HIGHWAY 427 EXPANSION DCR # 3

E.4 New Construction





GENERAL

1. SEE NSSP FOR FURTHER DIRECTIONS DURING CONSTRUCTION.

GRUBBING

- 1. ENVIRONMENTAL PROTECTION MEASURES WILL BE SUPERVISED AND INSPECTED AS REQUIRED DURING CONSTRUCTION.
- 2. IN THE EVENT THAT ADJACENT VEGETATION COMMUNITIES OR PLANTED TREES ARE ACCIDENTALLY DAMAGED DURING CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL ENSURE THAT APPROPRIATE CONTINGENCY MEASURES ARE IMPLEMENTED SUCH AS PRUNING TREE LIMBS OR ROOTS THAT ARE ACCIDENTALLY DAMAGED USING PROPER ARBORICULTURAL TECHNIQUES.
- 3. NO VEGETATION REMOVAL IS ALLOWED IN DESIGNATED BAT HABITAT AREA, UNTIL THE ESA PERMIT FOR SAR IS OBTAINED.

CONTROLLED CONSTRUCTION VEHICLE ACCESS

- 1. CONSTRUCTION VEHICLE ACCESS WILL BE LIMITED TO EXISTING ROADWAYS AND CONSTRUCTION PATHS, AWAY FROM THE IDENTIFIED NATURAL AREAS AND THEIR RECOMMENDED BUFFERS.
- 2. RESTRICT EARTH MOVEMENT IMMEDIATELY ADJACENT TO WOODLANDS DURING PERIODS OF HIGH DUST GENERATION. DUST SUPPRESSANTS WILL BE APPLIED DURING DRY PERIODS TO THOSE AREAS WHICH GENERATE EXCESSIVE DUST.

INVASIVE SPECIES MANAGEMENT

- 1. A NUMBER OF INVASIVE SPECIES ARE PRESENT WITHIN THE ALIGNMENT FOOTPRINT. THE CONTRACTOR RESPONSIBLE FOR IMPLEMENTING INVASIVE SPECIES MANAGEMENT AS PER THE INVASIVE SPECIES MANAGEMENT PROGRAM.
- 2. EQUIPMENT WORKING IN THE IDENTIFIED INVASIVE SPECIES LOCATIONS WILL BE THOROUGHLY CLEANED PRIOR TO MOVING FROM THE SITE. SOIL REMOVED FROM SITES WITH A HIGH INCIDENCE OF INVASIVE SPECIES WILL BE BURIED BELOW IMPERVIOUS SURFACES (E.G. ROAD) AND WILL NOT BE RE-USED FOR ANY VEGETATION RESTORATION SITES UNLESS IT IS PLACED IN AN AREA THAT WILL BE ACTIVELY AND REGULARLY MANAGED.
- 3. ALL EQUIPMENT AND MACHINERY REQUIRE INSPECTION AND CLEANING INCLUDING, BUT NOT LIMITED TO: CARS, TRUCKS, ATV'S, TRACTORS, MOWERS, SLASHERS, TRAILERS, BACKHOES, GRADERS, EXCAVATORS, SKIDDERS, LOADERS, AND WATER TANKERS.
- 4. EQUIPMENT IS TO BE CLEANED IN AN AREA WHERE CONTAMINATION AND SEED SPREAD IS NOT POSSIBLE (OR IS LIMITED). THE SITE SHOULD BE: A) A HARD SURFACE, GRAVEL SURFACE, OR MOWN GRASSY AREA, B) GENTLY SLOPING TO ASSIST DRAINING WATER AND MATERIAL IN MOVING AWAY FROM THE EQUIPMENT (WATER SHOULD RUN BACK INTO THE AREA WHERE CONTAMINATION OCCURRED), C) AT LEAST 30M AWAY FROM ANY WATERCOURSE, WATER BODY, AND NATURAL VEGETATION, AND D) LARGE ENOUGH TO ALLOW FOR ADEQUATE MOVEMENT OF LARGE FOLIPMENT.

TIMING RESTRICTIONS

- 1. ANY INSTREAM WORKS AND WORK ON WATERCOURSE BANKS SHALL BE CONDUCTED DURING THE APPROPRIATE IN-WARMWATER CONSTRUCTION TIMING (JULY 1 TO MARCH 31) TO PROTECT THE RESIDENT WARMWATER FISH COMMUNITIES PRESENT AT WATERCOURSE CROSSINGS BOTH DIRECT AND INDIRECT.
- 2. ALL CONDITIONS OUTLINED IN THE FORTHCOMING OVERALL BENEFIT PERMIT FOR SAR BATS WILL BE IMPLEMENTED, AND WILL BE DONE SO IN ACCORDANCE WITH TIMING REQUIREMENTS OUTLINED THEREIN.

EROSION AND SEDIMENT CONTROL (ESC)

- 1. EROSION AND SEDIMENT CONTROL (ESC) INSPECTION WILL BE UNDERTAKEN DURING CONSTRUCTION ACTIVITIES BY AN ENVIRONMENTAL INSPECTOR UNTIL THE WORK IS COMPLETED AND THE SITE IS STABILIZED.
- 2. ESC MEASURES WILL BE IMPLEMENTED PRIOR TO GRUBBING AND GRADING OPERATIONS, AND MAINTAINED IN EFFECTIVE WORKING ORDER UNTIL THE SITE IS STABLE, TO PREVENT ENTRY OF SEDIMENT INTO ANY WATERCOURSE, WETLAND OR RETAINED NATURAL AREA.
- 3. ESC INSPECTIONS WILL OCCUR WEEKLY AS WELL AS PRIOR TO AND FOLLOWING RAIN/SNOWMELT EVENTS. ESC MEASURES WILL BE CLEANED OUT, REPAIRED AND/OR REPLACED.
- 4. ALL EXPOSED SOILS AND NEWLY CONSTRUCTED SURFACES WILL BE STABILIZED WITHIN 45 DAYS OF COMPLETING THE WORK USING THE APPROPRIATE MEANS IN ACCORDANCE WITH THE CHARACTERISTICS OF THE SOIL MATERIAL AND SLOPE CONDITIONS BY METHODS SUCH AS HYDRO-SEEDING, SODDING, POLYMER SOIL STABILIZERS/TACIFIERS, RIP RAP, MULCH, GEOTEXTILES, EROSION CONTROL BLANKETS, ETC.
- 5. EROSION AND SEDIMENT CONTROL FOR DIFFERENT PHASES OF CONSTRUCTION FOR IDENTIFIED WATERCROSSINGS SHALL BE AS SHOWN IN THE CONSTRUCTION PERIOD DRAINAGE AND SEDIMENT MANAGEMENT PLANS (DSMPs).
- 6. DITCHES AND CULVERTS WILL BE INSTALLED PRIOR TO OTHER CONSTRUCTION TO ENSURE STORMWATER IS DIRECTED TO TEMPORARY SEDIMENT TRAPS OR PONDS.
- 7. DITCHES WILL BE SEEDED AS SOON AS POSSIBLE AFTER CONSTRUCTION.
- 8. ALL ESC MEASURES WILL BE FIELD FIT.

