



Submission Guidelines

DEWA Digital Portal

Infrastructure Projects Service

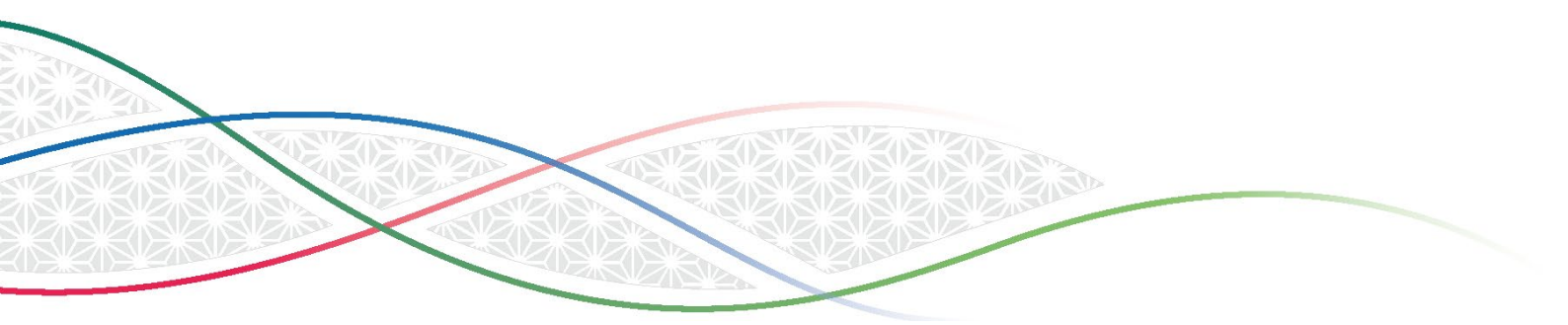




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ABBREVIATIONS

- BOQ = Bill of Quantity for Betterment Works (DEWA Future Ducts in RTA Projects only)
- NOC = No Objection Certificate
- LV = Low Voltage
- HV = High Voltage
- EHV = Extra High Voltage
- FO = Fiber Optic
- ROW = Right of Way
- DEWA = Dubai Electricity & Water Authority
- RTA = Roads & Transport Authority
- TLM = Transmission Line Maintenance
- DM = Distribution Maintenance
- DPP-RP = Distribution Projects Planning– Road Projects
- HDD = Horizontal Directional Drilling
- NDCM = Non-Disruptive Crossing Method
- NDRC = Non-Disruptive Road Crossing
- HDPE= High Density Polyethylene
- SDR = Standard Dimensional Ratio
- PN = Pressure Nominal
- PE = Polyethylene
- DLTM= Dubai Local Transverse Mercator
- WGS = World Geodetic System
- GIS = Geographic Information System
- KGF = Kilogram-Force

INTRODUCTION

Technical Services & Coordination Section has arranged this guideline to provide basic information for the submission of various approval requests related to the Infrastructure Projects Services Unit within R.O.W. for the followings:

- Completion Certificate (Final Clearance)
- As Built Approval
- Material Sample & Specification Approval (HV Cable Diversion & Ducts)
- Estimate for HV Cable Diversion (Within ROW Only)
- Bill of Quantity for DEWA-ED Betterment Ducts (RTA Projects only)
- Electrical Sub Contractor Approval for cable diversion work
- Miscellaneous
- GIS Land Base Update

Infrastructure projects classifications are as follows:

- Road Projects
- Utilities Network Projects
- General Projects
- House Connection



SERVICE OWNER

The custodian of this service is Infrastructure Information & Permits Department – Technical Services & Coordination section.

OFFICE WORKING HOURS

Monday to Thursday: 08:00 AM to 03:00 PM

Friday: 8:00 AM to 11:30 AM

SERVICE SUBMISSION CHANNELS

This document includes contact details for better communication with Technical Service & Coordination Section Staff.

The applications can be submitted online through the following link DEWA Portal:

<https://crm.dewa.gov.ae/irj/portal/anonymous>

The Final Clearance (Completion Certificate) should be submitted through RTA Portal while clicking the following link:

<https://noc.rta.ae/RTAeNOC/WebPages/Common/Login/Login.aspx>



SERVICES LOCATION

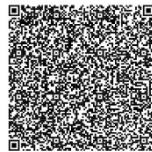
○ DEWA WARSAN COMPLEX LOCATION:

○ Coordinates DLTm:

- E: 510054
- N: 2782340

○ WGS84 – LONGITUDE & LATITUDE

- E: 55° 26' 4"
- N: 25° 8' 48"



○ DEWA AL RUWAYYAH LOCATION:

○ Coordinates DLTm:

- E: 516791
- N: 278336

○ WGS84 – LONGITUDE & LATITUDE

- E: 55°29'59"
- N: 25°09'21"





SERVICES COMMUNICATION

The Customer can communicate with Infrastructure Information & Permits Department to avail the Technical Services at Customer Service Center NOC – Ground Floor at DEWA [Warsan Complex](#) as per the following details:

- General Inquiry: 04-3221614
- E-Mail: iip.tsc@dewa.gov.ae

The customer can request a query through the following link while selecting any of the communication types for all Infrastructure Projects Services:

- SMS
- Email
- Call Back
- Online Meeting

<https://crm.dewa.gov.ae/irj/portal/anonymous/techdiscr>



TECHNICAL SERVICES & COORDINATION'S PRINCIPLES

INFRASTRUCTURE INFORMATION & PERMITS DEPARTMENT highlight the following TECHNICAL SERVICES & COORDINATION principles to customers for their full adherence and strict compliance wherever applicable to facilitate a smooth and fast approval process.

- The sample drawings are indicative, no referral was made against sample drawings.
- Duplicating / copying DEWA's stamp or misuse of the approved DEWA drawings will lead to legal actions as per the applicable laws.
- If the scope of work has changed from the initial submission a new approval should be acquired from the INFRASTRUCTURE INFORMATION & PERMITS DEPARTMENT.
- All the customers should complete DEWA requirements before submission of any application in line to avoid the rejection of the required application.
- All the customers should clear any pending legal issues with DEWA pertaining to law No. 6/2015 prior applying for Final Clearance.

APPLICATION TYPE VS APPLICANT TYPES

S. No.	Client	Consultant	Contractor	Sub-Contractor
1.	-	BOQ (Betterment Work)	-	-
2.	-	Estimate (HV Cable Diversion)	Estimate (HV Cable Diversion)	Estimate (HV Cable Diversion)
3.	-	Electrical Sub Contractor Approval (Cable Diversion Works)	-	-
4.	-	All type of Material Sample & Specification Approval	-	-
5.	-	-	All As Built Approval	As Built Approval HV Cable Diversion
6.	-	-	Completion Certificate (Final Clearance)	-
7.	Miscellaneous	Miscellaneous	Miscellaneous	Miscellaneous
8.	GIS Land Base Update	GIS Land Base Update	GIS Land Base Update	GIS Land Base Update

Note: application will be submitted other than, which is mentioned above will be rejected.

INFRASTRUCTURE PROJECTS CLASSIFICATION



**House
Connections**



General Projects



Network Services



Road Projects

Service Type	Material Sample & Specification Approval (DEWA ED uPVC Ducts)
Service Sub Type	uPVC Pipe Ducts
Project Type	All Projects
Submission Requirements	
1.	Covering letter from consultant mentioned the purpose of requesting the material (Future Ducts (Betterment/ Non-Betterment), Spare, Split & Extension) and voltage level (LV/11KV / 33KV /132KV) Addressing to Senior Manager – Infrastructure Information & Permits (II&P) Department.
2.	Consultant approved Material Submittal Form.
3.	Valid Trade / Industrial Licenses should be attached for supplier & manufacturer.
4.	Relevant & Updated Material Specification must be as per DEWA standards.
5.	<p>The following details of the UPVC pipe duct should be mentioned:</p> <ul style="list-style-type: none"> • Size • Pipe Standard (British standard)- BS3506 • Class = C • Color = Black • Wall thickness of the pipes = (As per dia of Pipe with reference to standard) • Markings should be on both sides = Manufacturer & Contractor should confirm
6.	Full set of DEWA (ED) Shop Drawing NOC along with NOC letter (PDF Format).
7.	Material Sample (If requested by DEWA) should be forwarded to Tendering & Engineering Department / Project Execution Department at DEWA Al Ruwaiyyah Office directly.
8.	If Betterment work was approved as supply & lay, then attach the DEWA BOQ approval for betterment work. (For RTA Projects only)
9.	Clear photographs of material showing the marking of the manufacturer and DEWA's required details.

Service Type		Material Sample & Specification Approval (Warning Tape - ED)			
Service Sub Type		Warning Tape			
Project Type		All Projects			
Submission Requirements					
1.	Covering letter from consultant mentioned the purpose of requesting the material, Addressing to Senior Manager – Infrastructure Information & Permits (II&P) Department. Purposed Works to be clarified in your cover letter: <ul style="list-style-type: none">• Cable Diversion, (Confirm if the cables will be procured by your contractor outside of DEWA according to your project BOQ)• Voltage Level – (LV/ HV/EHV)• Slewing of cable• Lowering of Cable• Damage of Existing Warning Tape• Road Crossing Duct				
2.	Consultant approved Material Submittal Form.				
3.	Relevant & Updated Material Specification must be as per DEWA standards				
4.	The required Specification Warning Tape should state in the Consultant / Contractor submittal form as follows: <ul style="list-style-type: none">• Color• Width• Thickness	Background Color	Width	Thickness	Text
		LV NETWORK			
		Yellow	150mm	100 microns	SAMPLE
		HV NETWORK (6.6KV, 11KV & 33KV)			
		Yellow	150mm	100 microns	SAMPLE
		EHV NETWORK (132KV & 400KV)			
		Power: Red	150mm	100 microns	SAMPLE
	FO / Pilot: Yellow	150mm	100 microns	SAMPLE	
5.	Material Sample if requested by DEWA, it should be forwarded to Tendering & Engineering Department at DEWA Al Ruwaiyyah Office directly.				
6.	Full set of DEWA (ED) construction NOC for proposed work along with NOC letter (PDF Format).				
7.	Full project construction NOC Drawing in DWG/DGN Format.				
8.	Full set of DEWA (ED) Shop Drawing NOC along with NOC letter (PDF Format).				
9.	Clear photographs of material showing the required Text detail as per DEWA’s standard.				

Service Type		Material Sample & Specification Approval (HDPE Pipe Ducts)	
Service Sub Type		HDPE Pipe Ducts	
Project Type		All Projects	
Submission Requirements			
1.	Covering letter from consultant mentioned the purpose of requesting the material, Addressing to Senior Manager – Infrastructure Information & Permits (II&P) Department.		
2.	Consultant approved Material Submittal Form.		
3.	Relevant & Updated Material Specification must be as per DEWA standards.		
4.	The required Specification HDPE which should state in Consultant / Contractor submittal form as follows: <ul style="list-style-type: none">• SDR• PN• PE• Pipe Diameter• Color = Black• wall thickness of the pipes• proposed drilling length	Proposed Length of NDCM	Minimum Required Specification of HDPE
		LV NETWORK	
		Up to 50m	Outer Dia: 160mm, SDR:17, PE-100, PN-10, Wall Thickness:9.5mm
		Above 50m	Outer Dia: 160mm, SDR:13.6, PE-100, PN-12.5, Wall Thickness:11.8mm
		HV NETWORK	
		Up to 50m	Outer Dia: 160mm, SDR:17, PE-100, PN-10, Wall Thickness:9.5mm
		Above 50m	Outer Dia: 180mm, SDR:13.6, PE-100, PN-12.5, Wall Thickness:13.3mm
		EHV NETWORK	
		Up to 50m	Outer Dia: 200mm, SDR:17, PE-100, PN-10, Wall Thickness:11.9mm
		Above 50m	Outer Dia: 200mm, SDR:13.6, PE-100, PN-12.5, Wall Thickness:14.7mm
5.	Material Sample if requested by DEWA, it should be forwarded to Tendering & Engineering Department at DEWA Al Ruwaiyyah Office directly.		
6.	DEWA(ED) approved construction NOC for NDRC/HDD (for HDPE Pipe Material) along with NOC letter (PDF Format) .		
7.	Full project construction NOC Drawing in DWG/DGN Format.		
8.	Full set of DEWA (ED) Shop Drawing NOC along with NOC letter (PDF Format) .		
9.	Clear photographs of material showing marking of manufacturer and DEWA’s required details.		

