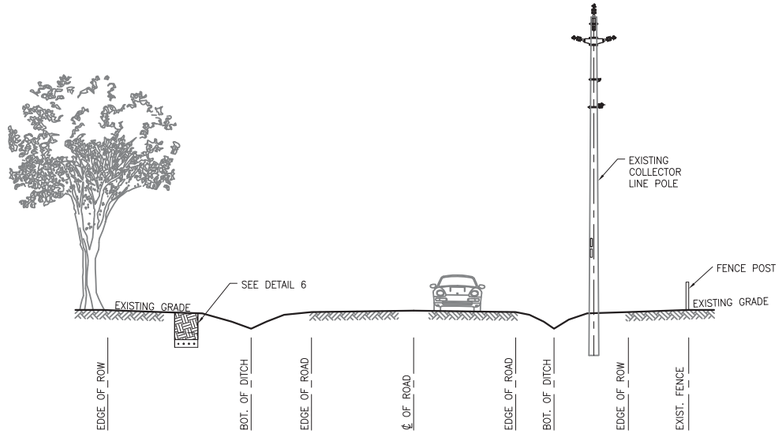
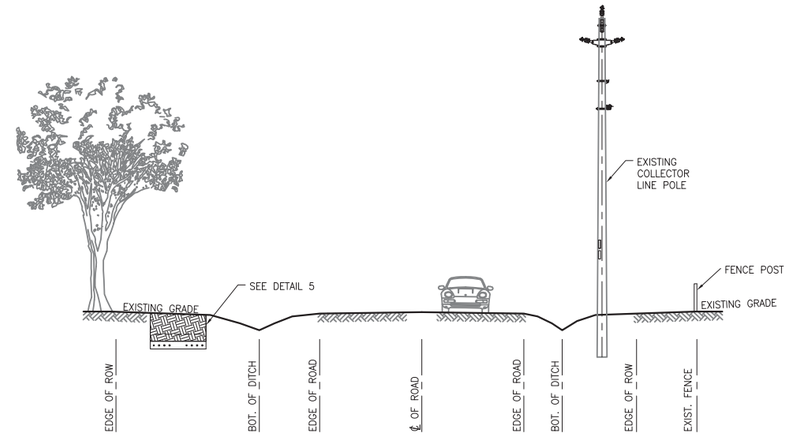
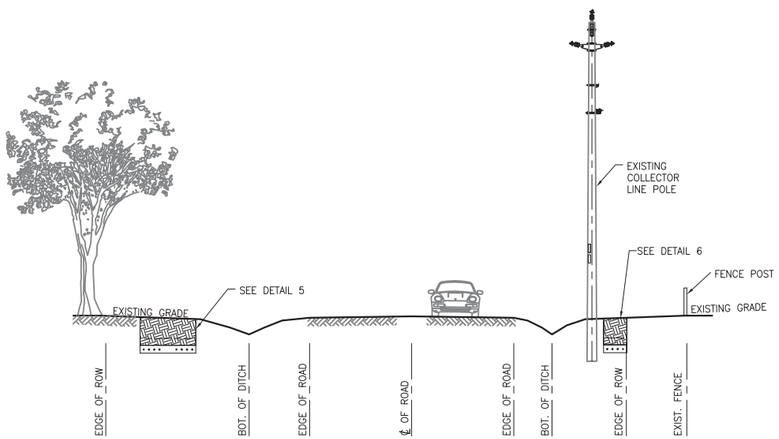
APPENDIX C:
Conceptual Plans and Specifications



