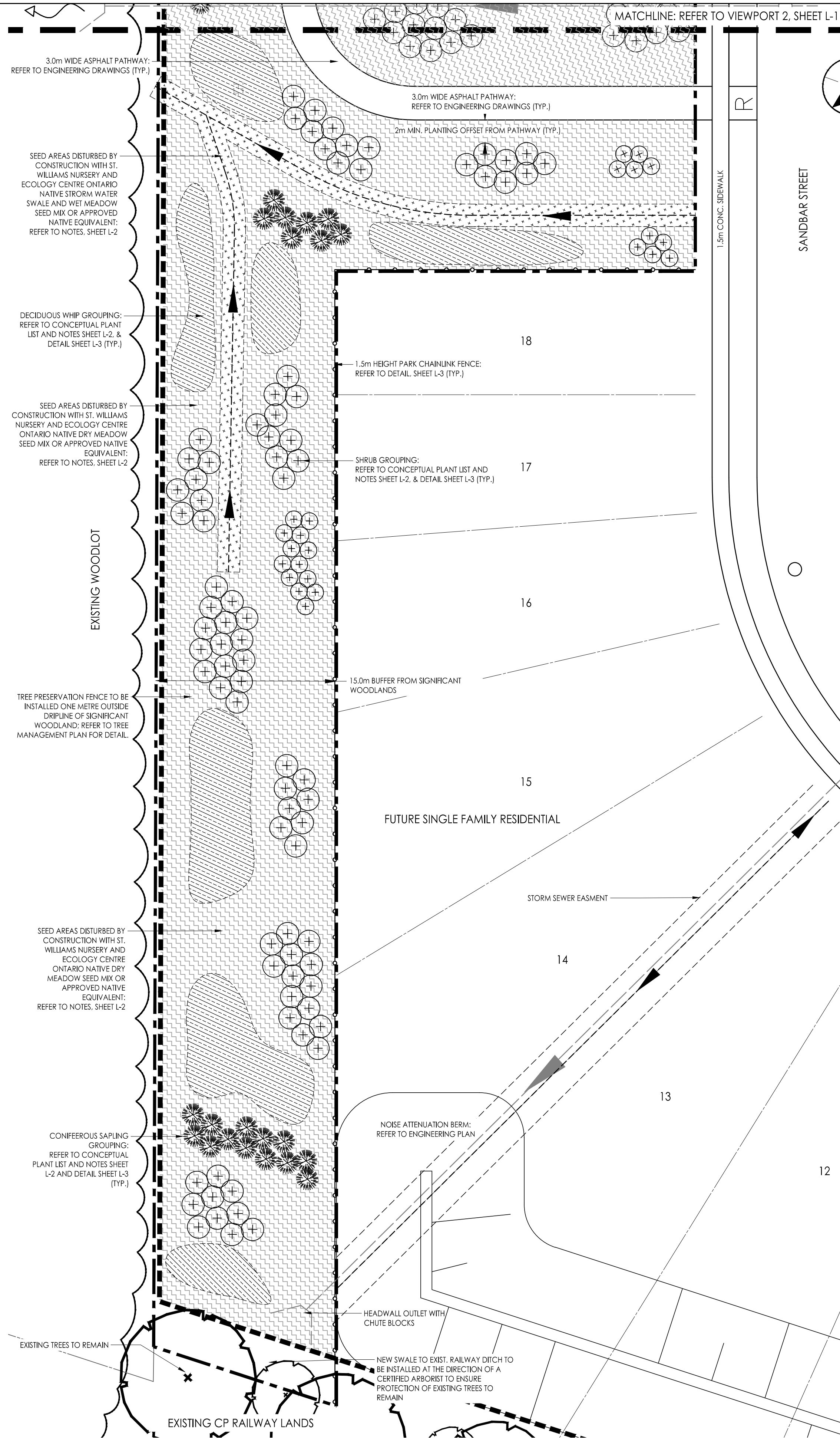
London, ON Canada

Title

CONCEPTUAL HABITAT COMPENSATION PLAN

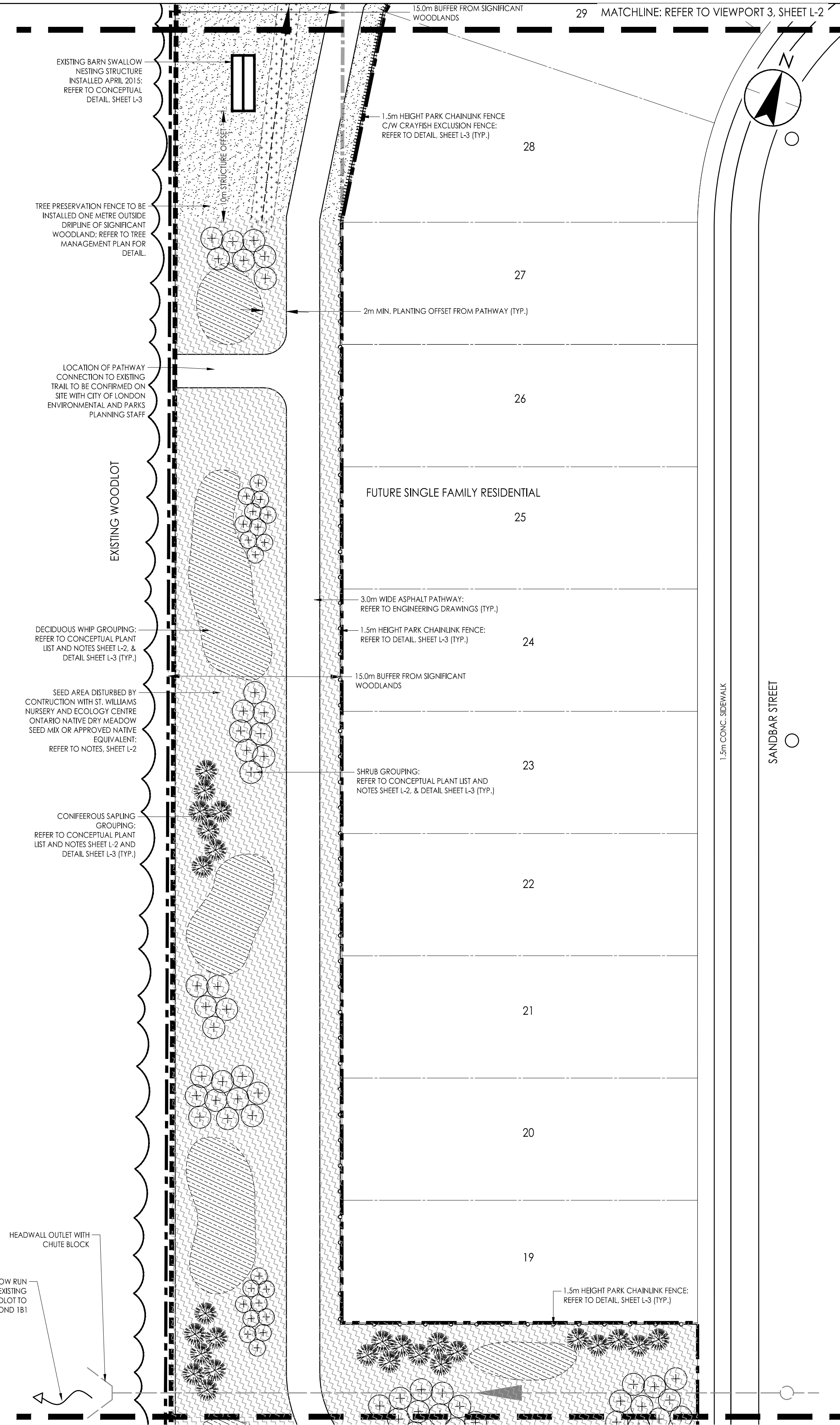
Project No.	Scale	HORZ	1 : 250
160900761	2.5	0	5m