Service Type		Material Sample & Specification Approval (Draw Chord (Rope))				
Service Sub Type		Draw Chord (Nylon Rope)				
Project Type		All Projects				
Submission Requirements						
1.	Covering letter from consultant mentioned the purpose of requesting the material and Voltage Level – (LV/ HV/EHV), Addressing to Senior Manager – Infrastructure Information & Permits (II&P) Department.					
2.	Consultant approved Material Submittal Form.					
3.	The following detail of Draw Rope should be mentioned: <ul style="list-style-type: none">• Size in dia• Color• Weight• Minimum Breaking strength• Strands: 3 Nos	Color	Min. Breaking Strength (KGF)	Weight (Kg /100 m)	Dia (mm)	Material
		HV & LV NETWORK				
		Yellow	610	1.63	6	Polypropylene
		Yellow	820	2.22	6	Nylon (Polyamide)
		EHV NETWORK (132 KV & 400 KV)				
		Yellow	1020	2.89	8	Polypropylene
	Yellow	1430	3.95	8	Nylon (Polyamide)	
4.	Material Sample if requested by DEWA, it should be forwarded to II&P Department at DEWA Warsan Office directly.					
5.	Full project construction NOC Drawing in DWG/DGN Format (For Non RTA Projects).					
6.	Full set of DEWA (ED) Shop Drawing NOC along with NOC letter (PDF Format).					
7.	Clear photographs of material.					

Service Type		Material Sample & Specification Approval (Protection Tiles - ED)			
Service Sub Type		Cable Protection Cover Tiles			
Project Type		All Projects			
Submission Requirements					
1.	Covering letter from consultant mentioned the purpose of requesting the material, Addressing to Senior Manager – Infrastructure Information & Permits (II&P) Department. Purposed Works to be clarified in your cover letter: <ul style="list-style-type: none">Cable Diversion, (Confirm if the cables will be procured by your contractor outside of DEWA according to your project BOQ)Slewing of cableVoltage Level (11KV, 33KV, 132KV & FO Cable)Lowering of CableDamage of Existing Protection Tiles - ED				
2.	Consultant approved Material Submittal Form.				
3.	Relevant & Updated Material Specification must be as per DEWA standards.				
4.	The required Specification Warning Tape which should state in Consultant / Contractor submittal form as follows: <ul style="list-style-type: none">ColorWidthThickness	Background Color	Thickness	Width	Text
		HV NETWORK 11KV			
		Red	2mm	150mm	SAMPLE
		HV NETWORK 33KV			
		Yellow	2mm	200mm	SAMPLE
5.	Material Sample if requested by DEWA, it should be forwarded to Tendering & Engineering Department at DEWA Al Ruwaiyyah Office directly.				
6.	Full set of DEWA (ED) Shop Drawing NOC along with NOC letter (PDF Format).				
7.	Full project construction NOC Drawing in DWG/DGN Format.				
8.	Clear photographs of material showing the required Text detail as per DEWA’s standard.				

Service Type	Material Sample & Specification Approval (Concrete Ducts Marker)
Service Sub Type	Concrete Duct Marker
Project Type	All Projects
Submission Requirements	
1.	Covering letter from consultant mentioned the purpose of requesting the material, Addressing to Senior Manager – Infrastructure Information & Permits (II&P) Department.
2.	Consultant approved Material Submittal Form.
3.	Valid Trade / Industrial Licenses should be attached for supplier & manufacturer.
4.	Relevant & Updated Material Specification must be as per DEWA standards.
5.	Section view of product drawing as per DEWA standards to be submitted and approved by the project Consultant, Contractor, and Manufacturer.
6.	Material Sample if requested by DEWA, it should be forwarded to II&P Department at DEWA Warsan Office directly.
7.	Full project construction NOC Drawing in DWG/DGN Format. (For Non-RTA Projects only)
8.	Full set of DEWA (ED) Shop Drawing NOC along with NOC letter (PDF Format).
9.	Clear photographs of material sample showing marking of manufacturer and DEWA's required details.

Service Type	Material Sample & Specification Approval (Aluminum Ducts Marker)
Service Sub Type	Aluminum Ducts Marker
Project Type	All Projects
Submission Requirements	
1.	Covering letter from consultant mentioned the purpose of requesting the material, Addressing to Senior Manager – Infrastructure Information & Permits (II&P) Department.
2.	Consultant approved Material Submittal Form.
3.	Valid Trade / Industrial Licenses should be attached for supplier & manufacturer.
4.	Relevant & Updated Material Specification must be as per DEWA standards.
5.	Section view of product drawing as per DEWA standards to be submitted and approved by the project Consultant, Contractor, and Manufacturer.
6.	Material Sample if requested by DEWA, it should be forwarded to II&P Department at DEWA Warsan Office directly.
7.	Full project construction NOC Drawing in DWG/DGN Format. (For Non-RTA Projects only)
8.	Full set of DEWA (ED) Shop Drawing NOC along with NOC letter (PDF Format).
9.	Clear photographs of material sample showing marking of manufacturer and DEWA's required details.

Service Type	Material Sample & Specification Approval (6.6, 11 & 33KV Power, FO & Pilot Cables)
Service Sub Type	<ul style="list-style-type: none"> • Power Cables (6.6KV, 11KV & 33KV) • FO Cables • Pilot Cables
Project Type	All Projects
Submission Requirements	
1.	Covering letter from consultant mentioned the purpose of requesting the material, Addressing to Senior Manager – Infrastructure Information & Permits (II&P) Department.
2.	Consultant approved Material Submittal Form.
3.	Relevant & Updated Material Specification must be as per DEWA standards.
4.	<p>The following detail & Type of Cables (Power, FO & Pilot) should be provided:</p> <ul style="list-style-type: none"> • Technical submittals in DEWA Format Schedule “C” for each 6.6, 11 & 33KV separately • Type Test Reports (not more than 5 years old). • Confirm 24 Months warranty from the date of commissioning for the proposed cable. • Cable Cross Section Detailed drawing. • Estimated Quantity of above item to be utilized for the project.
5.	Full set of DEWA (ED) Shop Drawing NOC along with NOC letter (PDF Format).
6.	Clear photographs of material showing marking of manufacturer and DEWA’s required details.

Service Type	Material Sample & Specification Approval – (6.6, 11 & 33KV Joints Termination Kits)
Service Sub Type	<ul style="list-style-type: none"> • Cable Joint • Cable Termination • Joints & Termination Kits
Project Type	All Projects
Submission Requirements	
1.	Covering letter from consultant mentioned the purpose of requesting the material, Addressing to Senior Manager – Infrastructure Information & Permits (II&P) Department.
2.	Consultant approved Material Submittal Form.
3.	Relevant & Updated Material Specification must be as per DEWA standards.
4.	<p>The following detail & Type of Joint & Termination Kits should be provided:</p> <ul style="list-style-type: none"> • Technical submittals in DEWA Format Schedule “C” for each 6.6, 11 & 33KV separately • Type Test Reports (not more than 5 years old). • Estimated Quantity of the above item to be utilized for the project. • Sample of Joint & Termination will be forwarded to Tendering & Engineering Department at DEWA Al Ruwaiyyah Office directly.
5.	Full set of DEWA (ED) Shop Drawing NOC along with NOC letter (PDF Format).

Service Type	Sub-Contractor Prequalification Approval (HV 6.6, 11 & 33KV Cable Diversion / Slewing works)
Project Type	All Projects
Submission Requirements	
1.	Covering letter mentioned the purpose and scope of work (diversion / slewing, lowering, and raising), and Electrical Voltage of cables (6.6KV, 11KV, 33KV or 132KV) Addressed to Senior Manager – Infrastructure Information & Permits (II&P) Department.
2.	Full project construction NOC Drawing in DWG/DGN Format.
3.	Full set of DEWA Construction NOC (cable Diversion) issued to the project along with NOC letter. (Proposed works to be highlighted on the drawing)
4.	Prequalification documents with the following valid documents: <ul style="list-style-type: none"> • Trade License • Key Personal CVs • Jointers IDs • Previous DEWA's approval if available

Service Type	Estimate for HV Cable Diversion within ROW
Project Type	All Projects
Submission Requirements	
1.	Covering letter Addressed to Senior Manager – Infrastructure Information & Permits (II&P) Department along with confirmation of that: “The Type of cables which have been approved in the shop drawing are accurate and matching with site condition, otherwise DEWA will not be accountable for any mistake”.
2.	DEWA approved Shop Drawing NOC & NOC letter shows the proposed & existing Cable Diversion & Joints details with clear legend.
3.	DEWA approved cross sections showing the existing cables location and proposed diversion / slewing location.
4.	Proposed Work Program for cable diversion work signed & stamped by the Sub Contractor, Contractor & Consultant. (PDF Format)
5.	DEWA Sub-Contractor Approval of diversion work for the project (33KV, 11KV & 6.6KV) . (PDF Format)
6.	DEWA material approval if planned to procure from outside of DEWA. (PDF Format)
7.	For abandoned cables, proposed number, and the locations of spiking along with total length of cables which will be recovered should be shown in cable summary details.
8.	Name, partner number (Customer Number) & account number of the customer on whom name the estimate should be issued.
9.	Trench Detail showing the numbers of cables with length of each trench signed and stamped by Sub Contractor, consultant & contractor. The Total length of trench should be considered including HDD / Duct Crossing etc. (PDF Format)
10.	Cable summary details as per DEWA standards stamped and signed by Sub Contractor, Consultant & Contractor.

Service Type	BOQ Approval (Betterment Work) for RTA Projects Only
Project Type	Road Projects
Submission Requirements	
1.	Covering letter Addressed to Senior Manager – Infrastructure Information & Permits (II&P) Department.
2.	RTA Letter of award of contract.
3.	DEWA approved Final Design & Construction NOCs drawing along with cover letter.
4.	DEWA (ED) Proposed Ducts layout drawing. (AutoCAD 2018 or & lower versions or MicroStation V8i & PDF Format signed and stamped by contractor & consultant)
5.	<p>Submit two following quotations as per DEWA standard:</p> <ul style="list-style-type: none"> Collect & lay BOQ (Only uPVC Duct & End Cap material will be provided by DEWA). Supply & lay BOQ (All material will be procured by the contractor). <p>All above BOQ (Bill of Quantity) quotations for DEWA (ED) betterment works should be signed and stamped by:</p> <ul style="list-style-type: none"> RTA Consultant Contractor
6.	Colored details drawings showing the full route of Electric Corridor (EHV, HV & LV) as per cross sections.
7.	Duct Summary Details for DEWA (ED) proposed Ducts Only as per DEWA format signed and stamped by the contractor & Consultant. (PDF Format)
8.	<p>CSV File should be prepared for the followings as per DEWA standards digital requirements.</p> <ul style="list-style-type: none"> Distribution Ducts CSV File (LV & HV) Transmission Ducts CSV File (EHV) Cross Sections CSV File
9.	RTA Approved Cross Section along with cross section marker layout.
10.	Full Project Layout showing all proposed ducts in PDF with high resolution in one sheet.
11.	Work program for collection of material (ducts) should be signed and stamped by the contractor and consultant.