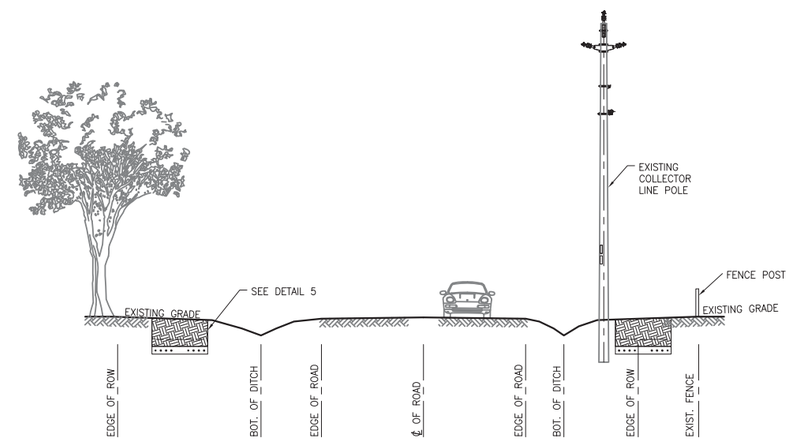
DETAIL 1: TYPICAL 1–CIRCUIT UNDERGROUND COLLECTOR
SCALE 1:100



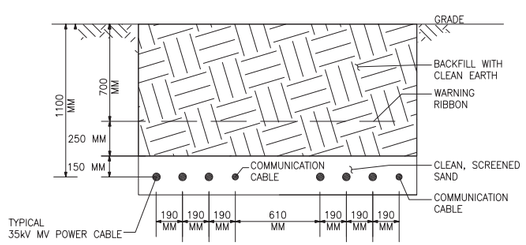
DETAIL 2: TYPICAL 2–CIRCUIT UNDERGROUND COLLECTOR
SCALE 1:100



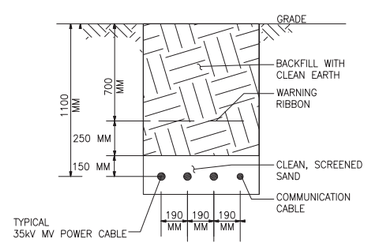
DETAIL 3: TYPICAL 3–CIRCUIT UNDERGROUND COLLECTOR
SCALE 1:100



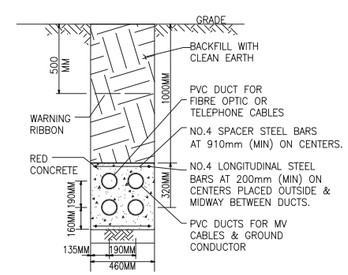
DETAIL 4: TYPICAL 4–CIRCUIT UNDERGROUND COLLECTOR
SCALE 1:100



DETAIL 5: TYPICAL TRENCH FOR 2 CIRCUIT UNDERGROUND COLLECTOR
SCALE 1:20



DETAIL 6: TYPICAL TRENCH FOR 1 CIRCUIT UNDERGROUND COLLECTOR
SCALE 1:20



DETAIL 7: TYPICAL TRENCH FOR ROAD CROSSING
SCALE 1:20

NOTES:

1. CABLE ROUTE MARKERS SHALL BE PROVIDED AS PER CODE.
2. CROSS SECTIONAL VIEWS ARE NOT BASED ON ACTUAL SURVEY ALONG MUNICIPAL ROAD AND ARE SUBJECT TO CHANGE.
3. UNDERGROUND TRENCH FOR COLLECTOR CIRCUITS MAY EXCEED ACTUAL ROAD ROW AND ENCROACH UPON LANDOWNER LOTS DEPENDING ON ACTUAL ROAD SURVEY CONDITIONS.
4. TREELINES, FENCING AND EXISTING OVERHEAD POLES MAY BE ON EITHER SIDE OF ROW DEPENDING ON ACTUAL ROAD CONDITIONS.
5. A TYPICAL ROW OF 18.75M (60') IS SHOWN.

0m 0.2 0.4 0.6 0.8 1
1:20

0m 1 2 3 4 5
1:100

REV	DDMMMYY	REVISION / ISSUE DESCRIPTION	DRN	CHK	APP	APP	APP	APP
E	27SEP11	ISSUED FOR REA APPLICATION – FIGURE #	CK	CK	JHM			
D	06SEP11	ISSUED FOR REA APPLICATION	M.HALL	CK	JHM			
C	31AUG10	ISSUED FOR INFORMATION	JL	CK	JHM			
B	25AUG10	ISSUED FOR INFORMATION	JL	CK	JHM			
A	20AUG10	ISSUED FOR INFORMATION	JL	CK	JHM			

REF	NUMBER	TITLE
		REFERENCES

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CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

K2 WIND ONTARIO LIMITED PARTNERSHIP

AREA 00

K2 WIND POWER PROJECT

PROJECT NO.	ACTIVITY NO.		BY	DDMMMYY
161973		DSN	CK	AUG.'10
		DRN	J.LOH	AUG.'10
SCALE	PACKAGE CODE	CHK	CK	AUG.'10
AS SHOWN		APP	JHM	AUG.'10

SUBJECT: TYPICAL BURIED CABLE

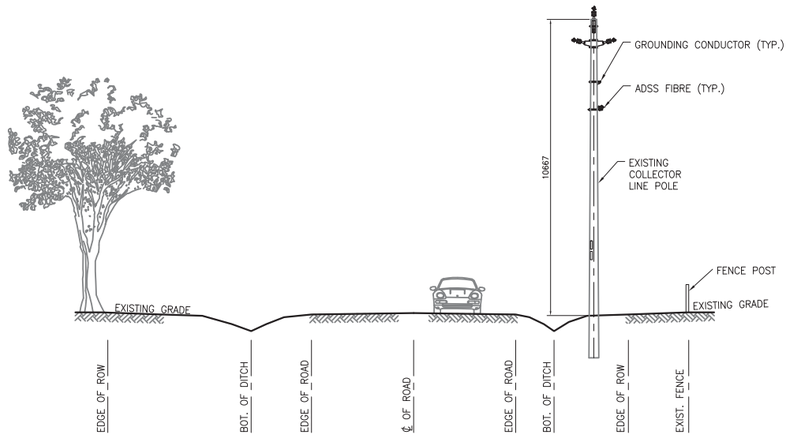
CLIENT DWG. NO.