MATERIAL / DEBRIS STORAGE

- 1. TREE/SHRUB DEBRIS WILL BE STORED IN SPECIALLY IDENTIFIED TREE STORAGE AREAS OUTSIDE OF THE IDENTIFIED VEGETATION COMMUNITIES, NATURAL HERITAGE FEATURES (I.E., VALLEY SLOPES, WETLANDS, WATERCOURSES, ETC.) AND VEGETATION AND WILDLIFE RESTORATION SITES.
- 2. THERE SHALL BE NO STORAGE OF MATERIALS WITHIN ADJACENT NATURAL AREAS.

WATERCOURSE

- 1. ALL CONSTRUCTION ACTIVITIES, INCLUDING MAINTENANCE PROCEDURES, WILL BE CONTROLLED TO PREVENT THE ENTRY OF PETROLEUM PRODUCTS, DEBRIS, RUBBLE, CONCRETE OR OTHER DELETERIOUS SUBSTANCES INTO THE WATER. VEHICULAR REFUELING AND MAINTENANCE WILL BE CONDUCTED A MINIMUM OF 30 METRES FROM THE WATERCOURSES.
- 2. DEWATERING ACTIVITIES SHALL BE CONDUCTED IN ACCORDANCE WITH CONTROL PROCEDURES AS SPECIFIED IN OPSS 517 (DEWATERING). APPROPRIATE DEWATERING MEASURES SHALL BE IMPLEMENTED TO MANAGE ANY GROUNDWATER ENCOUNTERED DURING GRADING ACTIVITIES, AND DEWATERING DISCHARGE WATER WILL BE FILTERED AS NECESSARY TO PREVENT TRANSPORT OF SEDIMENT TO NATURAL SURFACE WATER RECEPTORS.
- 3. NO EQUIPMENT OR VEHICLES ARE PERMITTED TO CROSS THROUGH THE WATERCOURSES AT ANY TIME.

WILDLIFE

- 1. ANY WILDLIFE INCIDENTALLY ENCOUNTERED DURING CONSTRUCTION WILL NOT BE KNOWINGLY HARMED.
- 2. SIGHTINGS OF UNKNOWN OR UNCOMMON SPECIES, DENS, OR NESTS MUST BE REPORTED TO THE ENVIRONMENTAL INSPECTOR IMMEDIATELY
- 3. DO NOT HARASS, INJURE, OR KILL ANY FORM OF WILDLIFE.
- 4. WILDLIFE MUST BE ALLOWED TO DISPERSE FROM ROADS OR RIGHT-OF-WAY.
- 5. REPORT ANY DEAD OR INJURED WILDLIFE TO THE ENVIRONMENTAL INSPECTOR.
- 6. DURING CONSTRUCTION OF WILDLIFE ENHANCEMENT AND COMPENSATION MEASURES, NO HEAVY EQUIPMENT SHALL BE USED IN EXISTING FOREST COMMUNITIES AND RIPARIAN AREAS THAT HAVE BEEN IDENTIFIED FOR PROTECTION.

					APPROVED LEAD ENGINEER	JONATHAN MOHACSI	*				EN	IVIRONN	MENTAL	. PROTI	ECTION	NOTE	.S
l l				_	PROJ. MANAGER	PETER BAMFORTH	<i>¶ , [</i>]	()ntaria									
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İ	A 18/01/12	90% SUBMISSION TO CA		1					LOCAL INTEGRATED NEIGHBOURLY KN	DWLEDGEABLE	PROJECT ID.	STAGE INDENTIFIER	DESIGN PACKAGE NUMBER	DISCIPLINE	STRUCTURE I	DOCUMENT TYPE	RAWING REVISION NUMBER
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HWY 427 EXPANSION

SUPPLEMENTAL LEGEND

RIGHT OF WAY, FENCES, ETC. **NEW CONSTRUCTION REMOVALS** PAVEMENT MARKING CONCRETE SIDEWALK / MULTI-USE PATH TREE TO BE GRUBBED - RIGHT OF WAY (ROW) 1 SOLID YELLOW, 10cm 2 SOLID DOUBLE YELLOW, 10cm - - - ROW - TEMPORARY LIMITED INTEREST (TLI) 3 363 BROKEN YELLOW, 10cm RETAINING WALL TREE/VEGETATION GRUBBING 4 SOLID YELLOW.20cm — — FUTURE TRANSITWAY ROW 5 SOLID WHITE.10cm CONCRETE CURB & GUTTER OR CHAIN LINK FENCE (TOP WIRE) ON CONCRETE BARRIER TO BE REMOVED 6 333 BROKEN WHITE, 10cm RIGHT OF WAY (OPSD 972.130) 7 363 BROKEN WHITE, 10cm GUIDE RAIL TO BE REMOVED CONCRETE BARRIER 8 393 BROKEN WHITE, 10cm HEAVY DUTY SILT FENCE BARRIER (OPSD 219.130) 9 SOLID WHITE, 20cm 10 111 BROKEN WHITE, 20cm CONCRETE CURB AND GUTTER FENCE TO BE REMOVED TURBIDITY CURTAIN 11 333 BROKEN WHITE, 20cm (OPSD 219,260) 12 333 BROKEN WHITE, 30cm CULVERT TO BE REMOVED TREE PROTECTION 13 SOLID WHITE, 30cm GUTTER OUTLET 45° 14 SOLID WHITE,45cm WITH ASPHALT SPILLWAY ACCESS GATE GATE TO BE REMOVED 15 SOLID WHITE,60cm 20 SYMBOLS STEEL BEAM ENERGY ATTENUATING TERMINAL (SBEAT) / ENERGY \boxtimes CB, DI, MH TO BE REMOVED] [LIMITS OF MARKINGS DRAINAGE CB/DI MH ATTENUATOR PERMANENT (EAP) → HOV LANE SYMBOL REMOVAL OF ASPHALT PAVEMENT, ____ STORM SEWER FULL DEPTH NOTES: 1. 333, 363, 393, Denotes Pavement Marking Spacing (ie., 3 m line, 3 m gap, 3 m line) EARTH FILLS RAISED BENCH REMOVAL OF ASPHALT PAVEMENT. _____ 150mmø PERFORATED PIPE SUB-DRAIN PARTIAL DEPTH 2. Use (1) to Denote PAVEMENT MARKING 3. Use 1 to Denote PAVEMENT MARKING, TEMPORARY CONCRETE REMOVAL 4. Use 1 to Denote PAVEMENT MARKING, TEMPORARY-REMOVABLE CATCH BASIN / DITCH INLET, MANHOLE . . 5. Use $\langle 1 \rangle$ to Denote PAVEMENT MARKING, DURABLE REMOVAL OF ASPHALT PAVEMENT EARTH CUTS RAISED BENCH ON STRUCTURE TWIN INLET CATCH BASIN / MANHOLE **STAGING** TRAFFIC SIGN TC-51 CATCH BASIN, MANHOLE TO BE ADUSTED TC-54 CUTS AND FILLS (EARTH) TEMPORARY CONCRETE BARRIER (TCB) w/REFLECTORS @ 10m SPACING CULVERT RIP-RAP ENERGY ATTENUATOR CULVERT WITH HEADWALL SEED & EROSION CONTROL BLANKET (USED ON SLOPES STEEPER THAN 3:1) WORK ZONE / UNDER CONSTRUCTION FLOW CHECK DAM OPSD 219.211 - TEMPORARY ROCK (DURING CONSTRUCTION) OPSD 219.180 - PERMANENT STRAW BALE **PRELOADING** MISCELLANEOUS ASPHALT PAVING UNDER CONSTRUCTION TEMPORARY FLOW CHECKS & RIP RAP AT DITCH INLETS OPSD 219.180 — STRAW BALE FLOW CHECK OPSD 810.020 — RIP RAP TREATMENT NIGHT CLOSURE CONSTRUCTION HIGH MAST LIGHT POLE APRON FLOW ARROW **MISCELLANEOUS** COMPLETED CONSTRUCTION - V-TYPE DITCH EPZ1 COMPLETED CONSTRUCTION TEMPORARY FLAT BOTTOM DITCH ENVIRONMENTAL PROTECTION ZONE 1 CONSTRUCTION INGRESS / EGRESS ENVIRONMENTAL PROTECTION ZONE 2 NO. OF LANES / TRAFFIC FLOW SCALE : DRAWN EDDY LEUNG