Service Type	As Built Approval for HV (6.6, 11 & 33KV Cables) Diversion & Slewing
Service Sub Type	HV (6.6, 11 & 33KV Cables) Diversion & Slewing
Project Type	All Projects
Submission Requirements	
1.	Covering letter from consultant mentioned the purpose of requesting the material, Addressing to Senior Manager – Infrastructure Information & Permits (II&P) Department.
2.	Copy of DEWA's Approved Estimate issued. (Ensure one application for each issued estimate should be submitted)
3.	Full set of DEWA(ED) approved Shop Drawing NOC Cable Diversions along with NOC letter (PDF Format).
4.	As Built ROW Cross Sections showing the new diverted locations of cables and approved by Project Consultant & Contractor.
5.	A Set of As Built drawings (PDF) approved by consultant, showing diverted cable (with type & size) joint details. (Circuit wise cable shut down with all respective job orders for the full project)
6.	As Built drawing in Micro station or AutoCAD.
7.	Copy of vouchers for cancelled exposed cables returned to DEWA store.
8.	Shut down summary sheet for respective job orders within the project.
9.	Material Reconciliation Statement (MRS) for all respective job order with consultant approval.
10.	Copy of DEWA Sub Contractor approval .

Service Type		As Built Approval – (Partial As Built for DEWA-ED Completed Work) for ongoing projects only	
Project Type		Road Projects	
Submission Requirements			
1.	Covering letter Addressed to Senior Manager – Infrastructure Information & Permits (II&P) Department.		
2.	Full set of All DEWA(ED) approved Shop Drawing NOC ED -Ducts / Cable Diversions along with NOC letter (PDF Format)		
3.	Full set of All DEWA (ED & WD) construction NOC along with NOC letter (PDF Format)		
4.	Full set of DEWA stamped construction NOC's cross section & Marker layout. (PDF Format)		
5.	Full set of DEWA (ED) Shop Drawing NOC along with NOC letter (PDF Format) .		
6.	As Built & Construction Key plan showing the partial selected project area with the DLTM coordinates of the limit of contract.		
7.	The duct arrangement (cross section) As Built details of all types of installed ducts.		
8.	As Built Drawings (DWG/DGN & PDF (Readable/High Resolution) of DEWA (ED) showing completed Future, Spare, Split & Extension of the existing ducts in different color with duct details as per DEWA standards.		
9.	Transmission Line Patrolling (TLP-TLM) Staff verification should be done for all existing 132KV/400KV Networks. (Verification should not exceed 6 months old)		
10.	As Built Cross Sections should be approved as follows whatever is applicable for:		
	RTA Projects	As Built cross sections clearly showing DEWA reservation and type of construction on top of DEWA corridor according to the site condition and approved by RTA. AutoCAD 2018 or & lower versions or MicroStation V8i & PDF Format	
	Developer/ Authorities Projects	As Built cross sections clearly showing DEWA reservation and type of construction on top of DEWA corridor according to the site condition and approved by the Consultant and contractor. AutoCAD 2018 or & lower versions or MicroStation V8i & PDF Format	
11.	As Built Duct summary details for DEWA (ED) Betterment Work (For RTA Project only) only as per DEWA standards format signed and stamped by project consultant and contractor. (PDF Format)		
12.	DEWA Approval letter of material if procured from outside.		
13.	Copy of DEWA-ED Approved BOQ for Betterment Work. (Applicable to RTA Projects only)		

14.	Duct & Duct Marker inspection record signed by DEWA (ED) representative for the future proposed, spare, split and extension Ducts.
15.	<p>GIS CSV files should be as per DEWA digital submission standard as follows:</p> <ul style="list-style-type: none"> • Distribution Ducts CSV File (LV & HV) • Transmission Ducts CSV File (EHV) • As Built Cross Sections CSV File

Service Type		As Built Approval – (Partial As Built for DEWA-ED Completed Work) for ongoing projects only)
Project Type		Network Projects
Submission Requirements		
1.	Covering letter Addressed to Senior Manager – Infrastructure Information & Permits (II&P) Department.	
2.	Full set of All DEWA(ED) approved Shop Drawing NOC ED -Ducts / Cable Diversions along with NOC letter (PDF Format)	
3.	Full set of All DEWA (ED & WD) construction NOC along with NOC letter (PDF Format)	
4.	Full set of DEWA stamped construction NOC's cross section & Marker layout. (PDF Format)	
5.	Full set of DEWA (ED) Shop Drawing NOC along with NOC letter (PDF Format) .	
6.	As Built & Construction Key plan showing the partial selected project area with the DLTM coordinates of the limit of contract.	
7.	The duct arrangement (cross section) As Built details of all types of installed ducts.	
8.	As Built Drawings (DWG/DGN & PDF (Readable/High Resolution)- of DEWA (ED) showing completed Future, Spare, Split & Extension of the existing ducts in different color with duct details as per DEWA standards.	
9.	Transmission Line Patrolling (TLP-TLM) Staff verification should be done for all existing 132KV/400KV Networks. (Verification should not exceed 6 months old)	
10.	As Built Cross Sections should be approved as follows whatever is applicable for:	
	RTA Projects	As Built cross sections clearly showing DEWA reservation and type of construction on top of DEWA corridor according to the site condition and approved by RTA. AutoCAD 2018 or & lower versions or MicroStation V8i & PDF Format
	Developer/ Authorities Projects	As Built cross sections clearly showing DEWA reservation and type of construction on top of DEWA corridor according to the site condition and approved by the Consultant and contractor. AutoCAD 2018 or & lower versions or MicroStation V8i & PDF Format
	DEWA Projects	As Built cross sections clearly showing DEWA reservation and type of construction on top of DEWA corridor according to the site condition and approved by the client. AutoCAD 2018 or & lower versions or MicroStation V8i & PDF Format
11.	As Built Duct summary details for DEWA (ED) as per DEWA standards format signed and stamped by project consultant and contractor. (PDF Format)	

12.	Duct & Duct Marker inspection record signed by DEWA (ED) representative for the future proposed, spare, split and extension Ducts.
13.	DEWA Approval letter of material if procured from outside.
14.	<p>GIS CSV files should be as per DEWA digital submission standard as follows:</p> <ul style="list-style-type: none"> • Distribution Ducts CSV File (LV & HV) • Transmission Ducts CSV File (EHV) • As Built Cross Sections CSV File

Service Type	As Built Approval – (Partial As Built for DEWA-ED Completed Work) for ongoing projects only)	
Project Type	General Projects	
Submission Requirements		
1.	Covering letter Addressed to Senior Manager – Infrastructure Information & Permits (II&P) Department.	
2.	Full set of All DEWA(ED) approved Shop Drawing NOC ED -Ducts / Cable Diversions along with NOC letter (PDF Format)	
3.	Full set of All DEWA (ED & WD) construction NOC along with NOC letter (PDF Format)	
4.	Full set of DEWA stamped construction NOC's cross section & Marker layout. (PDF Format)	
5.	Full set of DEWA (ED) Shop Drawing NOC along with NOC letter (PDF Format) .	
6.	As Built & Construction Key plan showing partial selected project area with the DLTM coordinates of the limit of contract.	
7.	The duct arrangement (cross section) As Built details of all types of installed ducts.	
8.	As Built Drawings (DWG/DGN & PDF (Readable/High Resolution) of DEWA (ED) showing completed Future, Spare, Split & Extension of the existing ducts in different color with duct details as per DEWA standards.	
9.	Transmission Line Patrolling (TLP-TLM) Staff verification should be done for all existing 132KV/400KV Networks. (Verification should not exceed 6 months old)	
10.	As Built Cross Sections should be approved as follows whatever is applicable for:	
	RTA Projects	As Built cross sections clearly showing DEWA reservation and type of construction on top of DEWA corridor according to the site condition and approved by RTA. AutoCAD 2018 or & lower versions or MicroStation V8i & PDF Format
	Developer/ Authorities Projects	As Built cross sections clearly showing DEWA reservation and type of construction on top of DEWA corridor according to the site condition and approved by the Consultant and contractor. AutoCAD 2018 or & lower versions or MicroStation V8i & PDF Format
11.	As Built Duct summary details for DEWA (ED) as per DEWA standards format signed and stamped by project consultant and contractor. (PDF Format)	
12.	Duct & Duct Marker inspection record signed by DEWA (ED) representative for the future proposed, spare, split and extension Ducts.	
13.	DEWA Approval letter of material if procured from outside.	
14.	GIS CSV files should be as per DEWA digital submission standard as follows:	

	<ul style="list-style-type: none">• Distribution Ducts CSV File (LV & HV)• Transmission Ducts CSV File (EHV)• As Built Cross Sections CSV File
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Service Type		As Built Approval for Full Project (Without Water Checklist)	
Project Type		All Projects	
Submission Requirements			
1.	Covering letter Addressed to Senior Manager – Infrastructure Information & Permits (II&P) Department.		
2.	Full set of All DEWA(ED) approved Shop Drawing NOC ED -Ducts / Cable Diversions along with NOC letter (PDF Format)		
3.	Full set of All DEWA (ED & WD) construction NOC along with NOC letter (PDF Format)		
4.	Full set of DEWA stamped construction NOC's cross section & Marker layout. (PDF Format)		
5.	Full set of DEWA (ED) Shop Drawing NOC along with NOC letter (PDF Format) .		
6.	Copy of DEWA (ED) approved As Built drawings for cable diversion . (PDF Format if available)		
7.	As Built & Construction Key plan showing the full project area with the DLTM coordinates of the limit of contract.		
8.	The duct arrangement (cross section) As Built details of all types of installed ducts.		
9.	As Built Drawings (DWG/DGN & PDF (Readable/High Resolution) of DEWA (ED) showing completed Future, Spare, Split & Extension of the existing ducts in different color with duct details as per DEWA standards.		
10.	Transmission Line Patrolling (TLP-TLM) Staff verification should be done for all existing 132KV/400KV Networks. (Verification should not exceed 6 months old)		
11.	As Built Cross Sections should be approved as follows whatever is applicable for:		
	RTA Projects	As Built cross sections clearly showing DEWA reservation and type of construction on top of DEWA corridor according to the site condition and approved by RTA. (AutoCAD 2018 or & lower versions or MicroStation V8i & PDF Format)	
	Developer/ Authorities Projects	As Built cross sections clearly showing DEWA reservation and type of construction on top of DEWA corridor according to the site condition and approved by the Consultant and contractor. (AutoCAD 2018 or & lower versions or MicroStation V8i & PDF Format)	
	DEWA Projects	As Built cross sections clearly showing DEWA reservation and type of construction on top of DEWA corridor according to the site condition and approved by the client. (AutoCAD 2018 or & lower versions or MicroStation V8i & PDF Format)	
12.	Material Reconciliation Statement (MRS) as per DEWA standards format for cable & Betterment ducts (PDF Format) along with the following documents: <ul style="list-style-type: none">DEWA store issued voucher/store return .		