DRAWING NO. A1–161973–00–121–0904

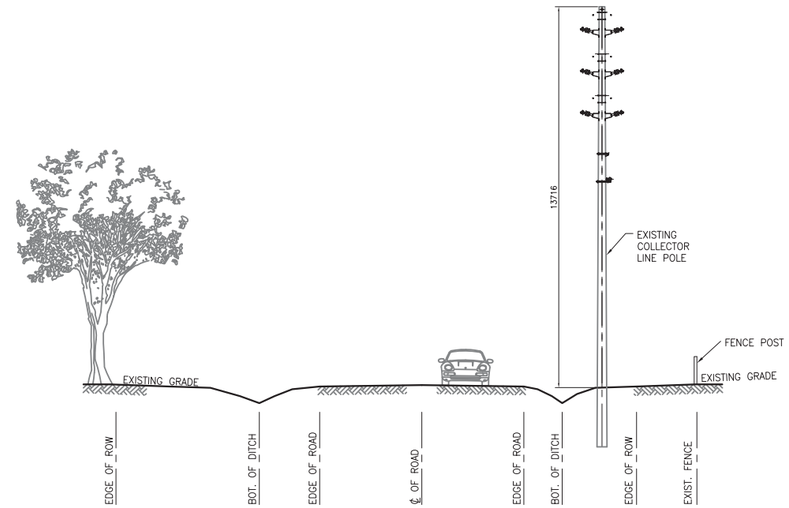
REV. E

CAD FILE: K:\CAD\CIV\MF\A1-161973-00-121-0904.DWG

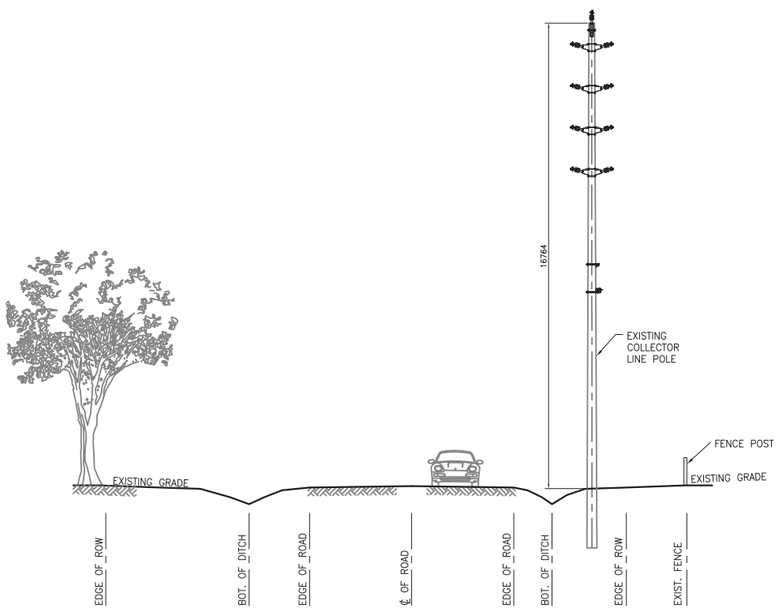
PLOTTED: 26-Sep-11 5:37 PM USER: KENT, CATHY N SAVED: 26-Sep-11 5:37 PM



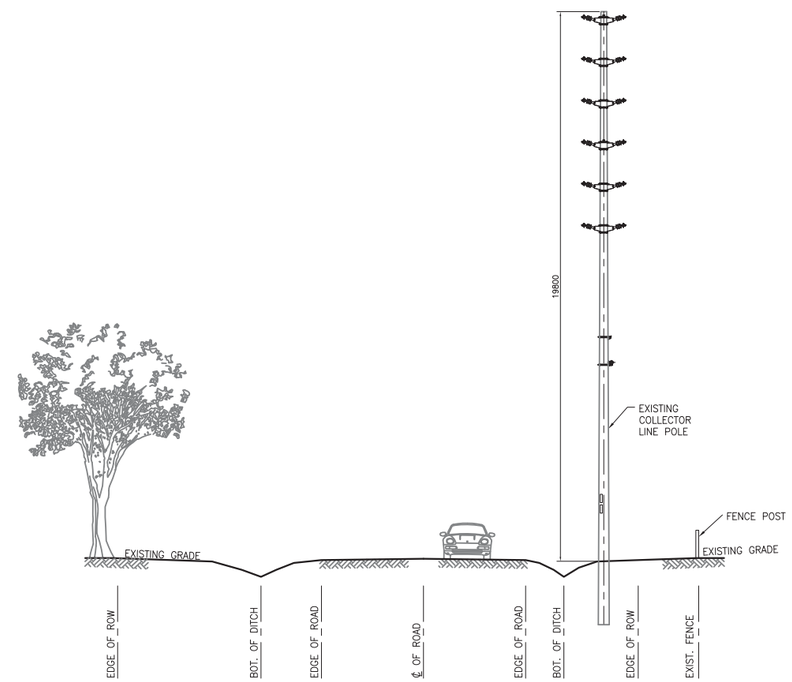
DETAIL 1: TYPICAL 1–CIRCUIT OVERHEAD COLLECTOR



DETAIL 2: TYPICAL 2–CIRCUIT OVERHEAD COLLECTOR



DETAIL 3: TYPICAL 3–CIRCUIT OVERHEAD COLLECTOR



DETAIL 4: TYPICAL 4–CIRCUIT OVERHEAD COLLECTOR

NOTES:

1. CROSS SECTIONAL VIEWS ARE NOT BASED ON ACTUAL BOUNDARY ALONG MUNICIPAL ROAD AND ARE SUBJECT TO CHANGE.
2. TREELINES, FENCING AND EXISTING OVERHEAD POLES MAY BE ON EITHER SIDE OF ROW DEPENDING ON ACTUAL ROAD CONDITIONS.
3. POLE HEIGHTS SHOWN ARE APPROXIMATE & SUBJECT TO CHANGE.
4. A TYPICAL ROW OF 18.75 (60') IS SHOWN.

0m 1 2 3 4 5
1:100

REV	DDMMMYY	REVISION / ISSUE DESCRIPTION	DRN	CHK	APP	APP	APP	APP
D	27SEP11	ISSUED FOR REA APPLICATION – FIGURE #	CK	CK	JHM			
C	08SEP11	ISSUED FOR REA APPLICATION	M.HALL	CK	JHM			
B	21SEP10	ISSUED FOR INFORMATION	JL	CK	JHM			
A	20AUG10	ISSUED FOR INFORMATION	JL	CK	JHM			

REF	NUMBER	TITLE
		REFERENCES

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CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

K2 WIND ONTARIO LIMITED PARTNERSHIP

AREA 00

K2 WIND POWER PROJECT

PROJECT NO. 161973

ACTIVITY NO.