Drawing No.	Sheet	Revision
L-1	1 of 3	1



VIEWPORT 1
BLOCK 115 BUFFER LANDSCAPE PLAN

SCALE 1:250



VIEWPORT 2
BLOCK 115 BUFFER LANDSCAPE PLAN

SCALE 1:250

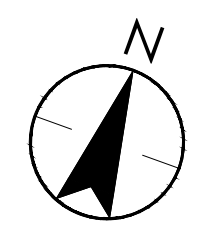
CONCEPTUAL PLANT LIST

Latin Name	Common Name	HT (cm)	Size	Spacing (m)
Upland Plant List				
DECIDUOUS WHIPS				
<i>Acer rubrum</i>	Red Maple	100cm	5 gal.	3
<i>Betula papyrifera</i>	Paper Birch	100cm	5 gal.	3
<i>Carya ovata</i>	Shagbark Hickory	80cm	3 gal.	3
<i>Crataegus x macrocarpa</i>	Hawthorn	80cm	3 gal.	3
* <i>Juglans nigra</i>	Black Walnut	60cm	2 gal.	3
* <i>Liriodendron tulipifera</i>	Tulip Tree	100cm	5 gal.	3
* <i>Prunus pensylvanica</i>	Pin Cherry	100cm	5 gal.	3
<i>Prunus americana</i>	American Plum	80cm	3 gal.	3
<i>Prunus serotina</i>	Black Cherry	100cm	5 gal.	3
<i>Populus tremuloides</i>	Trembling Aspen	100cm	5 gal.	3
<i>Quercus macrocarpa</i>	Bur Oak	100cm	5 gal.	3
<i>Quercus rubra</i>	Red Oak	100cm	5 gal.	3
CONIFEROUS SAPLING				
<i>Pinus strobus</i>	White Pine	60cm	3 gal.	3
<i>Thuja occidentalis</i>	Eastern White Cedar	60cm	3 gal.	3
SHRUBS				
<i>Cornus foemina ssp. racemosa</i>	Grey Dogwood	60cm	3 gal.	2
<i>Prunus virginiana</i>	Choke Cherry	30cm	1 gal.	2
<i>Rhus typhina</i>	Staghorn Sumac	60cm	3 gal.	2
<i>Rosa blanda</i>	Smooth Rose	30cm	1 gal.	1.5
<i>Rubus odoratus</i>	Purple-flowering Raspberry	30cm	1 gal.	2
<i>Viburnum recognitum</i>	Southern Arrowwood	60 cm	3 gal.	2
Riparian Plant List				
DECIDUOUS WHIPS				
<i>Quercus macrocarpa</i>	Bur Oak	100cm	5 gal.	3
* <i>Populus deltoides</i>	Eastern Cottonwood	100cm	5 gal.	3
SHRUBS				
<i>Cephalanthus occidentalis</i>	Butterbush	60cm	3 gal.	2
* <i>Cornus amomum</i>	Silky Dogwood	40cm	2 gal.	2
<i>Ilex verticillata</i>	Winterberry	40cm	2 gal.	2
<i>Rosa palustris</i>	Swamp Rose	30cm	1 gal.	1.5
<i>Salix bebbiana</i>	Bebb's Willow	30cm	1 gal.	2
<i>Salix discolor</i>	Pussy Willow	30 cm	1 gal.	1.5
<i>Viburnum lentago</i>	Nannyberry	60 cm	3 gal.	2

NOTE:

LIMIT OF SEED MIXES TO BE ADJUSTED BY LANDSCAPE ARCHITECT BASED ON PROPOSED WATER LEVELS AND POND GRADING PROVIDED BY ENGINEER DURING DETAILED DESIGN.