	<ul style="list-style-type: none"> Material transfer note.
13.	Final Duct summary details for DEWA (ED) Betterment Work only as per DEWA standards format signed and stamped by project consultant and contractor. (PDF Format)
14.	DEWA Approval letter of material if procured from outside.
15.	ROW & Road Survey Demarcation Report – Service Check Certificate by Dubai Municipality
16.	Copy of cables Invoices for Material procured outside DEWA. (RTA Project Only)
17.	Copy of DEWA-ED Approved BOQ for Betterment Work. (Applicable to RTA Projects only)
18.	Final actual Cost BOQ for DEWA (ED) betterment work acknowledged by RTA as per DEWA standards. (Applicable to RTA Projects only)
19.	Duct & Duct Marker inspection record signed by DEWA (ED) representative for the future proposed, spare, split and extension Ducts.
20.	<p>GIS CSV files should be as per DEWA digital submission standard as follows:</p> <ul style="list-style-type: none"> Distribution Ducts CSV File (LV & HV) Transmission Ducts CSV File (EHV) As Built Cross Sections CSV File

Service Type		Completion Certificate for Road Projects (FINAL CLEARANCE)
Project Type		Road Projects
Submission Requirements		
1.	Covering letter Addressed to Senior Manager – Infrastructure Information & Permits (II&P) Department.	
2.	As Built & Construction NOC Key plan showing the full project area with the DLTM coordinates of the limit of contract.	
3.	Full set of All DEWA(ED) approved Shop Drawing NOC ED -Ducts / Cable Diversions along with NOC letter (PDF Format)	
4.	Full set of all DEWA (ED & WD) construction NOC along with NOC letter (PDF Format)	
5.	Full set of DEWA stamped construction NOC's cross section & Marker layout. (PDF Format)	
6.	Copy of DEWA (ED) approved As Built drawings for cable diversion . (PDF Format)	
7.	In case cables not procured from DEWA for cable diversion work, manufacturer's invoice of procured cable. (RTA Projects only)	
8.	Copy of DEWA Approved As Built Drawings (if available). (PDF Format)	
9.	The duct arrangement (cross section) As Built details of all types of installed ducts.	
10.	As Built Drawings (DWG/DGN & PDF (Readable/High Resolution)) of DEWA (ED) showing completed Future, Spare, Split & Extension of the existing ducts in different color with duct details as per DEWA standards.	
11.	Transmission Line Patrolling (TLP-TLM) Staff verification should be done for all existing 132KV/400KV Networks. (Verification should not exceed 6 months old)	
12.	As Built Cross Sections should be approved as follows whatever is applicable for:	
	RTA Projects	As Built cross sections clearly showing DEWA reservation and type of construction on top of DEWA corridor according to the site condition and approved by RTA. (AutoCAD 2018 or & lower versions or MicroStation V8i & PDF Format)
	Developer/ Authorities Projects	As Built cross sections clearly showing DEWA reservation and type of construction on top of DEWA corridor according to the site condition and approved by the Consultant and contractor. (AutoCAD 2018 or & lower versions or MicroStation V8i & PDF Format)
13.	Material Reconciliation Statement (MRS) as per DEWA standards format for cable & Betterment ducts (PDF Format) along with the following documents: <ul style="list-style-type: none"> DEWA store issued voucher/store return if any. 	

	<ul style="list-style-type: none"> • Material transfer note if any.
14.	Final Duct summary details for DEWA (ED) - RTA Projects only as per DEWA standards format signed and stamped by project consultant and contractor. (PDF Format) <ul style="list-style-type: none"> • Betterment Work • Spare & Extension of existing ducts
15.	Final Duct summary details for DEWA (ED) Future, Spare, and Extension of existing ducts (NON RTA) as per DEWA standards format signed and stamped by project consultant and contractor. (PDF Format)
16.	DEWA Approval letter of all materials if procured from outside.
17.	ROW & Road Survey Demarcation Report – Service Check Certificate by Dubai Municipality / Concerned authorities.
18.	Copy of DEWA-ED Approved BOQ for Betterment Work. (RTA Projects only)
19.	Final actual Cost BOQ for DEWA (ED) betterment work acknowledged by RTA as per DEWA standards . (Applicable to RTA Projects only)
20.	Duct & Duct Marker inspection record signed by DEWA (ED) representative for the future proposed, spare and extension Ducts.
21.	GIS CSV files should be as per DEWA digital submission standard as follows: <ul style="list-style-type: none"> • Distribution Ducts CSV File (LV & HV) • Transmission Ducts CSV File (EHV) • As Built Cross Sections CSV File
22.	DEWA approved full as built drawings including cross section for water network (i.e. Diversion, New Pipe Laying etc.) along with CAD/DGN Files. (If Applicable)
23.	DEWA Water Checklists from DEWA Water Transmission & Distribution departments . As per the following scenarios: <ul style="list-style-type: none"> • If no water works, then self-declaration is enough for both water checklists (Distribution & Transmission) and should be signed by the Contractor and Consultant (In case no consultant the client should sign). • If there is water works, then provide all the required documents separately for Distribution & Transmission in one zip file along with the signed (Contractor & Consultant) checklists.

Service Type		Completion Certificate for General Projects (FINAL CLEARANCE)
Project Type		General Projects
Submission Requirements		
1.	Covering letter Addressed to Senior Manager – Infrastructure Information & Permits (II&P) Department.	
2.	Full set of All DEWA(ED) approved shop drawing NOC for ED -Ducts / Cable Diversions along with NOC letter. (PDF Format)	
3.	Full set of All DEWA (ED & WD) construction NOC along with NOC letter. (PDF Format)	
4.	Full set of DEWA stamped construction NOC's cross section & Marker layout. (PDF Format)	
5.	Copy of DEWA (ED) approved As Built drawings for cable diversion . (PDF Format)	
6.	As Built & Construction Key plan showing the full project area with the DLTm coordinates of the limit of contract.	
7.	The duct arrangement (cross section) As Built details of all types of installed ducts.	
8.	As Built Drawings (DWG/DGN & PDF (Readable/High Resolution) of DEWA (ED) showing completed Spare, Split & Extension of the existing ducts in different color with duct details as per DEWA standards.	
9.	Transmission Line Patrolling (TLP-TLM) Staff verification should be done for all existing 132KV/400KV Networks. (Verification should not exceed 6 months old)	
10.	As Built Cross Sections should be approved as follows whatever is applicable for:	
	Developer/ Authorities Projects	As Built cross sections clearly showing DEWA reservation and type of construction on top of DEWA corridor according to the site condition and approved by the Consultant and contractor. (AutoCAD 2018 or & lower versions or MicroStation V8i & PDF Format)
11.	Material Reconciliation Statement (MRS) as per DEWA standards format for cable diversion (PDF Format) along with the following documents: <ul style="list-style-type: none"> • DEWA store issued voucher/store return if any. • Material transfer note if any. 	
12.	DEWA Approval letter of material if procured from outside.	
13.	Duct & Duct Marker inspection record signed by DEWA (ED) representative for the spare and extension Ducts.	
14.	GIS CSV files should be as per DEWA digital submission standard as follows:	

	<ul style="list-style-type: none"> • Distribution Ducts CSV File (LV & HV) • Transmission Ducts CSV File (EHV) • As Built Cross Sections CSV File
15.	DEWA approved full as built drawings including cross section for water network (i.e. Diversion, New Pipe Laying etc.) along with CAD/DGN Files. (If Applicable)
16	<p>DEWA Water Checklists from DEWA Water Transmission & Distribution departments. As per the following scenarios:</p> <ul style="list-style-type: none"> • If no water works, then self-declaration is enough for both water checklists (Distribution & Transmission) and should be signed by the Contractor and Consultant (In case no consultant the client should sign). • If there is water works, then provide all the required documents separately for Distribution & Transmission in one zip file along with the signed (Contractor & Consultant) checklists.

Service Type		Completion Certificate for Network Projects (FINAL CLEARANCE)	
Project Type		Network Projects	
Submission Requirements			
1.	Covering letter Addressed to Senior Manager – Infrastructure Information & Permits (II&P) Department.		
2.	Full set of All DEWA(ED) approved shop drawing NOC for ED -Ducts / Cable Diversions along with NOC letter if applicable. (PDF Format)		
3.	Full set of All DEWA (ED & WD) construction NOC along with NOC letter. (PDF Format)		
4.	Full set of DEWA stamped construction NOC's cross section & Marker layout. (PDF Format)		
5.	Copy of DEWA (ED) approved As Built drawings in PDF format for the following: <ul style="list-style-type: none">Newly Laid Cable (CAR Project)HV Cable Diversion (If applicable)		
6.	As Built key plan showing the full project area with the DLTM coordinates of the limit of contract.		
7.	AS Built profile for cable as laid.		
8.	The duct arrangement (cross section) As Built details of all types of installed ducts if applicable.		
9.	As Built Drawings (DWG/DGN & PDF (Readable/High Resolution) - of DEWA (ED) showing completed Spare, Split & Extension of the existing ducts in different color with duct details as per DEWA standards if applicable.		
10.	Transmission Line Patrolling (TLP-TLM) Staff verification should be done for all existing 132KV/400KV Networks. (Verification should not exceed 6 months old)		
11.	As Built Cross Sections should be approved as follows whatever is applicable for:		
	DEWA Projects	As Built cross sections clearly showing DEWA reservation and type of construction on top of DEWA corridor according to the site condition and approved by the client.	
	Developer/ Authorities Projects	As Built cross sections clearly showing DEWA reservation and type of construction on top of DEWA corridor according to the site condition and approved by the Consultant and contractor.	
12.	Material Reconciliation Statement (MRS) (if applicable) as per DEWA standards format for cable (PDF Format) along with the following documents: <ul style="list-style-type: none">DEWA store issued voucher/store return.Material transfer note.		
13.	DEWA Approval letter of material if procured from outside for HV Cable diversions if applicable.		
14.	Duct & Duct Marker inspection record signed by DEWA (ED.) representative for spare, split and extension Ducts (if applicable).		

15.	<p>GIS CSV files should be as per DEWA digital submission standard as follows if applicable:</p> <ul style="list-style-type: none"> • Distribution Ducts CSV File (LV & HV) • Transmission Ducts CSV File (EHV) • As Built Cross Sections CSV File
16.	ROW & Road Survey Demarcation Report – Service Check Certificate by Dubai Municipality
17.	DEWA approved full as built drawings including cross section for water network (i.e. Diversion, New Pipe Laying etc.) along with CAD/DGN Files. (If Applicable)
18.	<p>DEWA Water Checklists from DEWA Water Transmission & Distribution departments. As per the following scenarios:</p> <ul style="list-style-type: none"> • If no water works, then self-declaration is enough for both water checklists (Distribution & Transmission) and should be signed by the Contractor and Consultant (In case no consultant the client should sign). • If there is water works, then provide all the required documents separately for Distribution & Transmission in one zip file along with the signed (Contractor & Consultant) checklists.

Service Type	Completion Certificate for House Connections (FINAL CLEARANCE)
Project Type	House Connections (DEWA- Electricity)
Submission Requirements	
1.	Full set of All DEWA (ED & WD) construction NOC along with NOC letter (PDF Format)
2.	As Built & Construction Key plan showing the full project area with the DLTm coordinates of the limit of contract.
3.	DEWA's Distribution Maintenance Department verification.
4.	Letter of Completion for Civil Reinstatement Work from Distribution Projects Execution.
5.	DEWA approved As Built Drawings PDF (Readable/High Resolution) showing completed work along with the depth & offset of laid cable.
6.	<p>DEWA Water Checklists from DEWA Water Transmission & Distribution departments. As per the following scenarios:</p> <ul style="list-style-type: none"> • If no water works, then self-declaration is enough for both water checklists (Distribution & Transmission) and should be signed by the Contractor and Consultant (In case no consultant the client should sign). • If there is water works, then provide all the required documents separately for Distribution & Transmission in one zip file along with the signed (Contractor & Consultant) checklists.