SCALE 1:100

PACKAGE CODE

	BY	DDMMMYY
DSN	CK	AUG.'10
DRN	M.HALL	AUG.'10
CHK	CK	AUG.'10
APP	JHM	AUG.'10

SUBJECT

TYPICAL OVERHEAD COLLECTOR SYSTEM CROSS–SECTION

CLIENT DWG. NO.

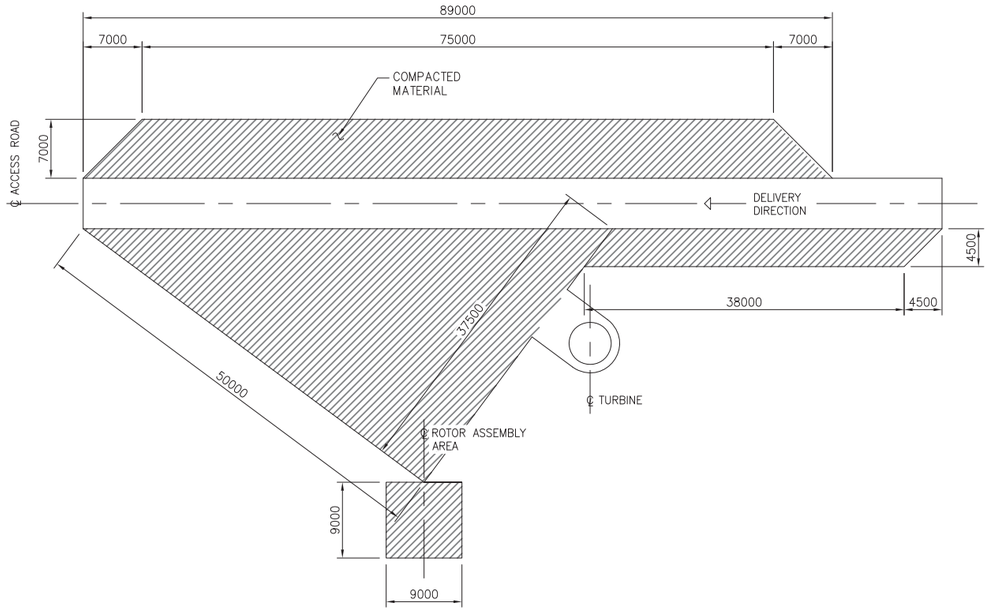
DRAWING NO. A1–161973–00–121–0903

REV. D

CAD FILE: K:\CAD\CIV\MF\A1-161973-00-121-0903.DWG

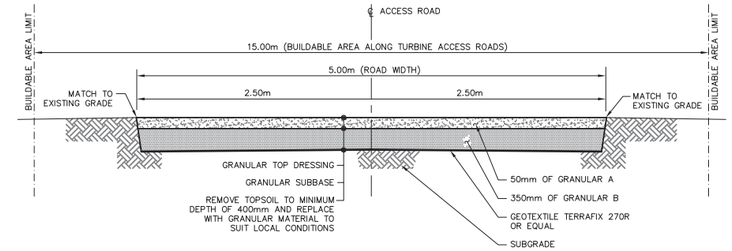
PLOTTED: 26–Sep–11 5:40 PM USER: KENT, CATHY N

SAVED: 26–Sep–11 5:40 PM



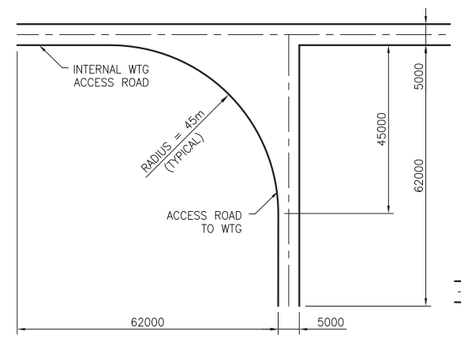
TYPICAL SIEMENS LAYDOWN AREA & CRANE PAD LAYOUT

NOT TO SCALE



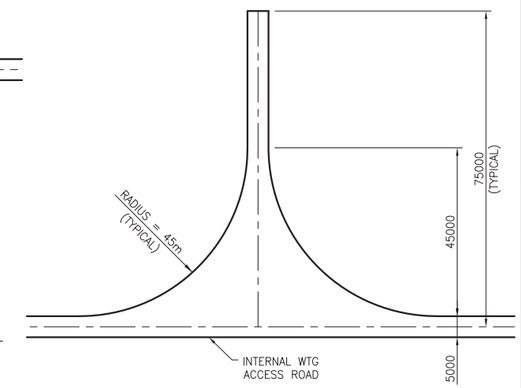
TYPICAL ACCESS ROAD CROSS SECTION

NTS (FIT FOR PURPOSE)