BLOCK 116



LANDSCAPE NOTES

PLAN PHASING FOR WILDLIFE TRANSFER

Phase	Month	Notes
1	October - November 2015	1) Implement grading of compensation habitat feature, and add root wads to feature banks. 2) Pre-clear vegetation to avoid timing restrictions imposed by the Migratory Bird Convention Act; ground vegetation in area of crayfish chimney observations to be retained until post terrestrial crayfish transfer. Vegetation to be striped in a way that does not disturb soil, seed bank or roots to retain stabilization function. 3) Install sediment fencing around existing pond and maintain until post wildlife transfer to exclude amphibians.
2	November 2015	4) Apply Ontario Native Seed Mix to compensation habitat feature and other disturbed areas.
3	January - February 2016	5) Acquire permits for wetland removal and species transfer: a) UTRCA permit for interference to wetlands (O.Reg. 157/06). b) MNRF authorization for a wildlife scientific collectors permit (amphibian transfer). c) MNRF fish collection permit (fish and terrestrial crayfish transfer).
4	March - April 2016	6) Timing of wildlife transfer subject to conditions of MNRF authorizations. 7) One week prior to dewatering of existing pond, biologist(s) to set and bait minnow traps for terrestrial crayfish, and manually excavate chimneys and capture crayfish for transfer. 8) Dewater existing pond and transfer water to new feature. 9) Biologist to remain onsite for duration of dewatering to capture stranded crayfish and amphibians from existing ponds to new feature. 10) Existing pond to be re-graded immediately after wildlife transfer so that no new wildlife enter the pond. 11) Sediment fencing to be removed after existing pond is regraded.

TOPSOIL AND SEEDING

1	Subgrade surface to be uniformly cultivated to a minimum depth of 100mm.
2	Topsoil to be sourced from on-site stockpile and is to be placed at a minimum depth of 100mm.
3	All topsoil compacted during construction activities is to be scarified to the satisfaction of a qualified professional prior to seed application.
4	Soil substrates will be graded smooth to create an even planting bed to achieve proper seed to soil contact. Seeding to occur prior to transfer of water from existing pond.
5	The seed mix (including cover crop) will be applied at specified rates throughout the specified area, raked in lightly and firmly packed to ensure proper seed to soil contact. Seeding rates can be modified to better suite site conditions with prior approval by a qualified professional.
6	Broadcast seed within areas above top of bank may be treated with a light (2cm) layer of mulch (i.e. woodchips) to retain soil moisture and improve germination; however, the layer will be sparse enough to retain approximately 30 to 50% visible soil.
7	All seeding of disturbed areas must occur immediately upon completion of grading work, weather permitting.
8	Planted areas above top of bank will be cut a height of approximately 10-15cm (i.e., via string trimmer) during early spring (after the cool-season weeds have emerged, but while the native warm-season species are still dormant, as determined by a qualified professional) in the first two seasons (post-planting). Cuttings should be left on site to decompose.
9	All areas with a 3:1 slope or greater to be seeded with <i>Festuca FGM</i> or approved equivalent.
10	The Contractor is responsible to ensure consistent seed coverage and a minimum 80% seed catch.

WOODY SPECIES

1	Woody material will be installed according to the details provided on these drawings.
2	All installed woody material (excluding fascines) will be treated with a 100mm mulch layer shredded pine bark mulch to a distance of 500mm from the stem.

GENERAL PLANTING, MONITORING AND MAINTENANCE

1	Plant material to be sourced from St. Williams Nursery & Ecology Centre or similar native plant nursery with material sourced from within Ontario.
2	Identification of all plant material will be verified in the field by a qualified professional prior to installation. Species substitutions are not acceptable unless approved by a qualified professional so that species are native and appropriate for the planting location.
3	All plantings will receive water through precipitation or irrigation to promote quick germination, i.e., irrigation will occur after every seven successive days without rainfall for the first two months after planting.
4	Monitoring will occur once during the growing season for a minimum of three years following construction to document mortality of all planted woody individuals. Plant material to be guaranteed for a minimum one year and dead specimens replaced by the Contractor.
5	Tree preservation fencing to be installed in accordance with the tree preservation plan.
6	Sediment and erosion control to be installed in accordance with engineering drawings.

SPECIES TRANSFER

1	Dewatering of the existing pond will occur using intake pumps fitted with screens to prevent the intake of crayfish, amphibians or other wildlife.
2	Biologist(s) will be on site during dewatering activities to manually transfer individuals to the new compensation feature. Individuals stranded in low water during dewatering will be captured using pails and will be immediately moved and released into the new feature.
3	One week prior to dewatering, a biologist will place four baited closed traps (e.g., minnow traps). Traps will be baited with fresh fish. A biologist will check traps daily and prior to dewatering, and immediately release trapped crayfish into the new compensation feature. Biologist(s) will be on site during dewatering activities to manually transfer individuals to the new compensation feature. Individuals stranded in low water during dewatering will be captured using pails and will be immediately moved and released into the new feature.
4	Prior to grading, biologist(s) will manually excavate chimneys that are located in low-lying areas and capture resident crayfish. Excavation will occur using hand spade and proceed slowly until capture so that individuals are not harmed. Chimneys will be prioritized based on size and proximity to water table to facilitate relatively simple excavations. Crayfish will be moved by hand to a pail or similar and immediately moved and released into the new habitat feature.



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Consultants

Legend

- SITE BOUNDARY
- 15 METER BUFFER LIMIT
- ⊕ PROPOSED DECIDUOUS WHIPS
- ⊕ PROPOSED CONIFEROUS SAPPLINGS
- ⊕ EXISTING TREE TO REMAIN
- PROPOSED SHRUBS
- 1.5m HEIGHT PARK CHAINLINK FENCE
- 1.5m HEIGHT PARK CHAINLINK FENCE C/W CRAYFISH EXCLUSION FENCE
- ONTARIO NATIVE DRY MEADOW SEED MIX
- ONTARIO NATIVE STORMWATER, SWALE AND WET MEADOW SEED MIX
- ONTARIO NATIVE SHALLOW MARSH SEED MIX
- ONTARIO NATIVE AQUATIC SEED MIX
- ONTARIO NATIVE DRY MEADOW SEED MIX (ONLY IN AREAS DISTURBED BY CONSTRUCTION)
- BASKING LOG
- ROOTWAD
- BOULDER GROUPING
- TREE PROTECTION FENCE
- EXISTING TREE LINE

Notes

- DRAWINGS NOT INTENDED FOR CONSTRUCTION.
- REFER TO SHEET L-3 FOR LANDSCAPE DETAILS.
- REFER TO ENGINEERING DRAWINGS FOR EROSION AND SEDIMENT CONTROL PLANS.