Service Type	Completion Certificate for House Connections (FINAL CLEARANCE)
Project Type	House Connections (DEWA- Water)
Submission Requirements	
1.	Full set of All DEWA (ED & WD) construction NOC along with NOC letter (PDF Format)
2.	As Built & Construction Key plan showing the full project area with the DLTM coordinates of the limit of contract.
7.	DEWA's Distribution Maintenance Department verification.
3.	DEWA approved As Built Drawings PDF (Readable/High Resolution) showing completed work.

Service Type	Completion Certificate for House Connections (FINAL CLEARANCE)
Project Type	House Connections (Irrigation / Sewerage / Storm Water/ Telecommunication / Gas (Fuel) / District Cooling / Fire Fighting)
Submission Requirements	
1.	Full set of All DEWA (ED & WD) construction NOC along with NOC letter & cross section (PDF Format)
2.	As Built & Construction Key plan showing the full project area with the DLTM coordinates of the limit of contract.
3.	Client approved As Built Drawings PDF (Readable/High Resolution) showing completed work.
4.	Concerned Authority approved As Built Cross Sections showing the location of related laid service.
5.	<p>DEWA Water Checklists from DEWA Water Transmission & Distribution departments. As per the following scenarios:</p> <ul style="list-style-type: none"> • If no water works, then self-declaration is enough for both water checklists (Distribution & Transmission) and should be signed by the Contractor and Consultant (In case no consultant the client should sign). • If there is water works, then provide all the required documents separately for Distribution & Transmission in one zip file along with the signed (Contractor & Consultant) checklists.

Service Type	GIS Land base update (Developer & Freehold Authorities Plots only)
Project Type	All Projects
Submission Requirements	
1.	Covering letter Addressed to Senior Manager – Infrastructure Information & Permits (II&P) Department.
2.	Approved Site plan or Affection plan in PDF format.
3.	<p>Land base (Parcels) files should be as follows:</p> <ul style="list-style-type: none"> • All submitted files should be in DWG/DXF/DGN/SHP/GDB formats only. • Coordinate system should be DLTM (Dubai Local Transverse Mercator) projection only. • Parcel layer free from topological errors. • All the submitted drawings should be free from any kind of external references link. • All submitted files should be in AutoCAD 2018 & or lower versions or MicroStation V8i/GDB format only.

DIGITAL DATA SUBMISSION REQUIREMENTS FOR DEWA ED DUCTS (CSV FILE)

Geospatial Data Submission File Format details

The format of the GDS file can be either AutoCAD 2018 or & below versions (DWG) or MicroStation V8i (DGN). DEWA will agree both formats for data exchange from Customer.

The GDS file defines the following:

- What coordinate system to be used in drawing preparation?
- How is map features organized into layers?
- How are those layers named?
- What existing features and layers in DEWA's GIS are symbolized?

Once the customers started to submit the drawings in the above specified manner then DEWA's IIPD GIS team and Connection Services GIS team can update database in DEWA GIS.

Important Note:

Drawing files submitted by the customers should strictly follow this guideline requirements such as "Level Name" "Symbolology" "Coordinate system" etc....., that are mentioned in the Layers Data field definition (Ref 1.2) for example if the customer submit drawing with proper Level name, then the GDS System will recognize the Level therefore the data will be considered by the system. In case the customer submitting the drawings with improper Level Name not matching as specified Layers Data field definition then GDS System will not consider as data.

Most importantly, the drawing file submitted by the customer must not contain the following.

- Title block
- Border line
- Notes in the drawing

The following guidelines should be considered while preparing GIS Road Network Layers and CSV for As Built Duct/utility cross-section marker submissions. The File name should start with Project Name along with file details. For example, DubaiExpo2020_Crosssection.csv, DubaiExpo2020_Dist_duct.csv, DubaiExpo2020_roadlayout.dgn, DubaiExpo2020roadlayout.dwg, DubaiExpo2020_Trans_duct.csv. (Ref. Appendix 1)

Layers, Data Field, and Definitions

ROAD NETWORK LAYERS			
S.No.	Layer_Name	Description	Geometry Type and Color Code
1	Road Width	The width allocated to lanes for motorists, buses, trucks, bikes, and this is also called carriage way-RGB (0,0,255)	Polyline and Point (RGB: 0:0:255)
2	Round about	Non-pedestrian islands in the road surface, that normally contains grass, trees, flowers or other plantations.	Polyline and Point (RGB: 255:102:102)
4	Road Divider	The area that separates opposing lanes of traffic on divided roadways. Also called central reservation.	Polyline and Point(RGB: 255:0:255)
5	Right-of-way	Right-of-Way is the land on which a roadway and its associated facilities and appurtenances are located. Highway right-of-way accommodates the entire roadway (i.e., travel lanes and shoulders), as well as adjacent sidewalks and the roadside corridors on which utilities are located	Polyline (RGB: 0:255:0)
6	Pavements	A path consisting of a paved area on the side of a road for Pedestrians, also called a sidewalk.	Polyline and Point (RGB: 204:0:0)
7	Parking Lots	Should Represent vehicles Parking lot boundaries.	Polyline and Point (RGB: 0:255:0)
8	Crosssection	The simple line should be captured across the road which covers all road utilities allocations and road associated features (make sure the crosssection marker should not extend beyond the ROW).The crosssection ID should be provided in Text format, which should match with section id in detailed section view PDF file. Alternatively, CSV file should have both start and end coordinates with DEWA specified attributes. The start coordinate (X1 Y1) should be Southern/bottom point of the ROW and end coordinate (X2 Y2) should be Northern/Top side of the ROW when crosssection facing eastern direction.In other way around, The start coordinate (X1 Y1) should be Northern/Top point of the ROW and end coordinate (X2 Y2) should be Southern/Bottom side of the ROW when crosssection facing western direction	Line, Text and CSV(RGB: 255:255:255)
9	Parcels	The boundary and ID of the parcel should match with Authorities (DM, DSO and so on.)	Polyline and Text (RGB:51:0:0)
10	Conduit132KV	Should represent simple line	Line and CSV(RGB:255:170:0)
11	Conduit11KV_33KV	Should represent simple line	Line and CSV(RGB:76:230:0)

12	ConduitLV	Should represent simple line	Line and CSV(RGB:244:179:252)
13	Duct_No and No.of Ways	This Duct ID should match with DEWA CSV file RefNo Column	Text(RGB:204:204:0)
14	UG_400KV	Should represent simple line	Polyline(RGB:0:0:255)
15	SecUG_400V	Should represent simple line	Polyline(RGB:255:0:197)
16	UG_6_6KV	Should represent simple line	Polyline(RGB:230:0:0)
17	UG_11KV	Should represent simple line	Polyline(RGB:76:230:0)
18	UG_132KV	Should represent simple line	Polyline(RGB:255:170:0)
19	UG_33KV	Should represent simple line	Polyline(RGB:0:77:168)
20	OH_400KV	Should represent simple line	Polyline(RGB:0:92:230)
21	WD_450MM	Should represent simple line	Polyline (RGB:230:0:0)
22	WD_300MM	Should represent simple line	Polyline(RGB:255:0:197)
23	WD_225MM	Should represent simple line	Polyline (RGB:0:92:230)
24	WD_150MM	Should represent simple line	Polyline (RGB:38:115:0)
25	WD_100MM	Should represent simple line	Polyline (RGB:115:0:0)
26	WT_1400MM	Should represent simple line	Polyline(RGB:56:160:200)
27	WT_1200MM	Should represent simple line	Polyline(RGB:169:0:230)
28	WT_900MM	Should represent simple line	Polyline(RGB:197:0:255)
29	WT_600MM	Should represent simple line	Polyline (RGB:255:0:0)
30	WT_550MM	Should represent simple line	Polyline (RGB:255:0:0)
31	Lateral32MM	Should represent simple line	Polyline(RGB:169:0:230)
32	OH_400KVAbandoned	Should represent crossed simple line	Polyline(RGB:0:92:230)
33	SecUG_400VAbandoned	Should represent crossed simple line	Polyline(RGB:255:0:197)
34	UG_6_6KVAbandoned	Should represent crossed simple line	Polyline(RGB:230:0:0)
35	UG_11KVAbandoned	Should represent crossed simple line	Polyline(RGB:76:230:0)
36	UG_33KVAbandoned	Should represent crossed simple line	Polyline(RGB:0:77:168)
37	UG_132KVAbandoned	Should represent crossed simple line	Polyline(RGB:255:170:0)
38	UG_400KVAbandoned	Should represent crossed simple line	Polyline(RGB:0:0:255)
39	Lateral32MMAbandoned	Should represent crossed simple line	Polyline(RGB:169:0:230)
40	WD_100MMAbandoned	Should represent crossed simple line	Polyline (RGB:115:0:0)
41	WD_150MMAbandoned	Should represent crossed simple line	Polyline (RGB:38:115:0)
42	WD_225MMAbandoned	Should represent crossed simple line	Polyline (RGB:0:92:230)
43	WD_300MMAbandoned	Should represent crossed simple line	Polyline(RGB:255:0:197)
44	WD_450MMAbandoned	Should represent crossed simple line	Polyline (RGB:230:0:0)
45	WT_550MMAbandoned	Should represent crossed simple line	Polyline (RGB:255:0:0)
46	WT_600MMAbandoned	Should represent crossed simple line	Polyline (RGB:255:0:0)
47	WT_900MMAbandoned	Should represent crossed simple line	Polyline(RGB:197:0:255)
48	WT_1200MMAbandoned	Should represent crossed simple line	Polyline(RGB:169:0:230)
49	WT_1400MMAbandoned	Should represent crossed simple line	Polyline(RGB:56:160:200)
50	OH_400KVPlanned	Should represent simple line	Polyline(RGB:0:92:230)
51	SecUG_400VPlanned	Should represent Dashed simple line	Polyline(RGB:255:0:197)