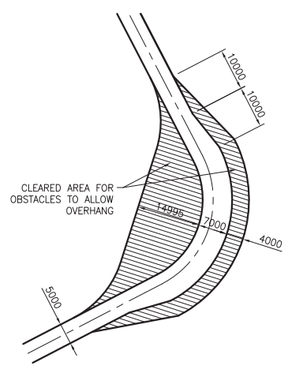
TURNING AREA DETAIL

NTS



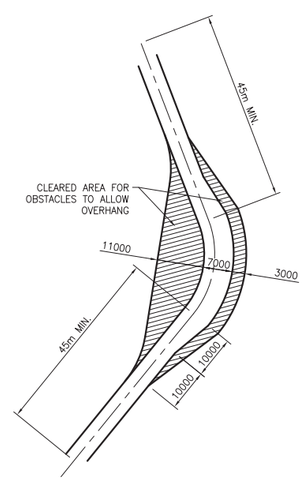
TYPICAL DELIVERY TRUCK "HAMMERHEAD" TURNAROUND

NTS



PLAN - CURVES <90° DETAIL

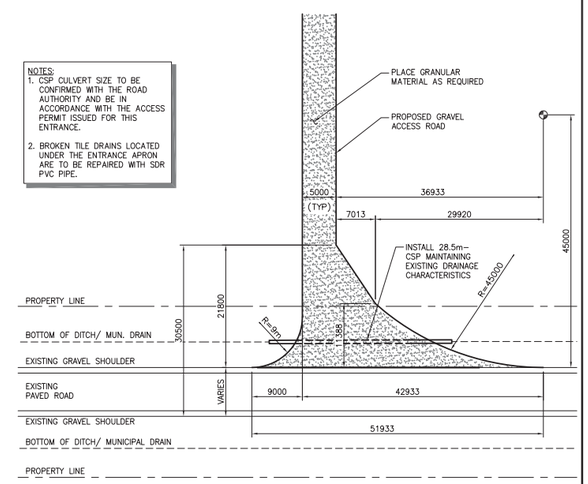
NTS



PLAN - CURVES <60° DETAIL

NTS

NOTES:
1. CSP CULVERT SIZE TO BE CONFIRMED WITH THE ROAD AUTHORITY AND BE IN ACCORDANCE WITH THE ACCESS PERMIT ISSUED FOR THIS ENTRANCE.
2. BROKEN TILE DRAINS LOCATED UNDER THE ENTRANCE APRON ARE TO BE REPAIRED WITH SDR PVC PIPE.



TYPICAL ACCESS ROAD / PAVED MUNICIPAL CONCESSION ROAD INTERSECTION DETAIL

NOT TO SCALE

NOTES:

1. FOR WTG ACCESS ROAD LAYOUT SEE DRAWING A1-161973-00-121-0100.
2. FOR CRANE PAD, LAYDOWN AREA & ACCESS ROADS SEE SIEMENS DOCUMENT "GENERAL SITE REQUIREMENTS, 5 SECTION TOWER, SWT-2.3MW- 101 -99.5m HH US REV. 00".

CRANE PAD NOTES:

P1. CRANE PAD STRUCTURE (TEMPORARY): GRANULAR "B" SUBBASE TO BE INSPECTED BY GEOTECHNICAL CONSULTANT.

P2. DRAINAGE TILES INTERCEPTED IN WORK ZONE SHALL BE REROUTED AROUND FOUNDATION (MINIMUM SEPARATION 3m FROM EXCAVATION AND "DEAD" DRAINS SHALL BE GROUTED/SEALED PRIOR TO BACKFILLING.

P3. PERIMETER GRADING SHALL BLEND TO EXISTING. CRANE PAD AREAS SHALL BE GRADED TO SHED SURFACE WATER DRAINAGE DIRECTIONS INDICATED ON THIS PLAN ARE NOT SPECIFIC TO ANY DIRECTION AND EROSION CONTROLS SHALL BE IMPLEMENTED (AS NECESSARY) TO SUIT LOCAL CONDITIONS.

P4. WINDROW/STOCKPILING OF NATIVE SOILS TO BE LOCATED 10m (MIN.) FROM ANY WATERCOURSE.

P5. TEMPORARY SEDIMENT TRAPS (PER OPSD 219.22, 219.24) SHALL BE CONSTRUCTED WITHIN THE WORK ZONE AT THE POINT OF CONVERGENCE OF SURFACE RUNOFF. CONTRACTOR SHALL MONITOR TRAPS FOR SILT ACCUMULATIONS (AS NECESSARY).

P6. EXCESS SUBSOIL, FROM FOUNDATION AND CRANE PAD EXCAVATION TO BE REMOVED FROM SITE BY CONTRACTOR AT THE CONTRACTOR'S EXPENSE.

ACCESS ROAD NOTES:

1. INSTEAD OF CROWN, ROAD SURFACE MAY SLOPE AT 2% LATERALLY IN ONE DIRECTION OR BE SLOPED TO MATCH EXISTING TOPOGRAPHY.
2. ROAD WILL FOLLOW EXISTING CONTOURS TO MAINTAIN LOCAL DRAINAGE PATTERNS TO THE SATISFACTION OF THE LANDOWNER.
3. USE OF GEOTEXTILE SUBGRADE REINFORCEMENT AND GRANULAR DRESSING DEPTH TO BE CONFIRMED SUBJECT TO GEOTECHNICAL REVIEW.
4. A FULLY ENGINEERED ROADWAY (ie. ALL WEATHER ROAD) WOULD INCLUDE STRIPPING OF TOPSOIL AND A DESIGN BASE COURSE THICKNESS, LIKELY SIZED ACCORDING TO THE WEAKEST SUBGRADE SOIL TYPE.
5. CHECK COMPACTION OF NATIVE SOIL AND REMOVE ALL "SOFT AREAS" UNTIL REQUIRED COMPACTION IS ACHIEVED

NOT TO BE USED FOR CONSTRUCTION

REV	DDMMMYY	REVISION / ISSUE DESCRIPTION	DRN	CHK	APP	APP	APP	APP
E	27SEPT11	ISSUED FOR REA APPLICATION - TITLE	CK	CK	JHM			
D	27SEPT11	ISSUED FOR REA APPLICATION - FIGURE #	CK	SL	JHM			
C	06SEPT11	ISSUED FOR REA APPLICATION	M.HALL	SL	JHM			
B	24AUG11	ISSUED FOR REA APPLICATION	M.HALL	SL	JHM			
A	31AUG10	ISSUED FOR INFORMATION	M.HALL	SL	JHM			

REF	NUMBER	TITLE

REFERENCES

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CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

K2 WIND ONTARIO LIMITED PARTNERSHIP

AREA 00

K2 WIND POWER PROJECT

PROJECT NO. 161973

ACTIVITY NO.