Revision

1. REVISED PER	CoL AND UTRCA COMMENTS	JAC	HS	15.12.01
By	Appd.			YY.MM.DD

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EB <td>HS</td> <td>15.06.16</td>	HS	15.06.16
Dwn.	Chkd.	Dsgn.
		YY.MM.DD

Permit-Seal

Client/Project

905 Samia Road Inc.

905 SARNIA ROAD

London, ON Canada

Title

CONCEPTUAL HABITAT COMPENSATION PLAN

Project No. 160900761 Scale HORZ - 1 : 250

Drawing No. L-2 Sheet 2 of 3 Revision 1

Scale 2.5 0 5m

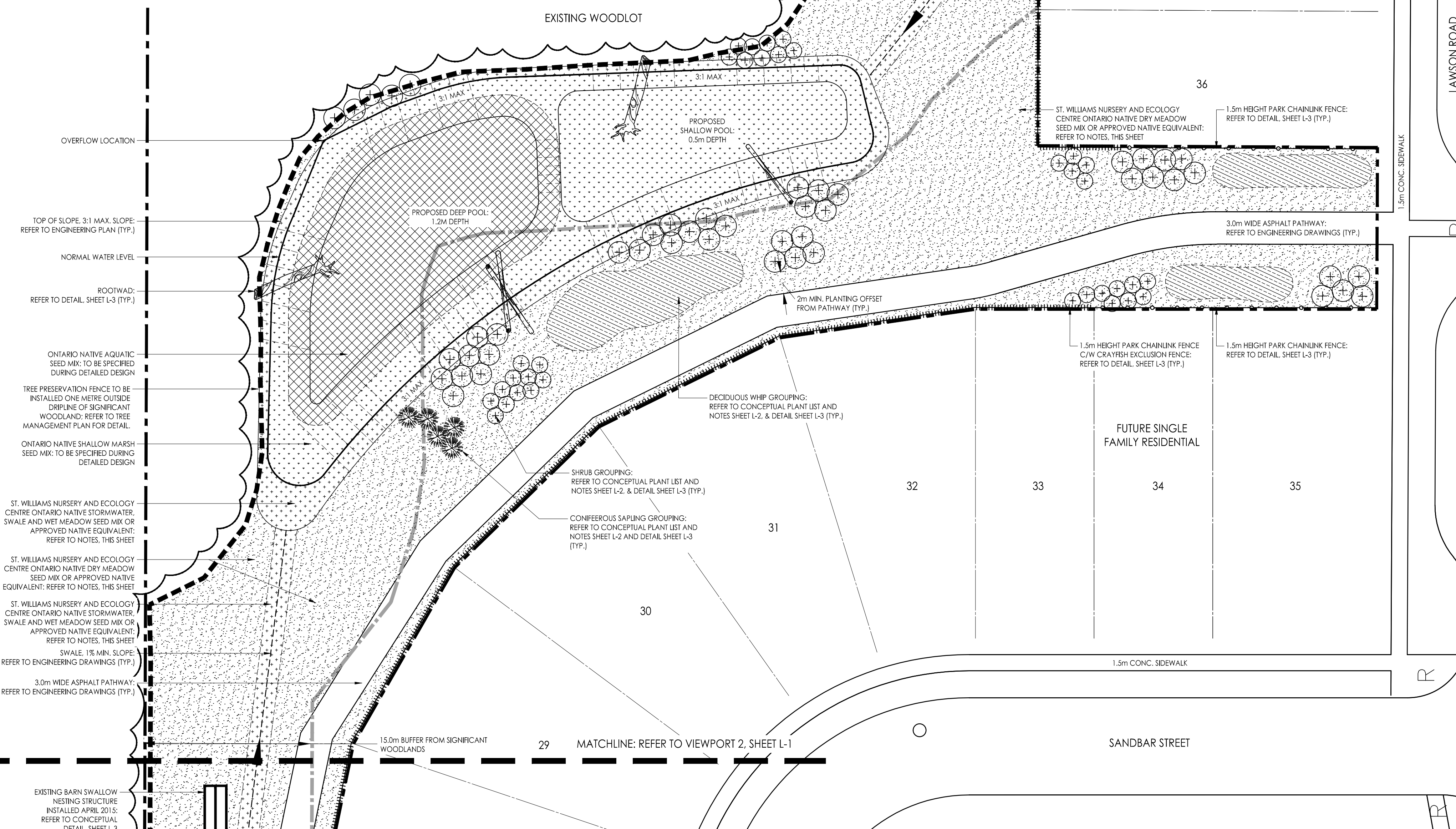
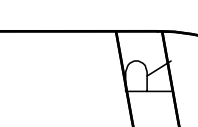
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VIEWPORT 3
BLOCK 116 LANDSCAPE PLAN