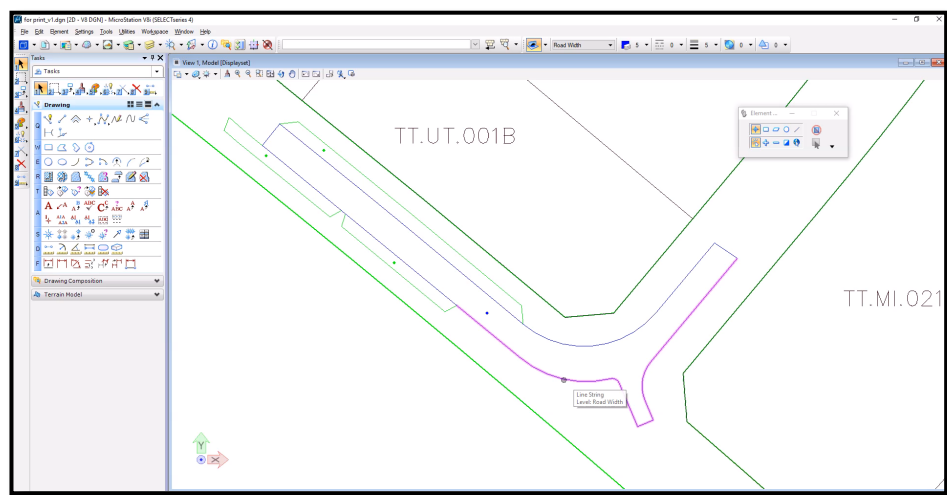
52	UG_6_6KVPlanned	Should represent Dashed simple line	Polyline(RGB:230:0:0)
53	UG_11KVPlanned	Should represent Dashed simple line	Polyline(RGB:76:230:0)
54	UG_33KVPlanned	Should represent Dashed simple line	Polyline(RGB:0:77:168)
55	UG_132KVPlanned	Should represent Dashed simple line	Polyline(RGB:255:170:0)
56	UG_400KVPlanned	Should represent Dashed simple line	Polyline(RGB:0:0:255)
57	Lateral32MMPlanned	Should represent Dashed simple line	Polyline(RGB:169:0:230)
58	WT_1400MMPlanned	Should represent Dashed simple line	Polyline(RGB:56:160:200)
59	WT_1200MMPlanned	Should represent Dashed simple line	Polyline(RGB:169:0:230)
60	WT_900MMPlanned	Should represent Dashed simple line	Polyline(RGB:197:0:255)
61	WT_600MMPlanned	Should represent Dashed simple line	Polyline (RGB:255:0:0)
62	WT_550MMPlanned	Should represent Dashed simple line	Polyline (RGB:255:0:0)
63	WD_450MMPlanned	Should represent Dashed simple line	Polyline (RGB:230:0:0)
64	WD_300MMPlanned	Should represent Dashed simple line	Polyline(RGB:255:0:197)
65	WD_225MMPlanned	Should represent Dashed simple line	Polyline (RGB:0:92:230)
66	WD_150MMPlanned	Should represent Dashed simple line	Polyline (RGB:38:115:0)
67	WD_100MMPlanned	Should represent Dashed simple line	Polyline (RGB:115:0:0)
68	GAS_Pipeline	Should represent simple line	Polyline(RGB:0:0:255)
69	Conduit132KV Planned	Should represent Compound dashed line as specified in sample	Polyline and CSV (RGB:255:170:0)
70	Conduit11KV_33KV_Planned	Should represent Compound dashed line as specified in sample	Polyline and CSV (RGB:76:230:0)
71	ConduitLV Planned	Should represent Compound dashed line as specified in sample	Polyline and CSV(RGB:244:179:252)
72	GAS_PipelineAbandoned	Should represent simple line	Polyline(RGB:0:0:255)
73	GAS_PipelinePlanned	Should represent Dashed simple line	Polyline(RGB:0:0:255)
74	Corridor	Should represent simple line	Polyline(RGB:245:255:255)
75	UC_EHV	Should represent sample point and Transmission Power network Corridor (132KV and 400KV)	Point(RGB:127:127:127)
76	UC_HV	Should represent sample point and High Voltage network Corridor (33KV,11KV and 6.6KV)	Point(RGB:255:0:0)
77	UC_LV	Should represent sample point and Low Voltage Power Network Corridor (LV)	Point(RGB:255:0:255)
78	UC_WHC	Should represent sample point and Water House Connection Network Corridor	Point(RGB:0:255:255)
79	UC_WD	Should represent sample point and Water Distribution network Corridor	Point(RGB:255:102:102)
80	UC_WT	Should represent sample point and Water Transmission network Corridor	Point(RGB:153:51:51)
81	CORRIDORWIDTH	The Width should match with Submitted/Approved Crosssection from RTA/DEWA.	Text(RGB:0:0:255)
82	OFFSETFROMROWBL	The Off set length from Right of way to edge of the corridor.In addition,the measurement should match with Submitted/Approved Crosssection from RTA/DEWA.	Text(RGB:255:0:255)

83	SectionID	This Section ID should match with DEWA\RTA approved crosssections.	Text(RGB:255:102:102)
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Other than GIS data, DEWA II&P expect customer to submit duct/Utility Crosssection in CSV file and This CSV file should follow as per instruction given in Ref.3.0 Specification of coded values for various fields-CSV and 4.0. Specification of coded values for various fields-CSV(Crosssection)

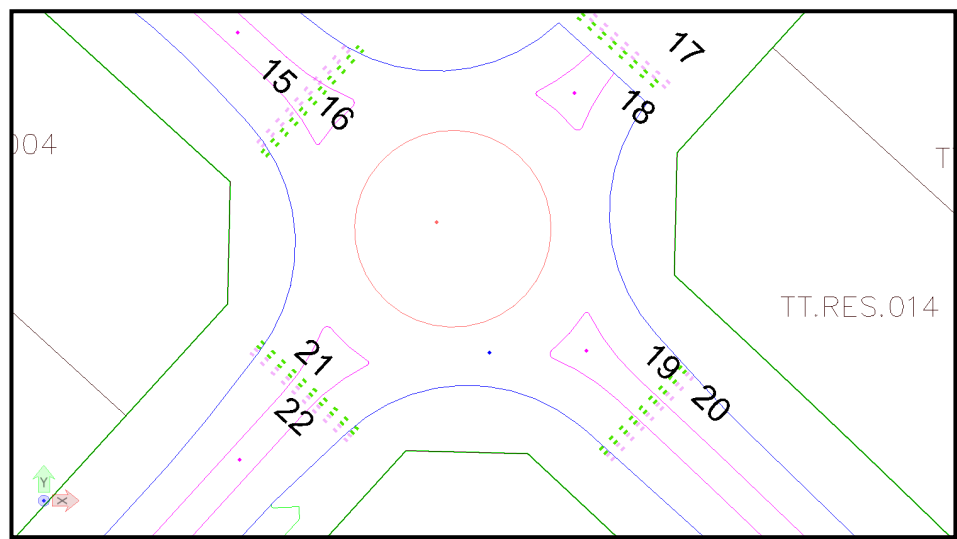
Road Width

The road width should be captured in Line string as specified in below picture and each segment should be end snapped with adjacent features. In addition, the bridge should be captured in Road Width layer.



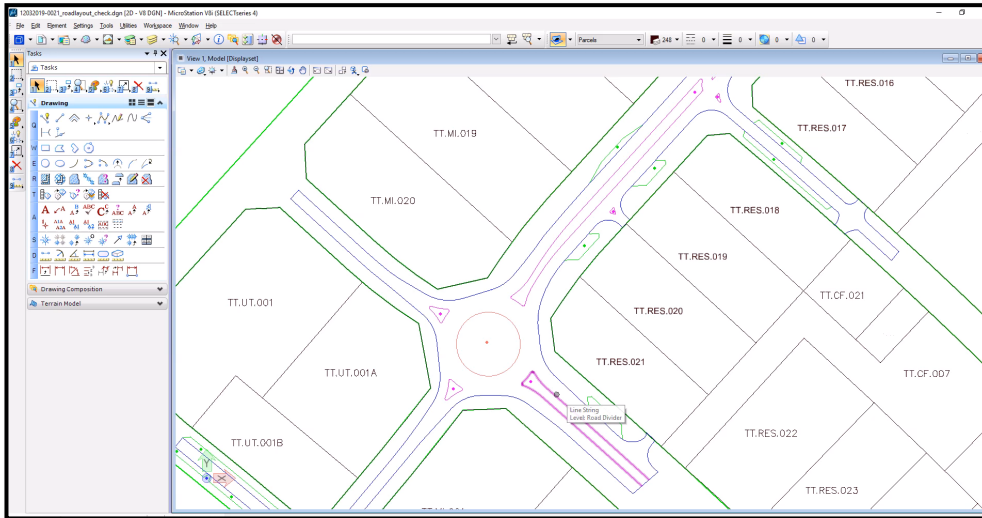
Duct/Conduit

The Conduit should be captured in single line segment but should be created using multiline symbology option in DGN or DWG along with duct number in Numeric format, but at same time customer should submit duct details in CSV format.



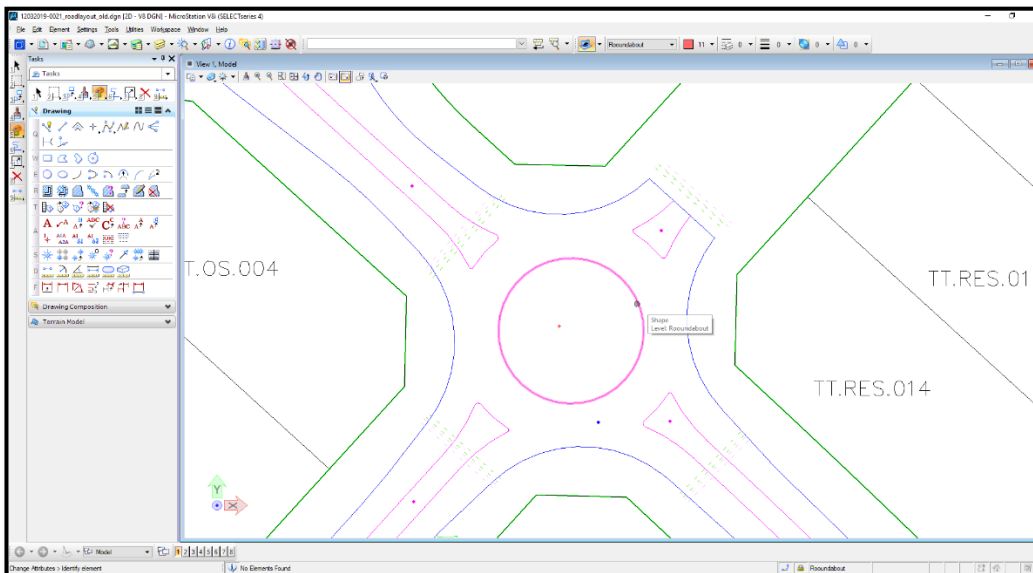
Road Divider

The road divider should be captured in Line string as specified in below picture and each segment should be end snapped with adjacent features.



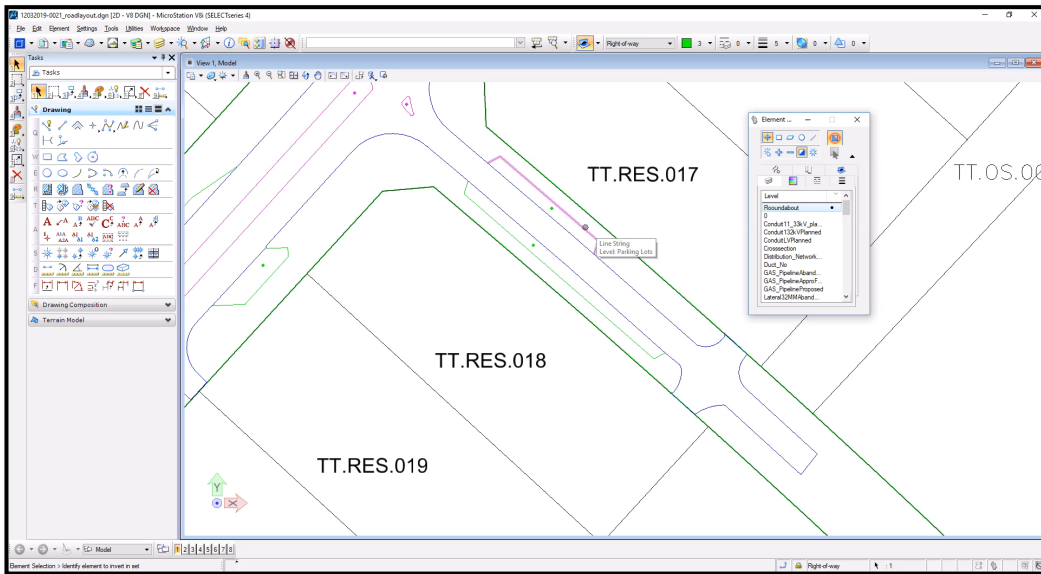
Round About

The Roundabout should be captured in Line string as specified in below picture.