CHECKED

N.T.S

BY CHK LEAD. PRO. MAN

B 18/06/18

18/01/12

DATE

90% SUBMISSION TO CA 90% SUBMISSION TO CA

REVISIONS

DUNCAN CAMPBELL

JONATHAN MOHACSI

PAVEMENT MARKING (DETOUR ORANGE)

	(DETOOK ONANGE)
21	SOLID ORANGE,10cm
22	SOLID DOUBLE ORANGE,10cm
23	363 BROKEN ORANGE,10cm
24	SOLID ORANGE,20cm
25	SOLID ORANGE,10cm
26	333 BROKEN ORANGE,10cm
27	363 BROKEN ORANGE,10cm
28	393 BROKEN ORANGE,10cm
29	SOLID ORANGE,20cm
30	111 BROKEN ORANGE,20cm
31	333 BROKEN ORANGE,20cm
32	333 BROKEN ORANGE,30cm
33	SOLID ORANGE,30cm
34	SOLID ORANGE,45cm
40	SYMBOLS
] [LIMITS OF MARKINGS

*NOTE: ORANGE PMK FOR FREEWAY ONLY.

EXISTING GROUND MOUNTED SIGN

SINGLE POST GROUND MOUNTED SIGN

DOUBLE POSTS GROUND MOUNTED SIGN

TOP OF TEMPORARY BERM BARRIER (OPSD 219.231)

SETTLEMENT ROD (SR)