ORIGINAL SHEET - ANS10

SCALE 1:250



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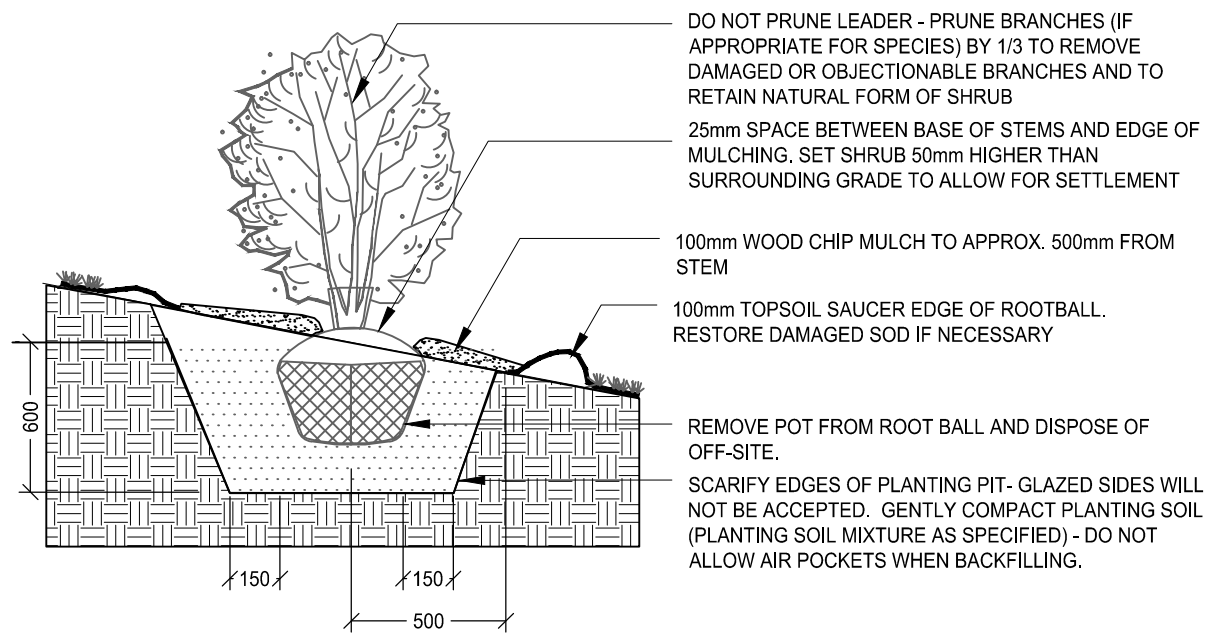
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Consultants

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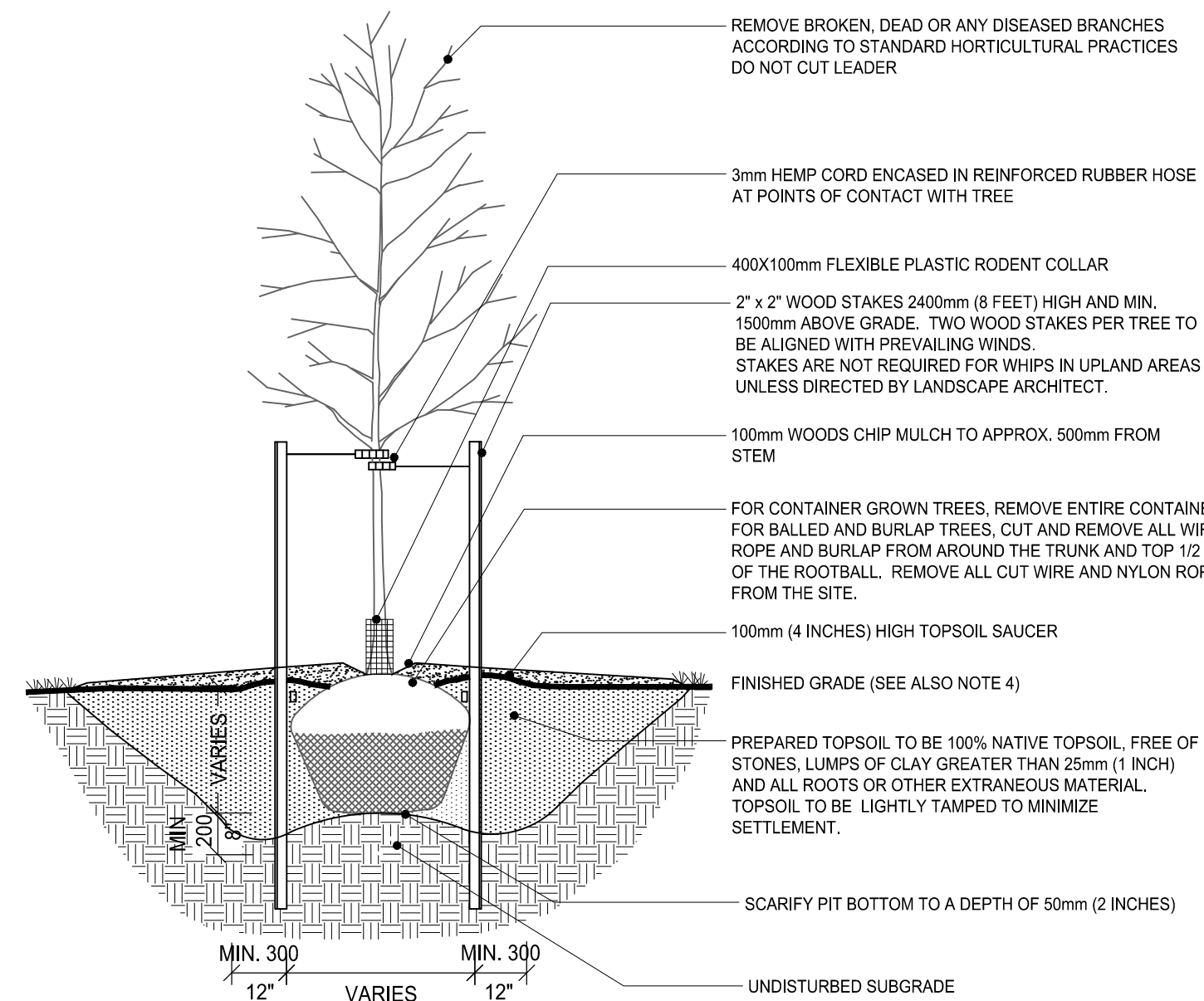
Notes