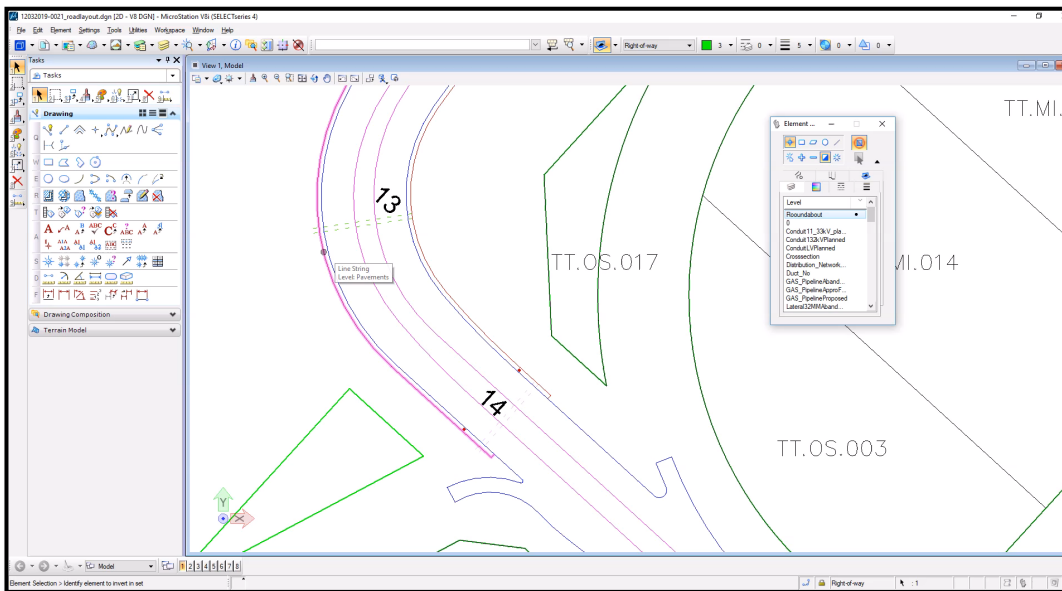
Parking

The Parking should be captured in Line string as specified in below picture and each segment should be end snapped with adjacent features.



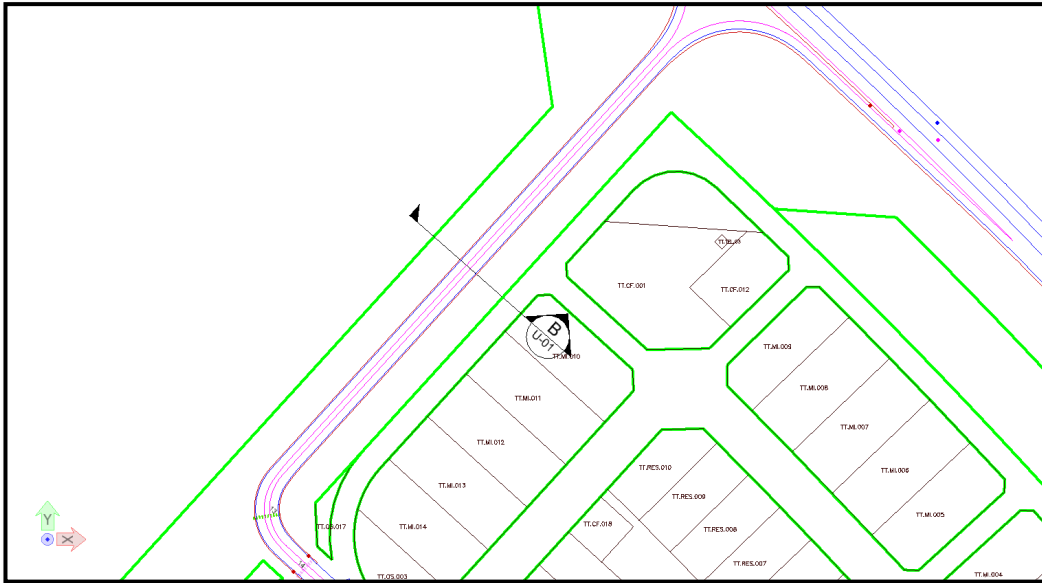
Pavement

The Pavement should be captured in Line string as specified in below picture and each segment should be end snapped with adjacent features.



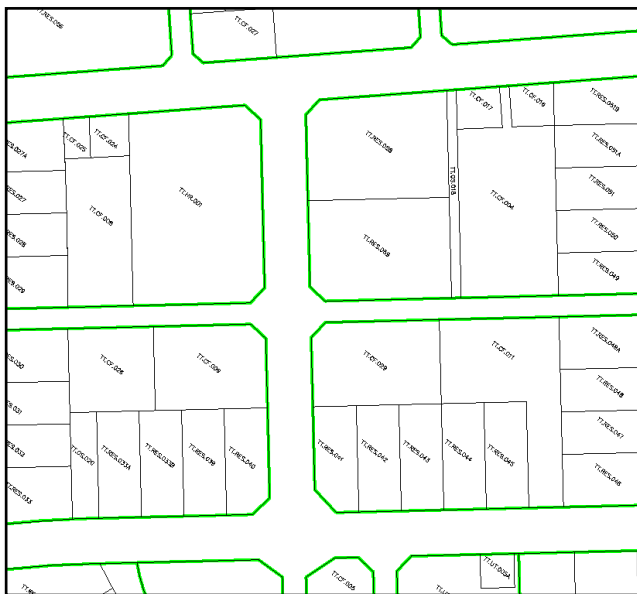
Cross-Section

The crosssection should be captured single line segment with section number as a text.





Right of Way

The Right of Way should be captured in Line string as specified in below picture and each segment should be end snapped with adjacent features.



Legends

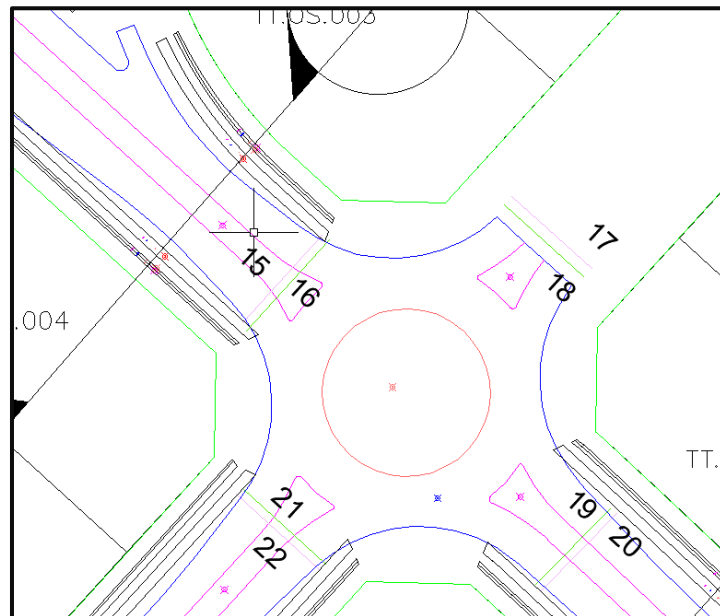
Right-of-way	
Parcels	

DEWA Utility Corridor

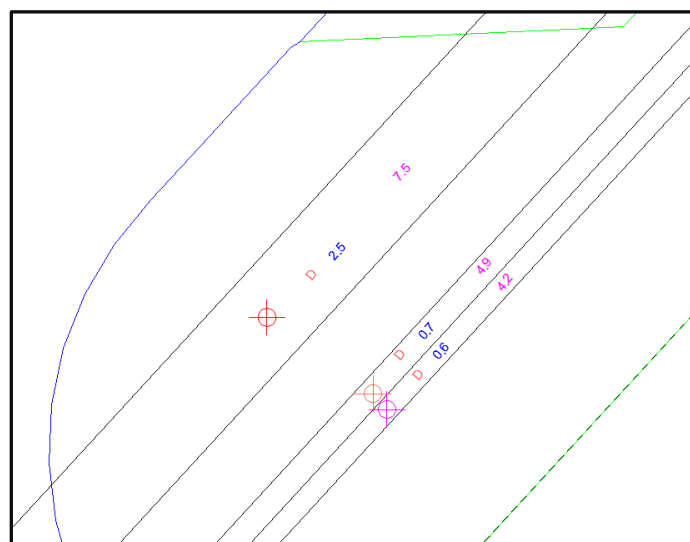
DEWA utility corridors should be captured in Line string and point features as specified in below picture and each segment should be snapped with adjacent features. The corridor boundary should be extracted based on detailed crosssection submitted with asbuilt\completion certificate. In addition, the corridor

should be clipped in chamfer location. If there is an acceptable cross section, the corridor shall be captured. The different type of utility corridors in DEWA GIS such as UC_EHV (Transmission Power 132KV and 400KV), UC_HV (Distribution Power 33KV, 11KV, and 6.6KV), Water Transmission, and Water Distribution.

Furthermore, The Section ID, Corridor Width, and Offset distance from Right of Way should be captured as shown in below snaps and with reference to *'Layers, Data Field and Definitions'*



Furthermore, The Section ID, Corridor Width, and Offset distance from Right of Way should be captured as shown in below snaps and with reference to *'Layers, Data Field and Definitions'*



Coordinate System

Features in DEWA GDS compliant files must be represented in real world locations as referenced by Dubai Local Transverse Mercator projection (DLTM) parameters as given below.

- Projection:

Dubai Local Transverse Mercator

- Parameters:

Longitude of Origin 55:20:00.00 d:m:s

Latitude of Origin 0:00:00.000 d:m:s

False Easting 500,000.000 m

False Northing 0.000 m

Scale Factor along Longitude of Origin 1.0000

Geodetic Datum: WGS84

Ellipsoid WGS84 (Standard parameters)

Equatorial Radius: 6378137.000 m

Polar Radius: 6356752.314 m

Eccentricity: 0.0818191908426215

Flattening: 0.00335281066474746

Flattening Inverse: 298.257223563002

- Units and Formats:

Geographic Units: d: m: s

Format: Long/lat. Precision: 4, Positive N,E

Projection Units: m

Format: Easting/Northing Precision: 3

Height Units: m Precision: 3

Geocentric Units: m Precision: 3

Distance Units: m Precision: 3

Angular Units: deg Precision: 6

CAD Data Submission Guidelines

If the Data Submitter is unable to provide the required spatial information in accordance with the DEWA's GDS, the following guidelines should be followed when preparing CAD data for submission to the DEWA that will be used by the GIS Section:

- Layer/feature class names need to follow the DEWA's GDS naming format
- Each Feature Class and/or its sub-types need to be in a separate layer in the CAD file.