SCALE AS SHOWN

PACKAGE CODE

	BY	DDMMMYY
DSN	SL	AUG.'10
DRN	M.HALL	AUG.'10
CHK	SL	AUG.'10
APP	JHM	AUG.'10

SUBJECT: TYPICAL ACCESS ROAD CROSS-SECTION, CRANE PAD LAYOUT AND LAYDOWN AREA

CLIENT DWG. NO.

DRAWING NO. A1-161973-00-121-0150

REV. E

CAD FILE: K:\CADD\CIVIL\PF\A1-161973-00-121-0150.DWG

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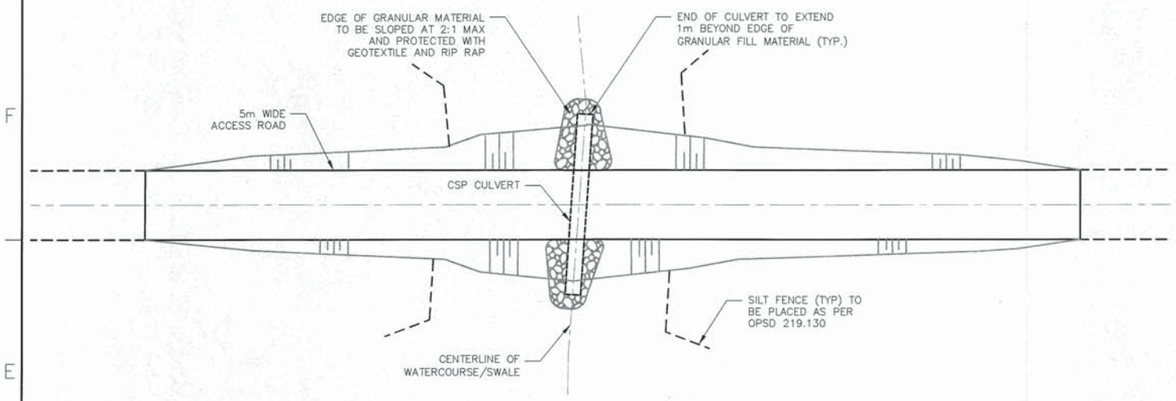
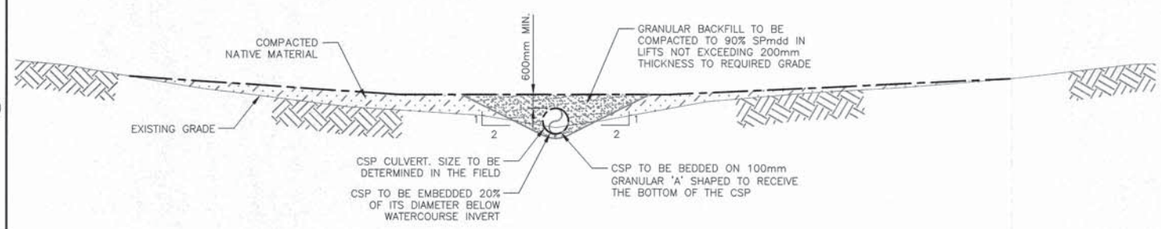
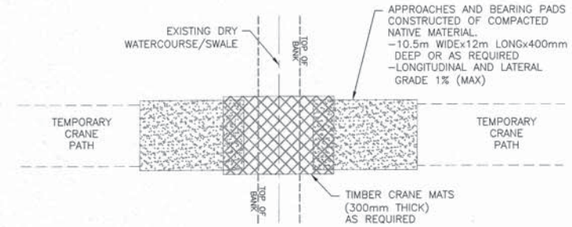


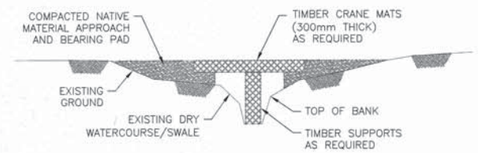
TYPICAL ACCESS ROAD CROSSING OF A WATERCOURSE/ SWALE (PLAN VIEW)
NTS



TYPICAL ACCESS ROAD CROSSING OF A WATERCOURSE/ SWALE (PROFILE VIEW)
NTS



TYPICAL TEMPORARY CRANE CROSSING OF WATERCOURSE USING TIMBER CRANE MATS (PLAN VIEW)
NTS



TYPICAL TEMPORARY CRANE CROSSING OF WATERCOURSE USING TIMBER CRANE MATS (PROFILE VIEW)
NTS

TEMPORARY APPROACHES AND BEARING PADS CONSTRUCTION

1. PLACE COMPACTED NATIVE MATERIAL TO GRADES AS REQUIRED.
2. AFTER COMPLETION OF THE CONSTRUCTION PROJECT ALL APPROACHES AND BEARING PADS TO BE REMOVED AND AREA RESTORED TO ORIGINAL CONDITION WITH TOPSOIL AND GRASS SEED WHERE REQUIRED.