1. DRAWINGS NOT INTENDED FOR CONSTRUCTION.



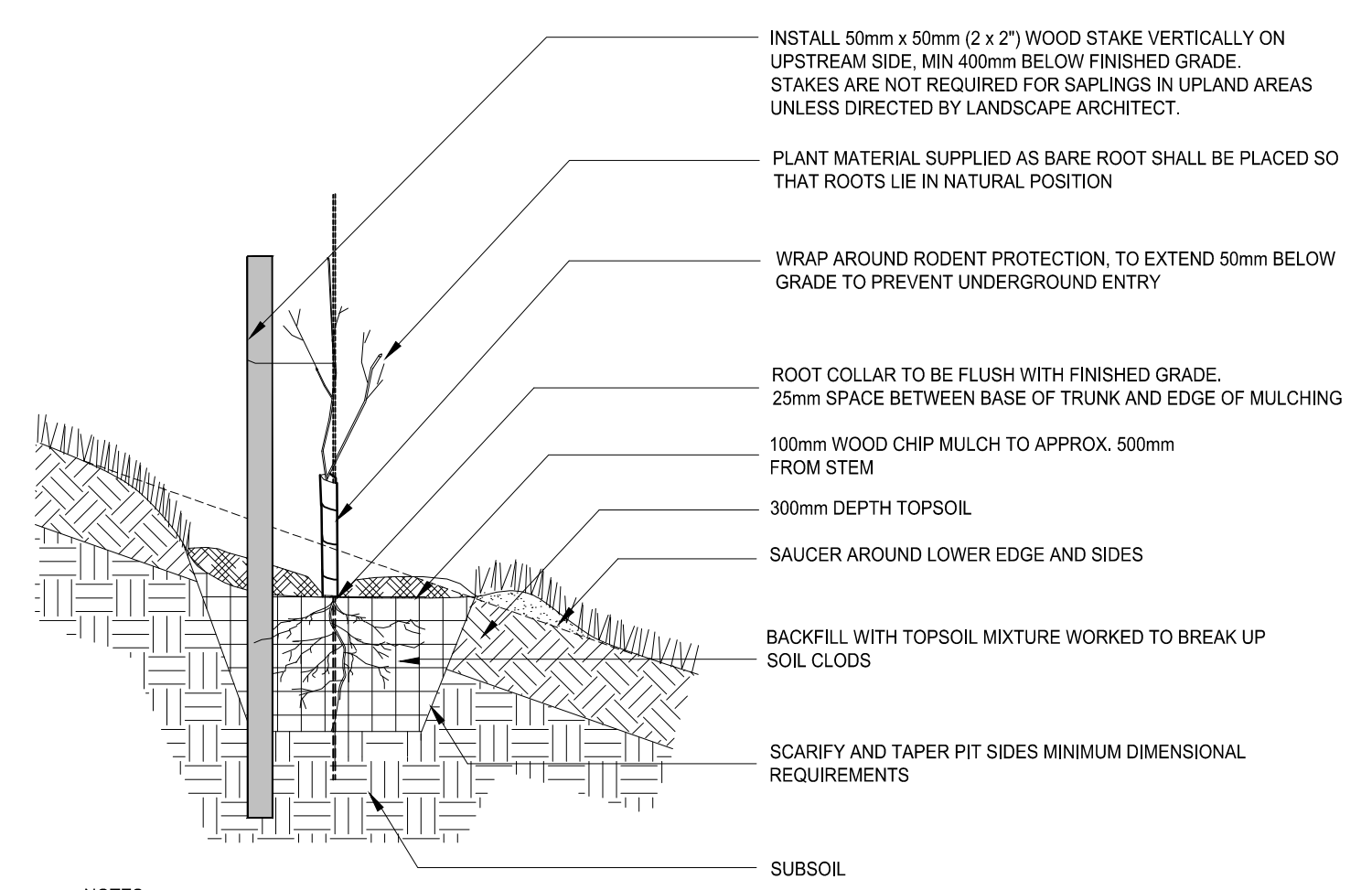
- NOTES:
1. BARE ROOT PLANT MATERIAL WILL NOT BE ACCEPTED.
 2. WATER SOIL WHEN PLANTING PIT IS HALF FULL.

D 1 SHRUB PLANTING DETAIL N.T.S.



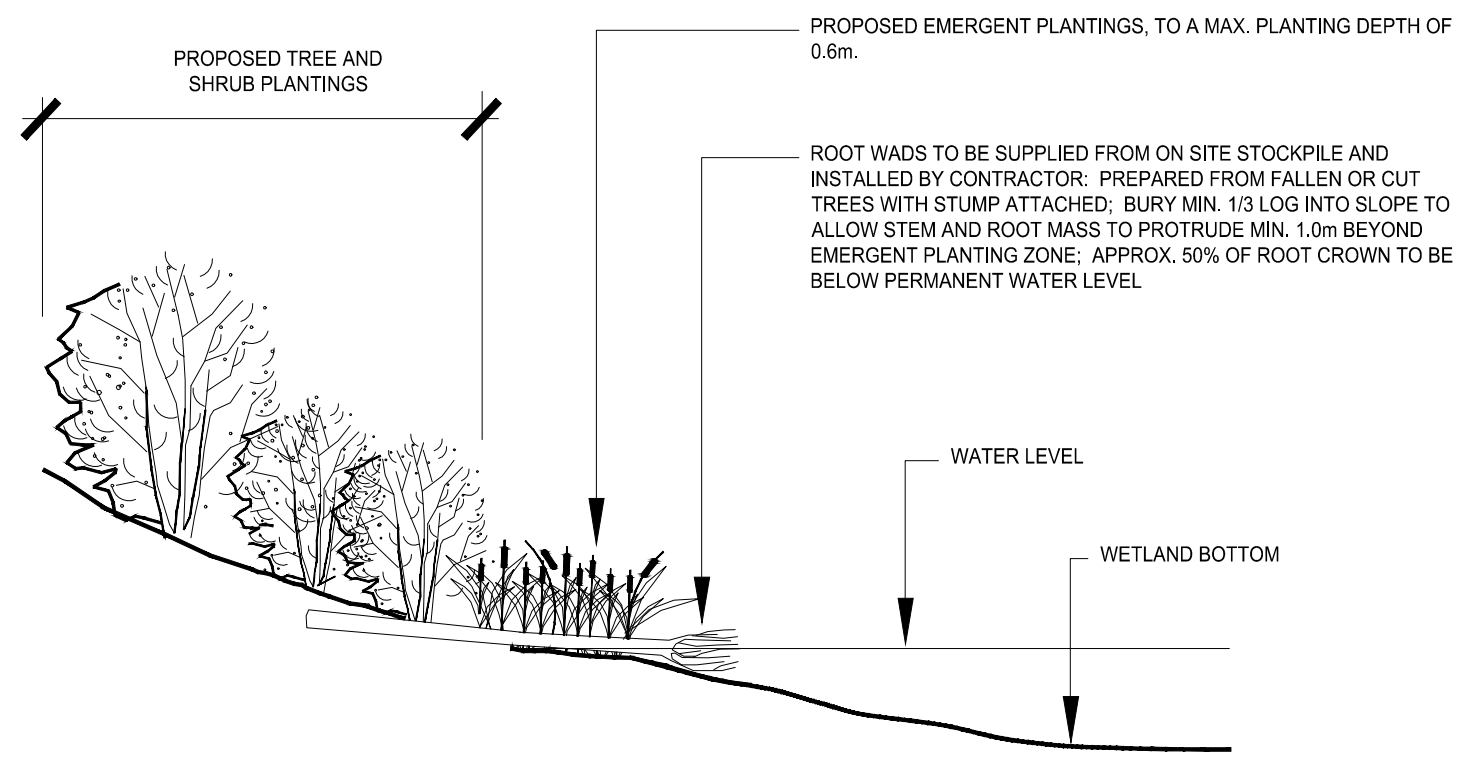
- NOTES:
1. SAUCER SHALL BE SOAKED WITH WATER AND MULCHED IMMEDIATELY FOLLOWING PLANTING.
 2. PLANT STOCK MOVED WHILE IN LEAF SHALL BE COVERED WHILE IN TRANSIT OR IN TEMPORARY STORAGE.
 3. PLANT TREE SO THAT NURSERY SOIL LINE MATCHES FINISHED GRADE AFTER SETTLING.
 4. IN WETLAND PLANTING AREAS, ALL TREES TO BE RAISED SUCH THAT THE ROOT COLLAR IS POSITIONED 100 - 150mm ABOVE SURROUNDING GRADE.
 5. LIGHTLY TAMP TOPSOIL WHEN BACKFILLING TO REMOVE AIR POCKETS.
 6. REMOVE ALL NURSERY TAGS, METAL OR PLASTIC.
 7. BARE ROOT PLANT MATERIAL WILL NOT BE ACCEPTED.
 8. STAKES ARE NOT REQUIRED ON WHIPS IN UPLAND AREAS UNLESS DIRECTED BY LANDSCAPE ARCHITECT.