- Ellipse and Spline shall not be used at all.
- Overlapping, Self-intersecting and Zero Length are not allowed.
- Where two Polylines logically join, intersecting features within the same layer these shall be snapped at the point of intersection.
- Each text/point representing information about an area should fit well inside it.
- Digitization of lines (for example where these are roads) should be undertaken in their direction of travel where the road links are 'one-way' links. Two-way links represented as one link can be digitized in either direction.
- All new Conduits (Line features) must be clearly distinguishable from existing features by symbology and labels (Existing/New/).
- For each feature the following spatial data is required: StartPoint, EndPoint and TurningPoints (if applicable). Features must have x,y co-ordinates as label text near the respective location on the drawing. These co-ordinates shall be on level 10.
- All drawings delivered to DEWA shall have an attached CSV file containing all features, their X,Y location (StartPoint, EndPoint and TurningPoints) and shall include attributes (ref: 2.Specification of coded values for various fields-CSV(Duct) and 3.Specification of coded values for various fields-CSV(Crosssection)) specified in a tabular form. Sample CSV template available in Appendix 1 Sample CSV/CAD file template.
- An additional reference number in duct/section_id in Crosssection (refno-Ref Appendix 1 Sample CSV/CAD file template) can be added (if required) to enable relationships between the graphics in CAD and attributes in CSV.

Topology rules

It is important that some basic topological rules are enforced whilst creating and maintaining existing data. These rules should be followed in CAD format files to ensure ease of translating from CAD to GIS formats should DEWA need to undertake such translation exercise. Some of the examples are shown below:

			✗	✓
1	Must Not Overlap	Requires that lines not overlap with lines in the same feature class. This rule is used where line segments should not be duplicated.		
2	Must Not Intersect	Requires that line features from the same feature class not cross or overlap each other. Lines can share endpoints. This rule is used in cases where the intersection of lines should only occur at endpoints, such as street segments and intersections.		
3	Must not have Dangles	Requires that a line feature must touch lines from the same feature class at both endpoints. An endpoint that is not connected to another line is called a dangle. This rule is used when line features must form closed loops, such as when they are defining the boundaries of polygon features. It may also be used in cases where lines typically connect to other lines, as with networks, such as road links. In this case, exceptions can be used where the rule is occasionally violated, as with cul-de-sac or dead end street segments.		
5	Must not intersect or Touch Interior	Requires that a line in one feature class must only touch other lines of the same feature class at endpoints. Any line segment in which features overlap or any intersection not at an endpoint is an error. This rule is useful where lines must only be connected at endpoints, such as in the case of plot lines, which must split.		
6	Must not Overlap with	Requires that a line from one feature class not overlap with line features in another feature class. This rule is used when line features cannot share the same space. For example, roads must not exactly follow a railway line.		
7	Must not Self Overlap	Requires that line features not overlap themselves. They can cross or touch themselves, but must not have coincident segments. This rule is useful for features such as streets, where segments might touch in a loop, but where the same street should not follow the same course twice.		
8	Must not self Intersect	Requires that line features not cross or overlap themselves. This rule is useful for lines, such as contour lines, that cannot cross themselves.		
9	Must be a Single Part	Requires that lines have only one part. This rule is useful where line features, such as highways, may not have multiple parts.		

The following definitions clarify the subject of the DEWA's GDS:

Polyline: A polyline is a sequence of joined vertices. Each vertex has an X and Y. Attributes further describe the polyline. A polyline must be uniquely identified, and duplicates are not permitted, unless the justification for a duplicate is provided by the Data Submitter.

Polygon: A polygon, like a polyline, is a sequence of vertices. However, in a polygon, the first and last vertices are always at the same position. Overlapping polygons are not permitted unless the justification for any overlap is provided by the Data Submitter.

Dangle: Dangles are topological errors where an arc or a line does not end at the point where it should. These are created due to improper digitization. Dangles are of two types- overshoots and undershoot.

Dangles can be avoided if proper Snapping tolerance is defined before starting digitization. Dangles are not permitted unless justification for any dangles is provided by the Data Submitter.

Undershoots: When an arc or a line finishes before connecting to another arc at a required location it is called as undershoot. Undershoots can occur when a line feature (e.g. a road) does not exactly meet another feature to which it should be connected. Undershoots are not permitted unless justification for any undershoot is provided by the Data Submitter.

Overshoots: When an arc or a line does not end at its termination point on another arc and goes beyond it is called as overshoot. Overshoots can occur when a line feature such as a road does not meet another road exactly at an intersection. Overshoots are not permitted unless justification for any overshoot is provided by the Data Submitter.

Spurious Polygons: Spurious polygons or slivers are often created during overlay of two or more polygon layers. Slivers are small polygons which results due to overlay operations of polygons whose edges do not match. Slivers can occur when the edges of two polygon areas do not meet properly. Slivers are not permitted unless justification for any sliver is provided by the Data Submitter.

Compliance: The Data Submitter must comply with the requirements for DEWA's GDS in the coordinate system; layer names must meet the requirements of the DEWA's GDS. These layers will be populated by those submitting the GDS file with the appropriate survey / engineering data and by providing supporting documentation to allow DEWA full discovery of the information provided and any issues that DEWA should be aware if they use the data.

Naming Convention: Layers must be submitted in accordance with a naming convention that is consistent with the DEWA's own naming convention.

Specification of coded values for various fields-CSV(Duct)

Subtype

Code	State
1	Duct Bank
2	Trench
3	Trough
4	HDD
5	Unknown

Status indicator

Code	State
Proposed	Proposed
Cancelled	Cancelled
In Operation	In Operation
Approved for Construction	Approved for Construction
Construction As laid	Constructed As laid
Temporary Out of Operation	Temporary out of Operation
Abandoned	Abandoned

Operating Voltage

Code	Conduit Nominal Voltage
400	400 KV
132	132 KV
11	11 KV
33	33 KV
11+LV	11KV + LV
LV	LV

Encasement Type

Code	Encasement Type
Backfill	Back Fill
Concrete	Concrete
NDRC	NDRC
Smart Sand	Smart Sand
0	Unknown

Material

Code	Material Type
HDPE	HDPE
UPVC	UPVC
UNK	Unknown

Type of Crossing

Code	TYPEOFCROSSING
Road Crossing	Road Crossing
Service Crossing	Service Crossing

Type of Ducts

Code	TypeofDucts
1	Split
2	Spare
3	Extension

4	Spare and Protection
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Duct Size

Code	Duct Size
2	2"
4	4"
6	6"
8	8"
12	12"
18	18"
24	24"
30	30"
36	36"
42	42"
48	48"

Number of Ducts

Code	NBROFDUCTS	Code	NBROFDUCTS	Code	NBROFDUCTS
4	1	49	28	36	2x50
5	2	50	29	10	3x4
6	3	51	30	39	3x5
7	4	62	2x2	14	3x6
24	5	107	2x3	22	3x8
17	6	8	2x4	23	3x12
25	7	26	2x5	21	3x16
101	8	13	2x6	40	4x4
15	10	108	2x7	99	4x6
102	12	19	2x8	11	6x4
38	13	109	2X9	52	1x(2x5)
103	14	29	2x10	53	2x(2x5)
104	15	29	2x10	54	3x(2x5)
16	16	59	2x11	55	4x(2x5)
9	18	20	2x12	1	IV(1)
105	17	27	2x15	3	IV(3)
41	19	110	2X16	399	IV(39)
42	20	30	2x20	2	UNKNOWN
43	21	28	2x24	100	9
44	22	31	2x25	58	1x11
45	23	32	2x30	60	3x11
46	25	33	2x35	61	4x11

47	26	34	2x40	106	8x11
48	27	35	2x45		

Specification of coded values for various Fields-GIS Landbase update (Plots)

ENTITLEMENT_E

Code	Value
1	Private
2	Granted
3	Lease
4	Null
5	Rented
6	Reserved
7	Utilities
8	Government

ZONINGAUTHORITY

Code	Value
1	DM
2	DDA
3	TRAKHEES
4	DWC
5	DSOA
6	JAFZA
7	DAFZA
8	EO
9	DPA
10	Mixed
11	DIEZ-Dubai Integrated Economic Zone

LANDUSE_DESC

Code	Value	Code	Value
1	Residential	14	Transportation
2	Mixed Use(Residential-Office-Retail)	15	Agriculture
3	Commercial	16	Hospitality
4	Public Facilities	17	Industrial
5	Hotels and Apartments	18	Mosque
6	Parks	20	Recreation
7	OpenSpace and Recreation	21	Water Body
8	Utilities	26	Police Station
9	Landscapping	27	Municipal Services

10	Sikka	29	Future Development
11	BufferZone	31	Gate
12	Hospital/Clinic	34	Petrol Station
13	Schools		

SUBTYPECD

Code	Value
1	FreeZone
2	DM

Specification of coded values for various fields-CSV(Crosssection)

















Status












Code	State
AB	As Built
C	Construction
FD	Final Design
PD	Preliminary Design
MP	Master Plan





Undertaking Letter Indicator

Code	Value
N	No
NA	Not Applicable
UNK	Unknown
Y	Yes

DEWA'S STANDARDS & SAMPLES

S. No.	Format / Samples / Standards	PDF	EDITABLE
1.	Sample of Cover letter	 COVERING LETTER FORMAT.pdf	 COVERING LETTER FORMAT.docx
2.	Shut Down Summery Sheet for As Built HV Cable Diversion		 Shutdown Summary Sheet - Fo
3.	Reconciliation Statement for issued Duct Material (DEWA-ED)		 DUCTS MATERIAL RECONCILIATION ST
4.	Proposed Duct Summary (DEWA-ED Betterment Works)		 DUCTS SUMMARY - PROPOSED BETTERN
5.	BOQ for Betterment Work – Proposed	 BOQ - PROPOSED.pdf	 BOQ - PROPOSED.xlsx
6.	Final Duct Summary (DEWA-ED Betterment Works)	 FINAL DUCTS SUMMARY - BETTERI	 FINAL DUCTS SUMMARY - BETTERI
7.	Final Duct Summary (DEWA-ED Non-Betterment Works)	 FINAL DUCTS SUMMARY - NON BE	 FINAL DUCTS SUMMARY - NON BE
8.	Final BOQ for Betterment Work – As Built		 BOQ - AS BUILT - FINAL COST.xlsx
9.	Duct & Marker Inspection Record	 DUCT INSPECTION RECORD.pdf	 DUCT INSPECTION RECORD.xlsx
10.	Cable Summary for HV Cable Diversion, Slewing, Lowering & Raising, Recovery of cables and Spiking (HV Estimate only)	 DIVERSION SUMMARY - SAMPLE	 DIVERSION SUMMARY - SAMPLE

11.	Sample of Trench Details (HV Estimate only)	 SAMPLE TRENCH DETAIL.pdf	
12.	Sample of Cable Diversion Detailed Drawing	 CABLE DIVERSION DETAILED DRAWING	
13.	Sample of Betterment Work Drawing	 BETTERMENT WORK APPROVAL S/	
14.	Warning Tape Sample – HV Network	 Warning Tape - HV Network.pdf	
15.	Warning Tape Sample – EHV Network FO Cable	 132 KV FO - Warning Tape.pdf	
16.	Warning Tape Sample – EHV Network – Power Cable	 132 KV POWER CABLE - Warning Ta	
17.	Protection Tiles Sample – HV Network – 11KV	 Protection Tiles - HV Network.pdf	
18.	Protection Tiles Sample – HV Network – 33KV & Pilot Cable	 33KV + FO Cable Protection Tiles.pdf	
19.	Projects Water Distribution Checklist – for Final Clearance	 Water Checklist - Projects Water Distri	
20.	Projects Water Transmission Checklist – for Final Clearance	 Water Checklist - Projects Water Trans	
21.	Distribution Ducts CSV File (LV & HV)		 Dist_duct.csv

22.	Transmission Ducts CSV File (EHV)		 Trans_duct.csv
23.	As Built Cross Sections CSV File		 Crosssection.csv
24.	CAD / DGN Submission for GIS		 roadlayout.dwg.dwg  roadlayout.dgn