NOTES

1. ALL MEASUREMENTS SHOWN ARE IN METRES UNLESS OTHERWISE SHOWN.
2. ALL EFFORTS SHALL BE MADE TO MINIMIZE DISTURBANCE OR SEDIMENT RELEASE TO ANY WATERCOURSE.
3. FLOWS TO BE MAINTAINED AROUND CONSTRUCTION SITES AT ALL TIMES.
4. TEMPORARY CROSSINGS USING CRANE MATS ARE TO BE USED WHERE PRACTICAL DURING DRY OR LOW-FLOW CONDITIONS AND SHALL BE CONSTRUCTED AS SHOWN ON TYPICAL TEMPORARY CROSSING USING CRANE MATS.
5. CULVERT INSTALLATION IF REQUIRED IS TO TAKE PLACE IF POSSIBLE DURING NO-FLOW CONDITIONS. IF FLOW IS PRESENT CULVERT IS TO BE INSTALLED USING A TEMPORARY WATER PASSAGE SYSTEM AS SHOWN ON OPSD 221.020.
6. RIP-RAP SHALL CONSIST OF 100-250mm ANGULAR CRUSHED LIMESTONE (OR APPROVED EQUIVALENT) PLACED 300mm THICK ON GEOTEXTILE UNDERLAY (TERRAFIX 270R OR EQUIVALENT) WITH 300mm OVERLAP.
7. ALL CULVERTS, GRANULAR MATERIALS AND COMPACTED NATIVE MATERIALS TO BE REMOVED FROM SITE AFTER COMPLETION OF CONSTRUCTION. RESTORATION OF ANY DISTURBED AREAS SHALL BE TO PRE-CONSTRUCTION CONDITION OR BETTER. TOPSOIL DRESSING AND SEEDING OF ANY GRASSED AREAS TO TAKE PLACE AS SOON AS POSSIBLE AFTER CONSTRUCTION.
8. 19mm WASHED CLEAR STONE MAY BE SUBSTITUTED FOR 100mm GRANULAR 'A' BEDDING UNDER ALL CULVERTS.
9. HDPE CULVERTS (BOSS 1000 OR EQUIVALENT) MAY BE SUBSTITUTED FOR CSP IN ALL LOCATIONS WHERE MAXIMUM LOAD REQUIREMENTS CAN BE ACHIEVED.

REV	DDMMMYY	REVISION / ISSUE DESCRIPTION	DRN	CHK	APP	APP	APP	APP
E	01NOV12	ISSUED FOR REA APPLICATION	M.HALL	BJN	JHM			
D	13MAR12	ISSUED FOR REA APPLICATION	M.HALL	BJN	JHM			
C	27SEPT11	ISSUED FOR REA APPLICATION - FIGURE #	CK	CK	JHM			
B	27SEPT11	ISSUED FOR REA APPLICATION	CK	CK	JHM			
A	31AUG10	ISSUED FOR INFORMATION	M.HALL	JJ	JHM			

REF	NUMBER	TITLE
REFERENCES		

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CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

PROJECT NO. 161973

ACTIVITY NO.

SCALE NTS

PACKAGE CODE

	BY	DDMMMYY
DSN	M.HALL	AUG.'10
DRN	M.HALL	AUG.'10
CHK	CK	AUG.'10
APP	JHM	AUG.'10

K2 WIND ONTARIO LIMITED PARTNERSHIP

AREA 00

K2 WIND POWER PROJECT

SUBJECT

TYPICAL WATERCOURSE CROSSING PLAN

amec

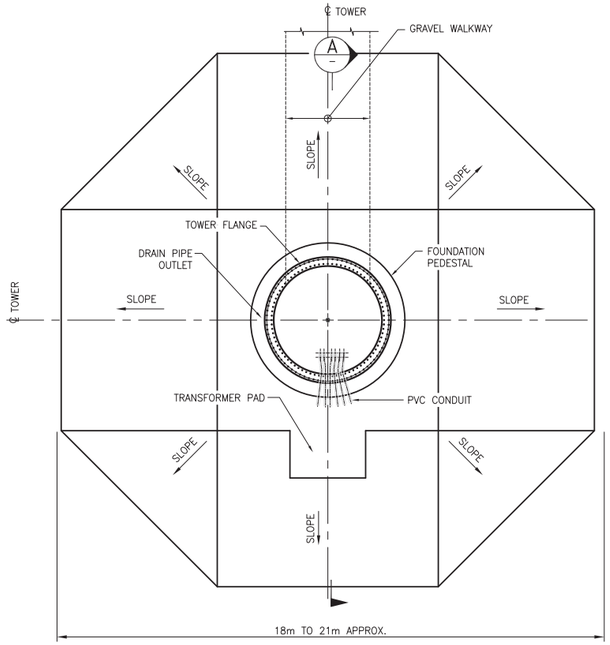
CLIENT DWG. NO.

DRAWING NO. A1-161973-00-121-0905

REV. E

PLOTTED: 08-Nov-12 9:29 AM USER: SHAHBAZIAN, RAZMIK

SAVED: 07-Nov-12 9:46 AM



FOUNDATION – PLAN
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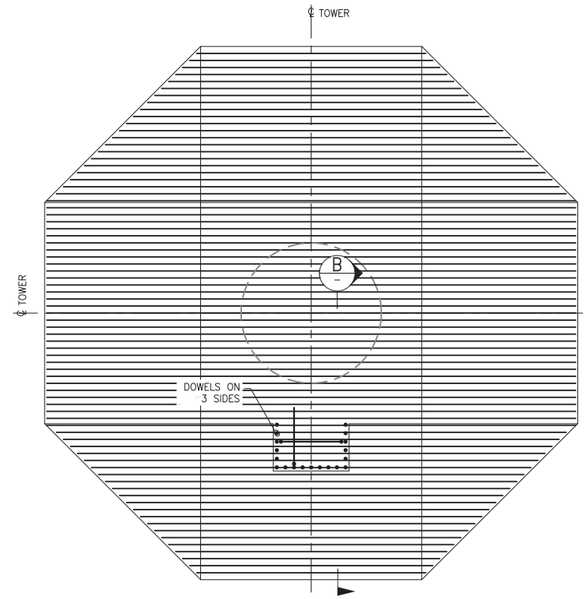