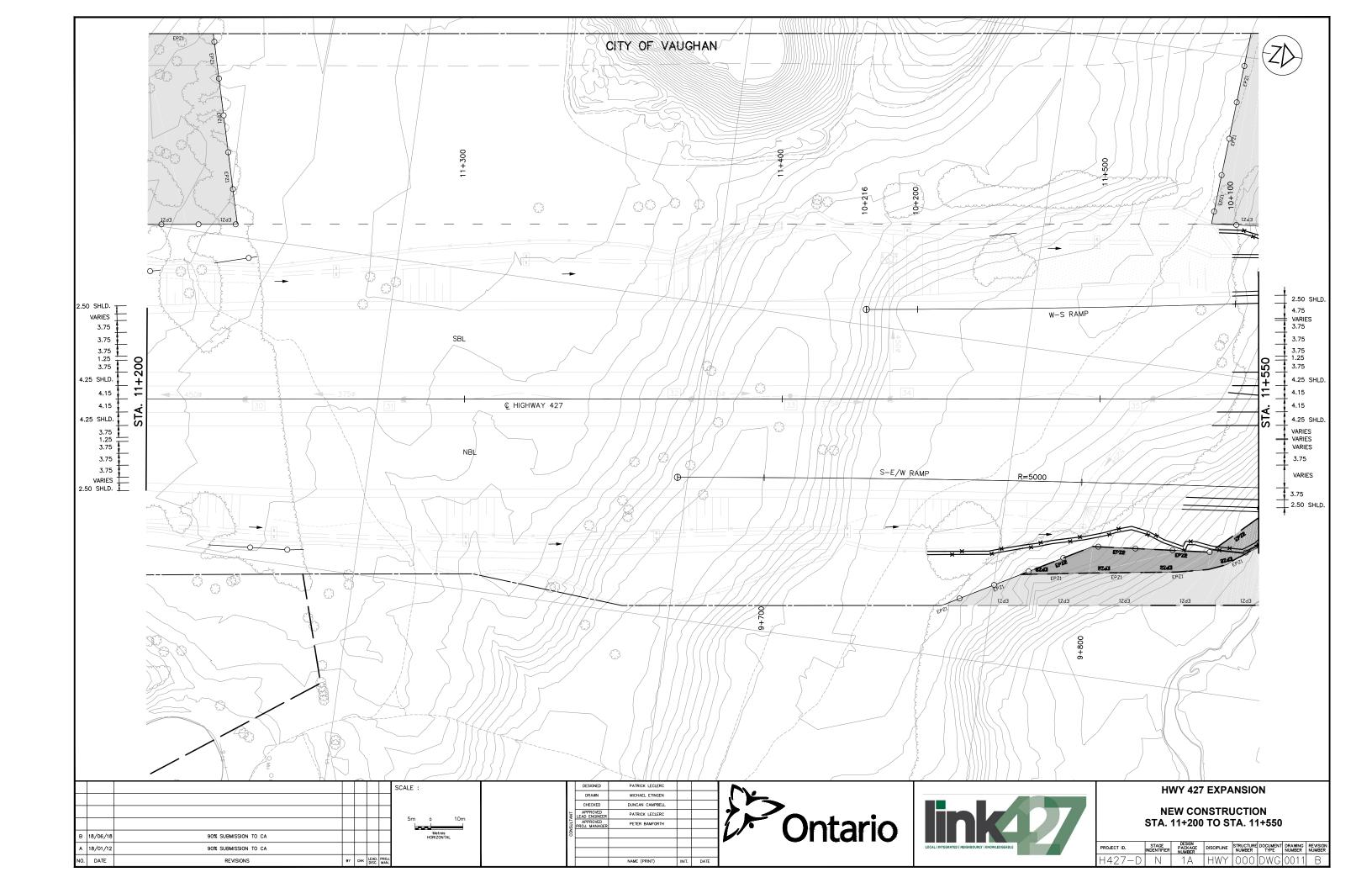


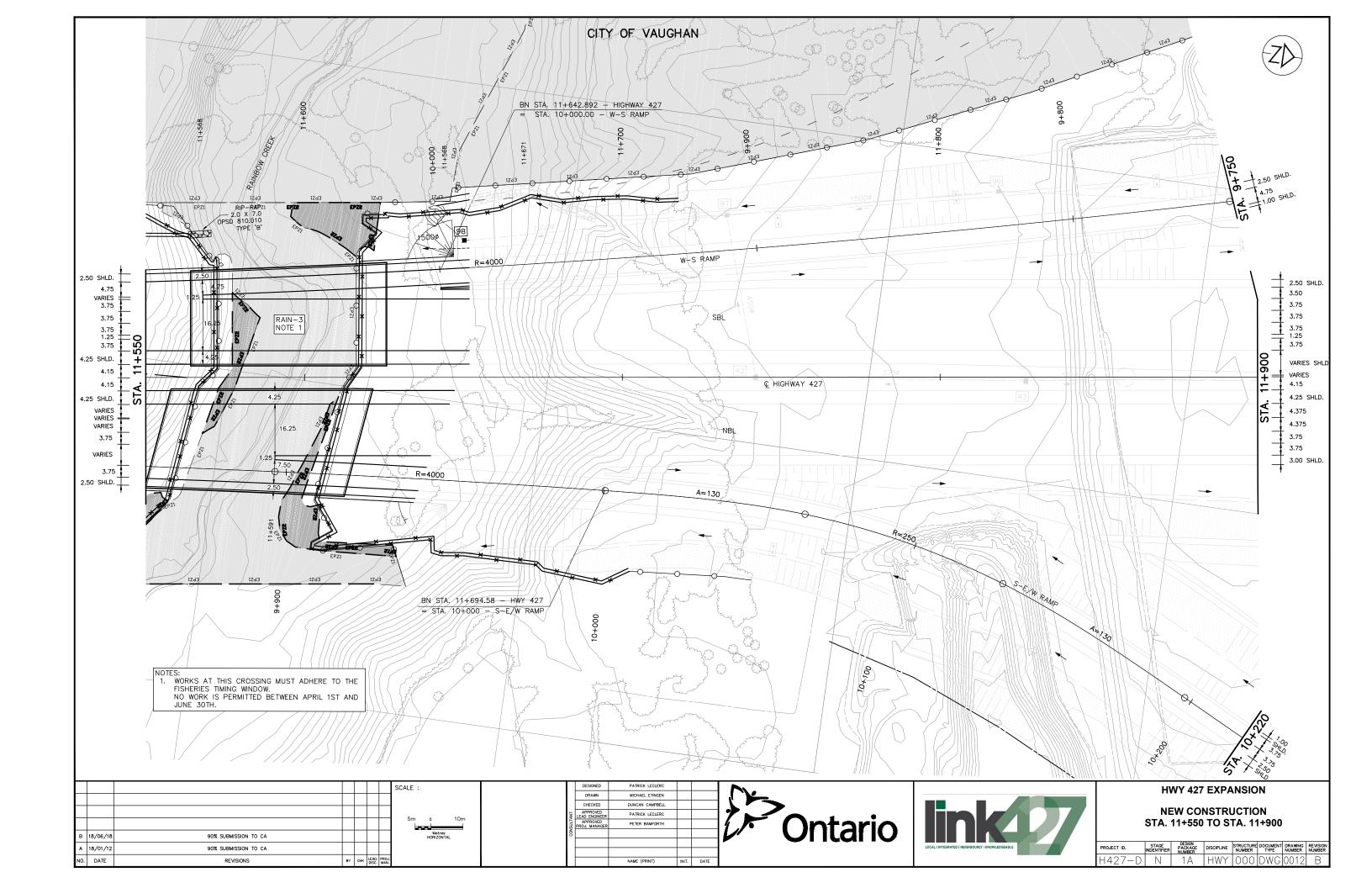
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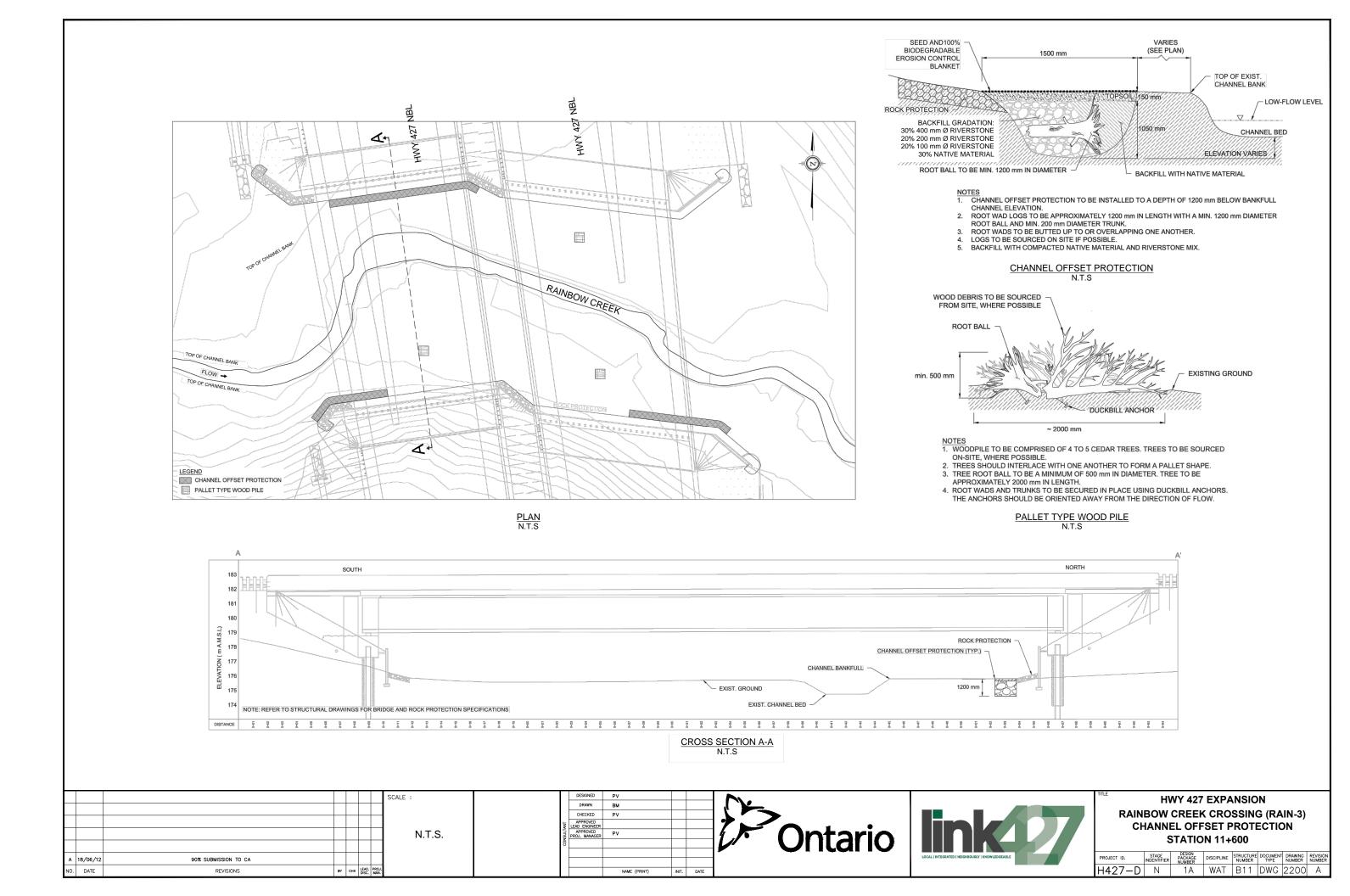
HWY 427 EXPANSION