D 2 DECIDUOUS WHIP PLANTING DETAIL N.T.S.



- NOTES:
1. THE TREE ILLUSTRATED DOES NOT REPRESENT ANY PARTICULAR SPECIES OR VARIETY.
 2. NO WEAK GRAFT UNION ACCEPTED.
 3. PLANT TREE SO THAT NURSERY SOIL LINE MATCHES FINISHED GRADE AFTER SETTLING. IN HEAVY CLAY OR POORLY DRAINED SOILS, ALL TREES TO BE PLACED SO THAT THE ROOT COLLAR IS POSITIONED 75-100mm HIGHER THAN SURROUNDING GRADE.
 4. STAKES ARE NOT REQUIRED FOR SAPPLINGS IN UPLAND AREAS UNLESS DIRECTED BY LANDSCAPE ARCHITECT.
 5. BARE ROOT MATERIAL WILL NOT BE ACCEPTED.

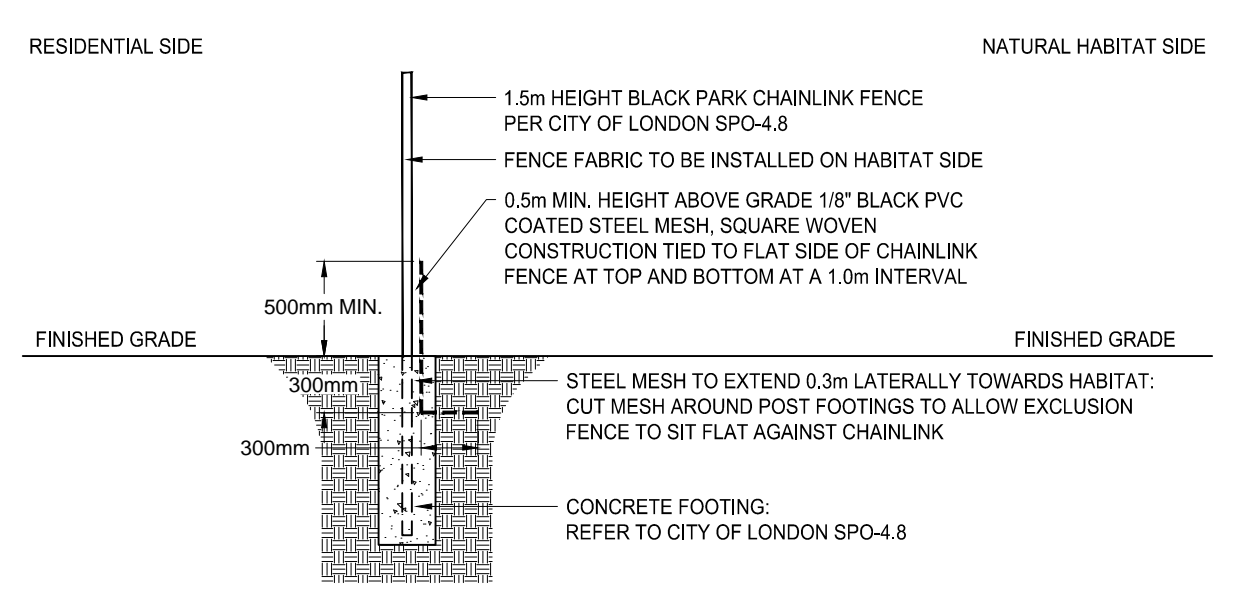
D 3 DECIDUOUS SPALING PLANTING DETAIL N.T.S.