TOP MAT REINFORCING PLAN
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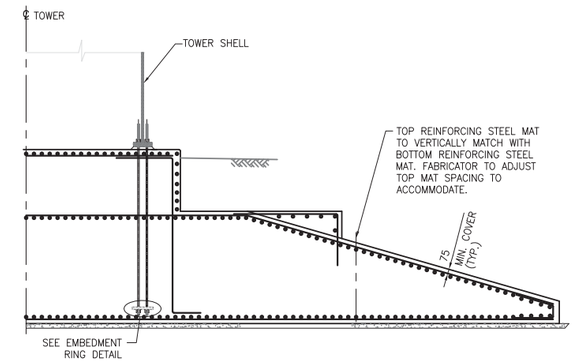

SECTION B
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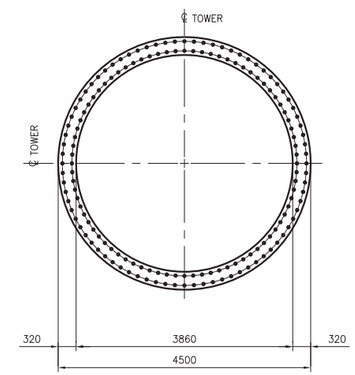
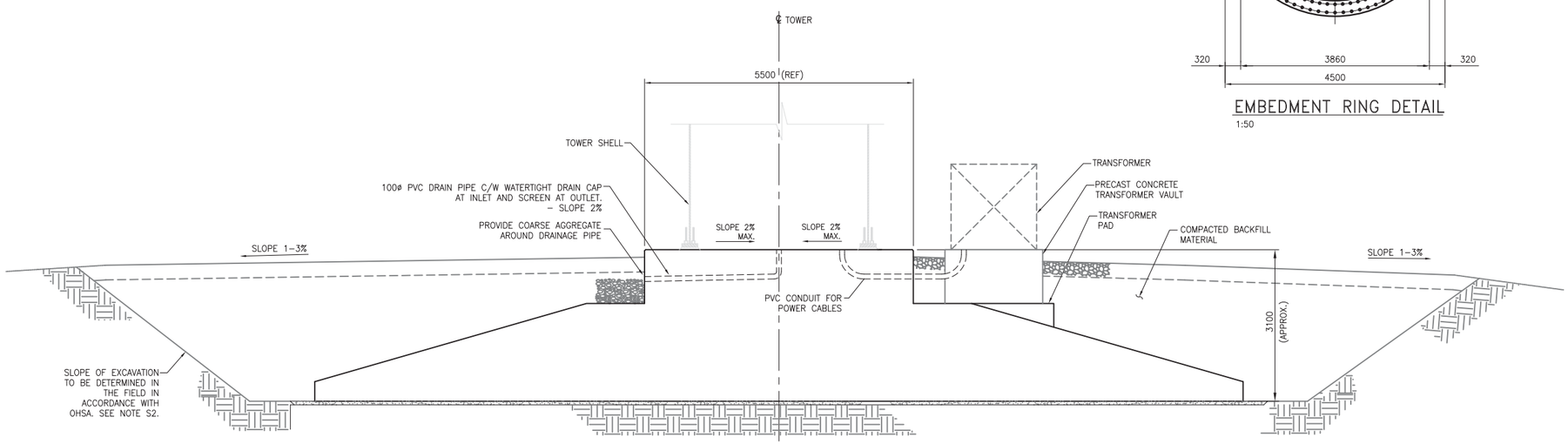


EMBEDMENT RING DETAIL
1:50



SECTION A
1:50

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. INFORMATION AND DIMENSIONS SHOWN ON THIS DRAWING ARE TYPICAL ONLY AND MAY CHANGE DUE TO DURING DETAILED DESIGN PHASE OF THE PROJECT.

REV	DDMMMYY	REVISION / ISSUE DESCRIPTION	DRN	CHK	APP	APP	APP	APP
B	02AUG12	ISSUED FOR INFORMATION	M.HALL	BJN	JHM			
A	27JUL12	ISSUED FOR INFORMATION	M.HALL	BJN	JHM			

REF	NUMBER	TITLE

REFERENCES

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STAMP/SEAL

PRELIMINARY

CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

PROJECT NO. 161973

ACTIVITY NO.

SCALE AS SHOWN

PACKAGE CODE

	BY	DDMMMYY
DSN	BJN	JUL.'12
DRN	M.HALL	JUL.'12
CHK	BJN	JUL.'12
APP	JHM	JUL.'12

K2 WIND ONTARIO LIMITED PARTNERSHIP

AREA 00

K2 WIND POWER PROJECT

SUBJECT

TYPICAL SPREAD FOOTING FOUNDATION FOR SIEMENS 2.3MW WTG PLANS, SECTION & DETAIL

amec

CLIENT DWG. NO.

DRAWING NO. A1–161973–00–121–0153

REV. B

CAD FILE: P:\CAD\CIV\MF\A1–161973–00–121–0153.DWG