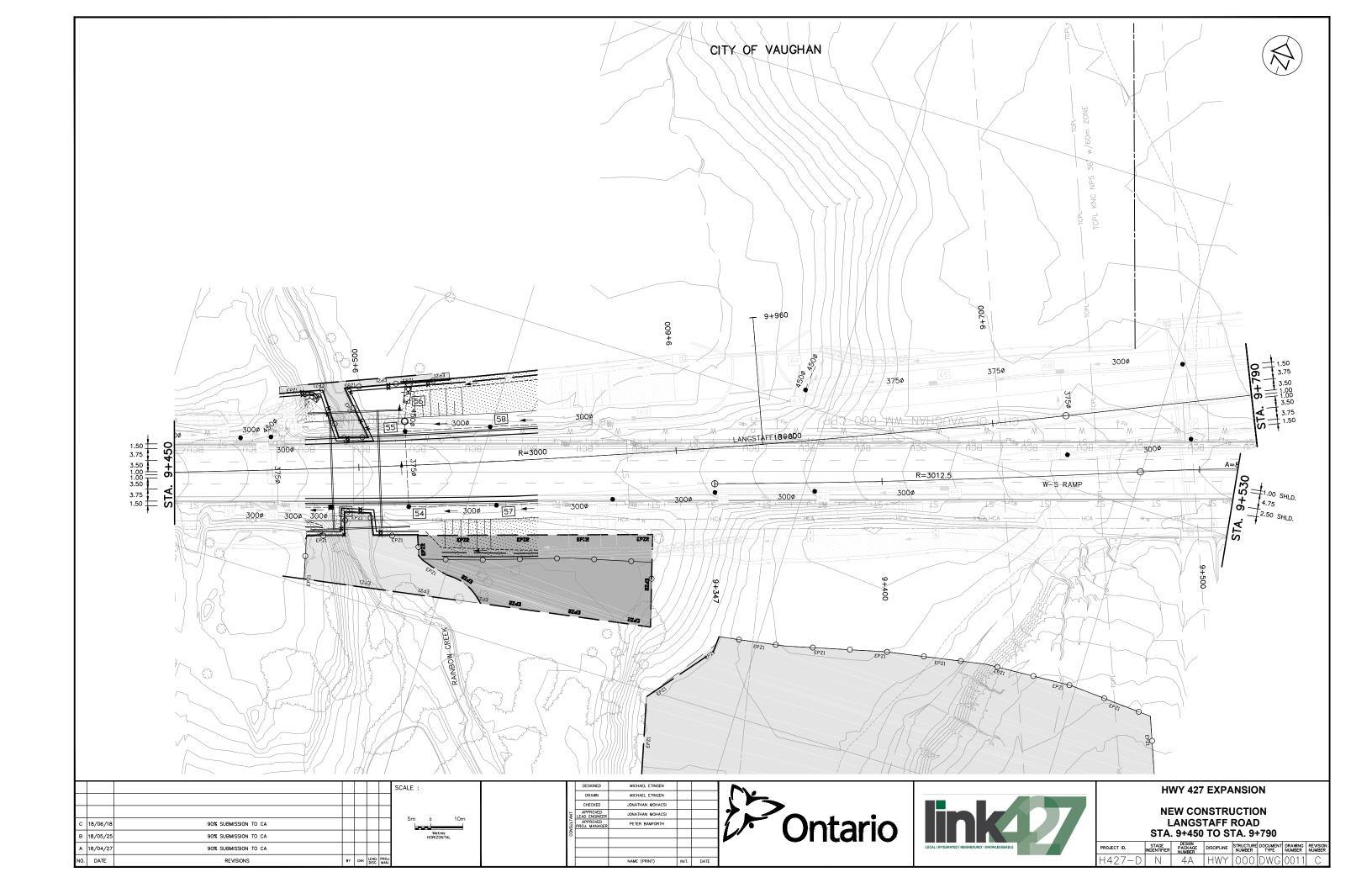
SUPPLEMENTAL LEGEND **HIGHWAY 427 MAINLINE**

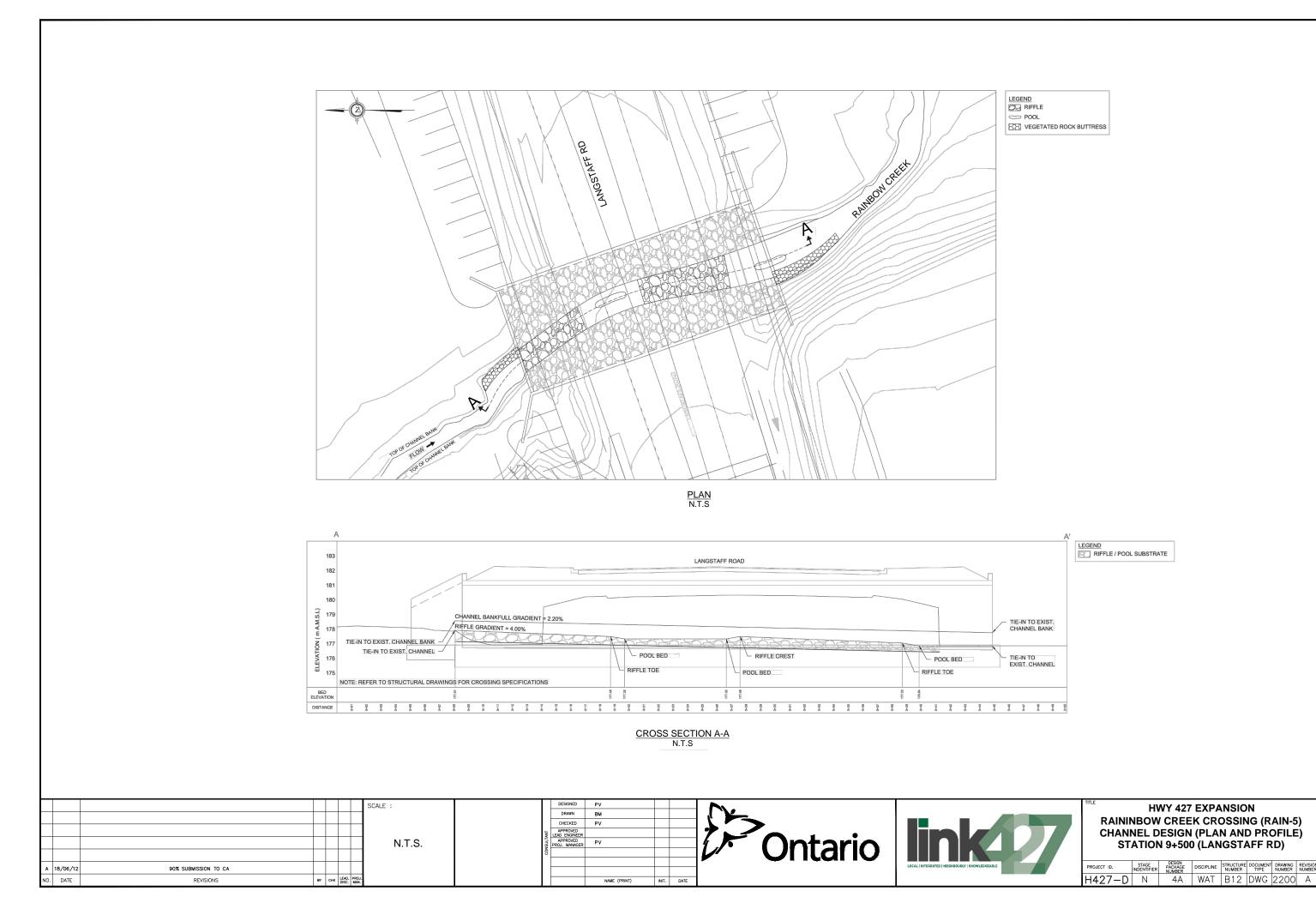
PROJECT ID.	STAGE INDENTIFIER	DESIGN PACKAGE NUMBER	DISCIPLINE	STRUCTURE NUMBER	DOCUMENT TYPE	DRAWING NUMBER	REVISION NUMBER
H427-D	Ν	1A	GEN	000	DWG	0010	В