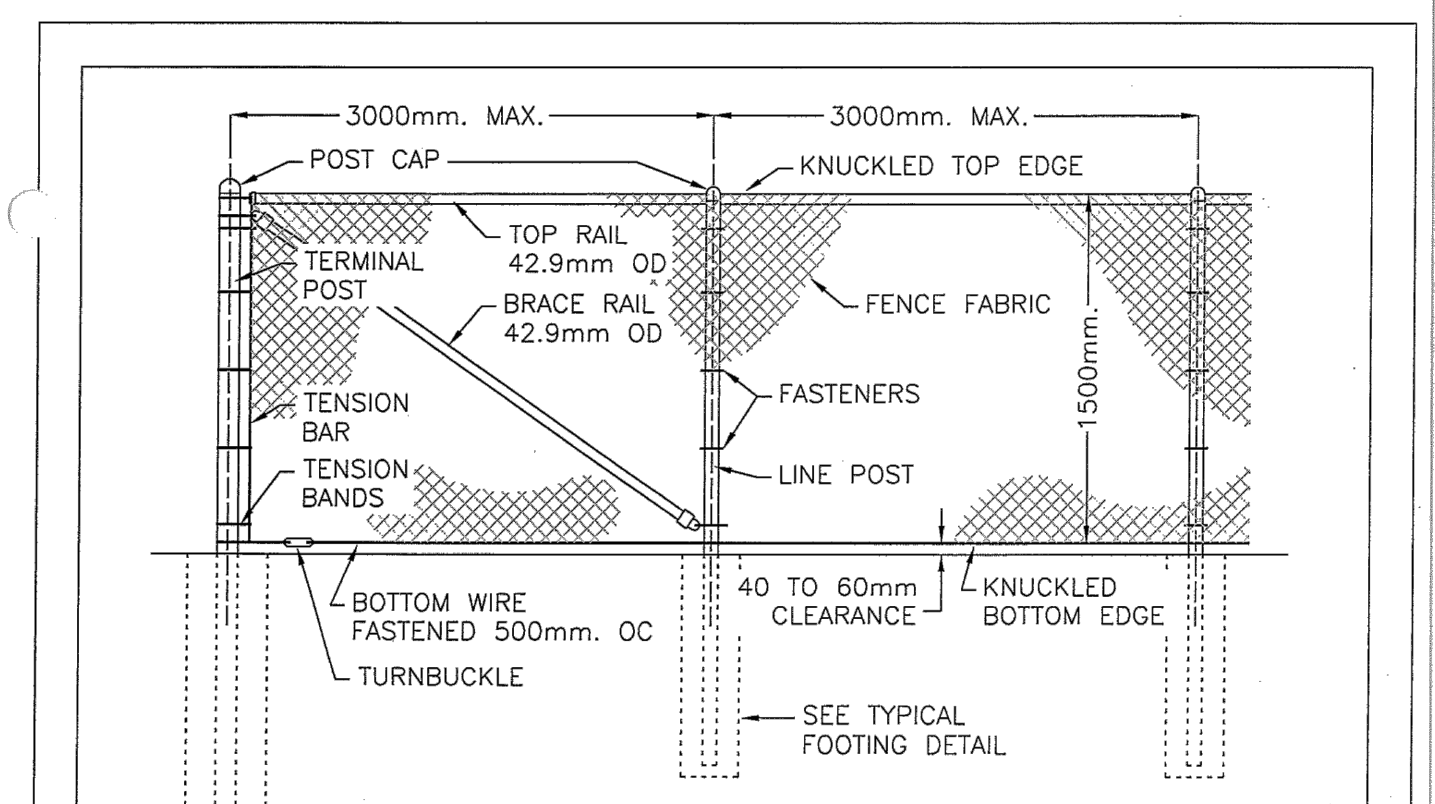
D 4 TYPICAL ROOTWAD DETAIL N.T.S.



D 5 BARN SWALLOW NESTING STRUCTURE INSTALLED APRIL 2015 N.T.S.



D 6 1.5m HEIGHT PARK CHAIN-LINK FENCE WITH CRAYFISH EXCLUSION FENCE DETAIL N.T.S.



CHAIN-LINK FENCE DETAIL N.T.S.

- NOTES:
1. FENCE POSTS, RAILS AND HARDWARE SHALL BE BLACK POWDER COATED. FASTENERS SHALL BE HOT DIP GALVANIZED.
 2. FENCE FABRIC SHALL BE BLACK VINYL COATED STEEL FABRIC 3.76mm. WITH A UNIFORM 38mm. OR 50mm. MAX. OPENING DIAMOND PATTERN.
 3. FENCE FABRIC SHALL BE INSTALLED ON "CITY" SIDE OF FENCE.
 4. POST CAPS SHALL BE WATER PROOF AND MECHANICALLY SECURED TO POSTS.
 5. STRAINING POSTS SHALL BE INSTALLED AT INTERVALS NOT EXCEEDING 150m. ADDITIONAL STRAINING POSTS SHALL BE INSTALLED WHERE CHANGES IN VERTICAL GRADE EXCEED 30 DEGREES.
 6. CONCRETE SHALL BE 20MPa @ 28 DAYS IN ACCORDANCE WITH O.P.S.S. 904.
 7. FENCE SHALL BE INSTALLED ON PROPERTY LINES, UNLESS OTHERWISE DIRECTED BY CONTRACT ADMINISTRATOR.
 8. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.

TYPICAL FOOTING DETAIL N.T.S.

POST AND FOOTING DETAILS TABLE (IN MM.)				
POST TYPE	POST OD	POST LENGTH	FOOTING DEPTH "X"	FOOTING DIA. "Y"
LINE POST	60.3	2400	915	250
TERMINAL POST	88.9	2900	1370	350

CITY OF LONDON STANDARD DRAWING
PARK CHAIN-LINK FENCE
DWG SPO - 4.8 DATE 2007 10 16 APPROVED BY PARKS PLANNING AND DESIGN *Lubanyu*

Revision	By	Appd.	YY.MM.DD
1. REVISED PER Col. AND UTRCA COMMENTS	JAC	HS	15.12.01

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Client/Project
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905 SARNIA ROAD
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Title
CONCEPTUAL HABITAT COMPENSATION PLAN
LANDSCAPE DETAILS

Project No. 160900761	Scale AS SHOWN
Drawing No.	Sheet L-3
Revision	1

3 of 3