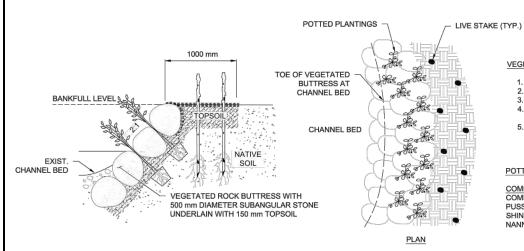












VEGETATED ROCK BUTTRESS CONSTRUCTION NOTES

- VEGETATED ROCK BUTTRESS TO BE INSTALLED IN LIFTS
- TOE STONES TO BE EMBEDDED INTO CHANNEL BED. INSTALL PLANTS 1 m O/C IN EACH LAYER.
- LATERALLY STAGGER EACH SUCCESSIVE LAYER OF
- PLANTS TO AVOID VERTICAL STACKING. PLANTING SPECIES PLACEMENT SHOULD BE RANDOM.

POTTED PLANTINGS SPECIES AND QUANTITIES

COMMON NAME	SPECIES	QUANTITY	CONDITION
COMMON WINTERBERRY	Illex verticillata	6	1 m ht. POTTED
PUSSY WILLOW	Salix discolor	6	1 m ht. POTTED
SHINING WILLOW	Salix lucida	6	1 m ht. POTTED
NANNYBERRY	Viburnum lentago	6	1 m ht. POTTED

SPECIES AND QUANTITIES

LIVE STAKE

COMMON NAME	SPECIES	SIZE
RED OSIER DOGWOOD	Cornus stolonifera	1 m
PUSSY WILLOW	Salix discolor	1 m
SANDBAR WILLOW	Salix exigua	1 m

LIVE STAKE ONE OR

TWO YEARS AFTER

SOIL SURFACE

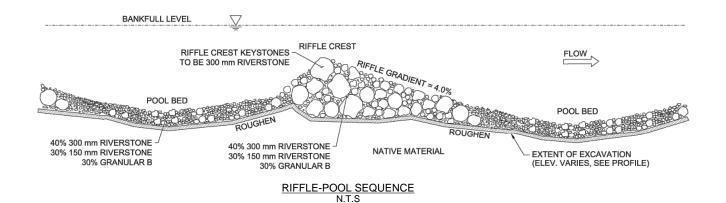
INSTALLATION

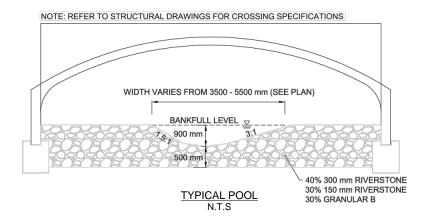
- QUANTITY TO BE DETERMINED BASED ON AREA OF DISTURBANCE TO BE RESTORED
- LIVE STAKES ARE TO BE INSTALLED AT A DENSITY OF 3 STAKES PER SQUARE METRE.

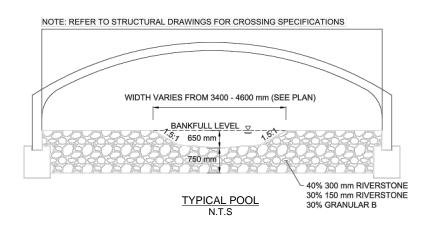
 LIVE STAKES SHOULD BE PRE-SOAKED (SUBMERGED IN WATER) FOR AT LEAST 24
- HOURS AFTER HARVESTING AND IMMEDIATELY BEFORE INSTALLATION.
- 4. LIVE STAKES SHOULD NOT BE STORED FOR A PERIOD LONGER THAN 2 DAYS, UNLESS
- THEY ARE BEING SOAKED.

 5. THE CONTRACTOR SHALL PROTECT PLANT MATERIALS FROM DRYING FROM THE TIME
- OF HARVEST UNTIL INSTALLED.
- 6. LIVE STAKES ARE TO BE A MINIMUM OF 25 mm IN DIAMETER AND CUT TO A LENGTH OF
- CUT ANGLE AT THE BOTTOM OF THE STAKE AND FLAT ON THE TOP.
- TRIM ALL SIDE BRANCHES WHILE TAKING CARE NOT TO DAMAGE THE BARK.
- INSTALL STAKES WITH BUDS POINTING UPWARDS AND THICKER STEM IN THE BED.
- 10. LIVE STAKES SHOULD BE INSTALLED USING A LARGE RUBBER MALLET.
- 11. 80% OF THE STAKE IS TO BE BELOW SURFACE.
- 12. TAMP THE LIVE STAKE INTO THE GROUND AT RIGHT ANGLE TO THE SURFACE.
- 13. IN COMPACT SOIL A PILOT HOLE SHOULD BE USED TO LIMIT DAMAGE TO THE STAKES.
- IF USING A PILOT HOLE REPACK SOIL AROUND THE LIVE STAKE.
 LIVE STAKES SHOULD STAND FIRM FROM THE SOIL FOLLOWING INSTALLATION.
- 16. ALL STAKES NOT PLANTED TO THE SPECIFICATIONS ABOVE WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

LIVE STAKES N.T.S







						SCALE :
						N.T.
18/06/12	90% SUBMISSION TO CA					
DATE	REVISIONS	BY	снк	LEAD.	PROJ.	

S.

VEGETATED ROCK BUTTREESS

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	DESIGNED	PV			ı
	DRAWN	ВМ			l
	CHECKED	PV			l
¥	APPROVED LEAD ENGINEER				ı
CONSULTANT	APPROVED PROJ. MANAGER	PV			١
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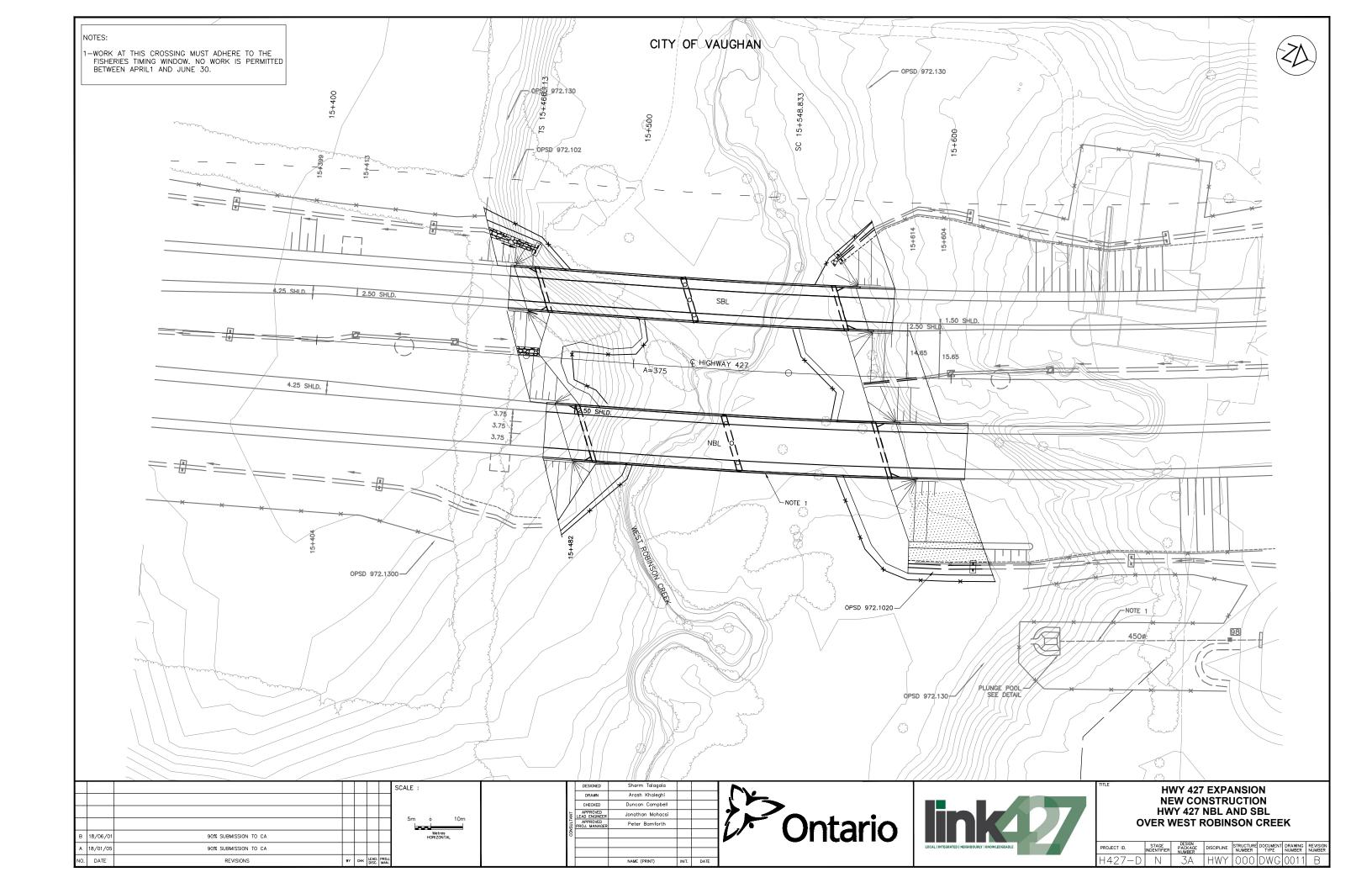


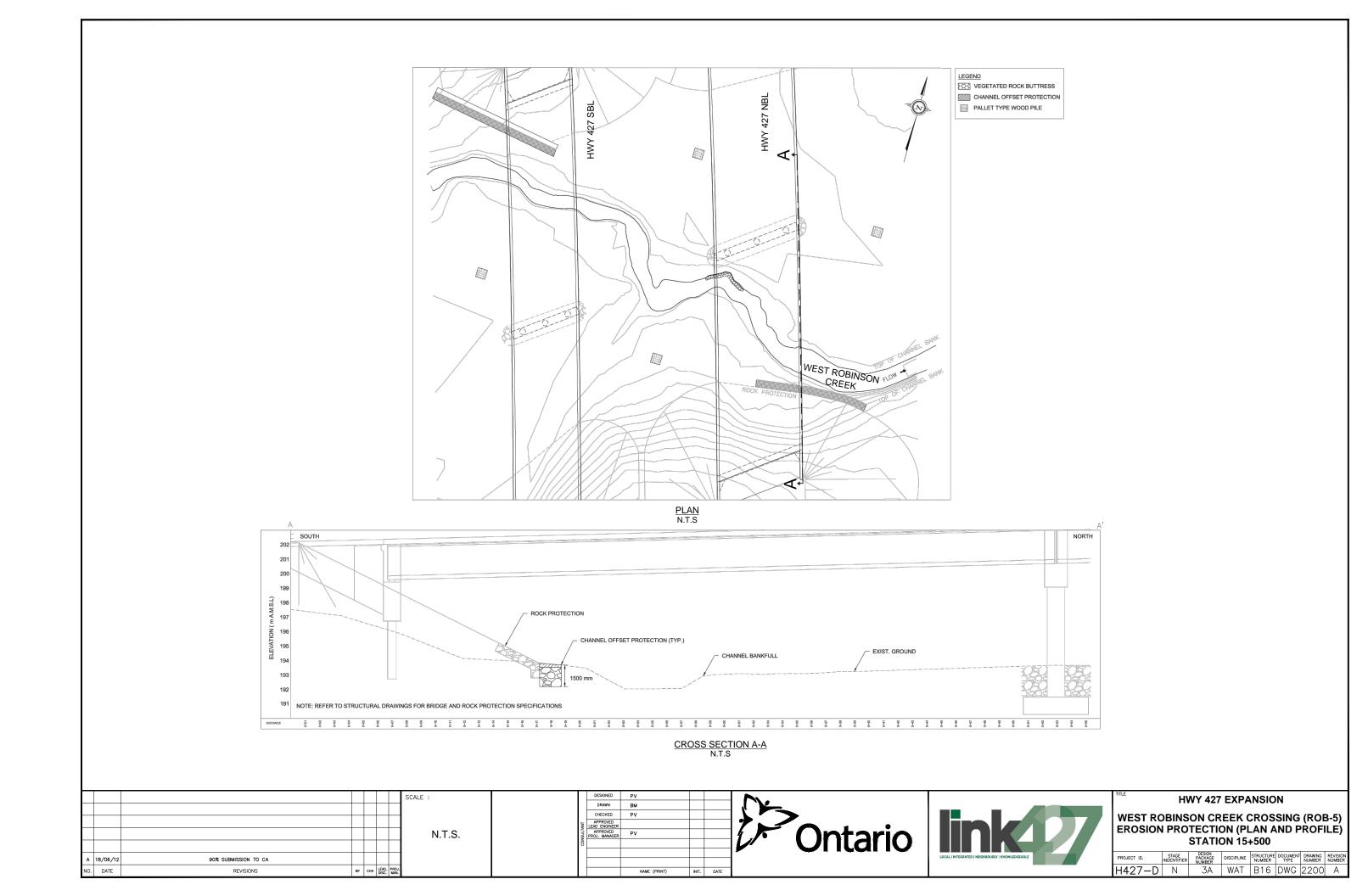


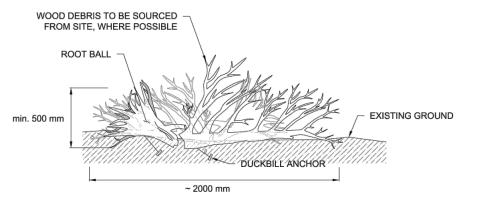
HWY 427 EXPANSION

RAININBOW CREEK CROSSING (RAIN-5) CHANNEL DESIGN (DETAILS) STATION 9+500 (LANGSTAFF RD)

PROJECT ID.	STAGE INDENTIFIER	DESIGN PACKAGE NUMBER	DISCIPLINE	STRUCTURE NUMBER	DOCUMENT TYPE	DRAWING NUMBER	REVISION NUMBER
H427-D	N	4A	WAT	B12	DWG	2201	Α

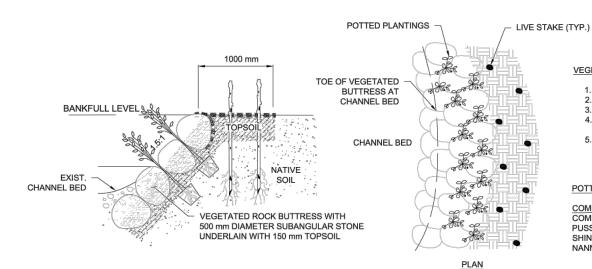






- 1. WOODPILE TO BE COMPRISED OF 4 TO 5 CEDAR TREES. TREES TO BE SOURCED ON-SITE, WHERE POSSIBLE.
- 2. TREES SHOULD INTERLACE WITH ONE ANOTHER TO FORM A PALLET SHAPE.
- 3. TREE ROOT BALL TO BE A MINIMUM OF 500 mm IN DIAMETER. TREE TO BE APPROXIMATELY 2000 mm IN LENGTH.
- 4. ROOT WADS AND TRUNKS TO BE SECURED IN PLACE USING DUCKBILL ANCHORS. THE ANCHORS SHOULD BE ORIENTED AWAY FROM THE DIRECTION OF FLOW.

PALLET TYPE WOOD PILE



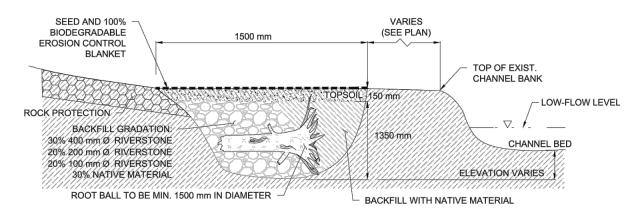
VEGETATED ROCK BUTTRESS CONSTRUCTION NOTES

- VEGETATED ROCK BUTTRESS TO BE INSTALLED IN LIFTS.
- TOE STONES TO BE EMBEDDED INTO CHANNEL BED.
- INSTALL PLANTS 1 m O/C IN EACH LAYER. LATERALLY STAGGER EACH SUCCESSIVE LAYER OF
- PLANTS TO AVOID VERTICAL STACKING.
- PLANTING SPECIES PLACEMENT SHOULD BE RANDOM.

POTTED PLANTINGS SPECIES AND QUANTITIES

COMMON NAME	SPECIES	QUANTITY	CONDITION
OMMON WINTERBERRY	Illex verticillata	5	1 m ht. POTTED
USSY WILLOW	Salix discolor	5	1 m ht. POTTED
HINING WILLOW	Salix lucida	5	1 m ht. POTTED
IANNYBERRY	Viburnum lentago	5	1 m ht. POTTED

VEGETATED ROCK BUTTRESS



- 1. CHANNEL OFFSET PROTECTION TO BE INSTALLED TO A DEPTH OF 1500 mm BELOW BANKFULL CHANNEL ELEVATION.
- ROOT WAD LOGS TO BE APPROXIMATELY 1500 mm IN LENGTH WITH A MIN. 1500 mm DIAMETER ROOT BALL AND MIN. 200 mm DIAMETER TRUNK.
- ROOT WADS TO BE BUTTED UP TO OR OVERLAPPING ONE ANOTHER.
- LOGS TO BE SOURCED ON SITE IF POSSIBLE.
- BACKFILL WITH COMPACTED NATIVE MATERIAL AND RIVERSTONE MIX.

LIVE STAKE ONE OR TWO YEARS AFTER INSTALLATION LIVE STAKE SOIL SURFACE

SPECIES AND QUANTITIES

COMMON NAME	SPECIES	SIZE
RED OSIER DOGWOOD	Cornus stolonifera	1 m
PUSSY WILLOW	Salix discolor	1 m
SANDBAR WILLOW	Salix exigua	1 m

- 1. QUANTITY TO BE DETERMINED BASED ON AREA OF DISTURBANCE TO BE RESTORED LIVE STAKES ARE TO BE INSTALLED AT A DENSITY OF 3 STAKES PER SQUARE METRE.
- 3. LIVE STAKES SHOULD BE PRE-SOAKED (SUBMERGED IN WATER) FOR AT LEAST 24
- HOURS AFTER HARVESTING AND IMMEDIATELY BEFORE INSTALLATION.
- 4. LIVE STAKES SHOULD NOT BE STORED FOR A PERIOD LONGER THAN 2 DAYS, UNLESS THEY ARE BEING SOAKED.
- THE CONTRACTOR SHALL PROTECT PLANT MATERIALS FROM DRYING FROM THE TIME OF HARVEST UNTIL INSTALLED.
- LIVE STAKES ARE TO BE A MINIMUM OF 25 mm IN DIAMETER AND CUT TO A LENGTH OF
- CUT ANGLE AT THE BOTTOM OF THE STAKE AND FLAT ON THE TOP.
- TRIM ALL SIDE BRANCHES WHILE TAKING CARE NOT TO DAMAGE THE BARK
- INSTALL STAKES WITH BUDS POINTING UPWARDS AND THICKER STEM IN THE BED.
- 10. LIVE STAKES SHOULD BE INSTALLED USING A LARGE RUBBER MALLET.
- 11. 80% OF THE STAKE IS TO BE BELOW SURFACE.
- 12. TAMP THE LIVE STAKE INTO THE GROUND AT RIGHT ANGLE TO THE SURFACE. 13. IN COMPACT SOIL A PILOT HOLE SHOULD BE USED TO LIMIT DAMAGE TO THE STAKES.
- 14. IF USING A PILOT HOLE REPACK SOIL AROUND THE LIVE STAKE.
- 15. LIVE STAKES SHOULD STAND FIRM FROM THE SOIL FOLLOWING INSTALLATION.
- 16. ALL STAKES NOT PLANTED TO THE SPECIFICATIONS ABOVE WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

LIVE STAKE N.T.S.

CHANNEL OFFSET PROTECTION N.T.S

							SCALE :
							N.T.S.
							14.1.5.
Α	18/06/12	90% SUBMISSION TO CA					
NO.	DATE	REVISIONS	BY	СНК	LEAD. DISC.	PROJ. MAN.	

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	DESIGNED	PV			
	DRAWN	ВМ			ı
	CHECKED	PV			ı
¥	APPROVED LEAD ENGINEER				ı
SULT	APPROVED PROJ. MANAGER	PV			1
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		NAME (PRINT)	INIT.	DATE	
	CONSULTANT	CHECKED	DRAWN BM CHECKED PV APPROVED LEAD ENGINEER APPROVED APPROVED PROJ. MANAGER PV	DRAWN BM CHECKED PV APPROVED LEAD ENONIER APPROVED PKOJ. MANAGER PV	DRAWN BM CHECKED PV APPROVED LEAD ENGINEER APPROVED PV PROJ. MANAGER PV





HWY 427 EXPANSION WEST ROBINSON CREEK CROSSING (ROB-5) EROSION PROTECTION (DETAILS) STATION 15+500

PROJECT ID.	STAGE INDENTIFIER	DESIGN PACKAGE NUMBER	DISCIPLINE	STRUCTURE NUMBER	DOCUMENT TYPE	DRAWING NUMBER	REVISION NUMBER
H427-D	N	3A	WAT	B16	DWG	2201	Α

