An inventory, study and analysis document for the used databases

Consulting engineering services project to study the

development of geographical information in the municipality of Medi

2013-06-09 AD

Controls for the document

The version for the document

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Reviews

The name	Occupation
M. Hassan Jabaei	Project manager
M. Majdi Al-Banna	Geographic information systems consultant

Contents

فهرس الجداول

Project information

Project information		
project name:	Project "Consulting engineering services to study the development of geographical information in the Municipality of Madinah Region"	
Project code:	34008	
The executing agency :	Saudi Engineering Union Company is preacher and scholar	
Project start date:	2013-03-13 PM	
Project end date:	2013-08-13 PM	
internal ☐	external ☒	
the beneficiary	The project is sponsored by the Secretariat	M. Walid Barakat
The representative of the beneficiary	Project manager from the Secretariat	M. Akram Alsarani
Project manager from the implementing agency	Project Manager from the Implementing Entity:	M. Hassan Jabaei

A general definition of the project

The project aims to develop a strategic plan to develop geographic information systems in the Municipality and to establish an electronic

infrastructure for geographic information. The plan is based on defining the future vision of the secretariat in relation to geographic information

systems and identifying future initiatives and projects required to achieve the vision and strategic tasks. The plan also defines the roadmap and

provides the operational tools for developing geographic information systems in the secretariat for the next three to five years.

The project also aims to prepare a plan to transform the currently used work environment. *MapInfo* In Medina Municipality to the new work

environment *Esri* Based on the standards and criteria approved by the Ministry of Municipal and Rural Affairs.

The project includes the following main elements:

- Study and evaluation of the current situation and geographical data available to the Secretariat

- Preparing a strategic plan to develop the geographical information system in the Secretariat

- Issue recommendations for establishing an electronic infrastructure for spatial information (*SDI* In the Secretariat

- Preparing a brochure of conditions and technical specifications for the project of transferring data and applications of the system *GIS* From

  the current situation " *MapInfo* To the new work environment *Esri*

an introduction

The goal of the report

The aim of this report is to inventory, evaluate and analyze the geographical data available in Al-Madinah Al-Munawwarah Municipality, within the

consulting engineering services project to study the development of geographical information.

Report content

This report contains a detailed presentation of all geographic layers separately, through a detailed explanation of data accuracy, completeness,

data validity, dependency, extension, maintenance, and metadata fields.

Incoming data

The work team first visited Medina Municipality, with the aim of identifying the tasks and processes of work, reviewing the available and used

systems and data, and deriving user needs in relation to geographic information systems.

Based on the interviews that were conducted with the concerned parties, and based on the study of geographical layers and their metadata, the

available data were collected from the GIS Department in a unified central database for all departments of the Secretariat.

The Oracle Spatial geographical database

The geographical database (Oracle Spatial) available at the Municipality of Medina consists of the layers that will be detailed later in the report,

where the main geographical layers and their metadata in the database (Oracle Spatial) will be listed, evaluated and analyzed, such as the layers of

plots, buildings, and land uses , Streets, etc., in addition to listing the evaluation results and recommendations.

أما فيما يتعلق بالأنظمة والتطبيقات فتعتمد جميعها على قاعدة البيانات (Oracle Spatial)، ويتم تحديث قاعدة البيانات

الجغرافية بإستخدام هذه الأنظمة والتطبيقات من خلال الإدارات.

الجدول الزمني لجمع البيانات

فيما يلي الإجتماعات التي تمت مع إدارة نظم المعلومات الجغرافية لجمع البيانات.

تاريخ الزيارة	الإدارة/الوحدة	الإدارة العاّمة	اسم المسؤول	الرقم
2103/04/07	ادارة نظم المعلومات الجغرافية	الإدارة العاّمة لتقنية المعلومات	م.وسيم روماني	1

جدول 1: الجدول الزمني لجمع البيانات

تقييم البيانات الجغرافية

فيما يلي نعرض توصيف وتقييم تفصيلي لجميع طبقات قاعدة البيانات الجغرافية Oracle Spatial التي تمّ جمعها من إدارة نظام المعلومات الجغرافية والتي

سيتم تحويلها من بيئة عمل للنظام الحالي MapInfo إلى بيئة عمل ESRI.

طبقة ترميم المباني (Tarmeem)

- Class description   : This layer represents buildings in need of restoration in Medina: Medina

- Data source   Municipality

- Engineering representationMultipoint:

- Data format   MapInfo File:

- Projection system   WGS_1984_UTM_Zone_37N:

- Layer fields -   :

the number	Field name	Its kind	Characterization	Recommendations
1.	ORDRNO	Double	Order number	The type of field must be Integer rather than Double
2.	B_NO	Text	building number	
4.	STRNO	Double	Street number	The type of field must be Integer rather than Double
3.	MI_PRINX	Double	Non-user	The type of field must be Integer rather than Double
5.	MODUSR	Text	informations User (employee) whose field is empty He made the adjustment	

- Class Rating:

  - # Redesign this layer.

  - Ensure the correctness of spatial data.

  - Ensure that the metadata is correct.

  - Standardize the content of each field.

Shops class

- Class description   This layer represents the stores located in Medina. : Medina

- Data source   Municipality.

- Engineering representation Point:

- Data format   MapInfo File:

- Projection system   WGS_1984_UTM_Zone_37N:

- Layer fields -   :

the number	Field name	Its kind	Characterization	Recommendations
1.	DOCNO	Text	Document number	
2.	TRNDAT	Text	Date	The type of the Date field must be Text rather than Text
4.	TRNTYP	Text	Type	This field is a symbol. There must be a description for these symbols
3.	LICNO	Text	license number	
5.	STRDT	Text	starting date	The type of the Date field must be Text rather than Text
6.	ENDDT	Text	Expiry date	The type of the Date field must be Text rather than Text

the number	Field name	Its kind	Characterization	Recommendations
7.	OWNERNAME	Text	the owner's name	
8.	ACT_GROUP	Text	Non-user	
9.	Text ACT_GROUP_NAME		Non-user	
11.	ACTIVE	Text	unknown	
11.	ACTIVE_NAME	Text	unknown	
12.	SUPRNO	Text	Supervisor number	
14.	SUPRNAME	Text	Supervisor's name	
13.	SHOPNAM	Text	The name of the business	
15.	BLD_NO	Text	building number	
16.	STREETNO	Double	Street number	The type of field must be Integer rather than Double
17.	PLANNO	Text	No. planned	
18.	MI_PRINX	Double	unknown	
19.	MODUSR	Text	User (employee) information Who made the amendment	Empty field

- Class Rating:

    - Redesign this layer

    - Ensure the correctness of spatial data

    - Ensure that the metadata is correct

    - Standardize the content of each field

طبقة الشوارع (Street Centerline)

- وصف الطبقـــــة : تمثل هذه الطبقة شوارع المدينة المنورة.
- مصدر البيانــــات : أمانة المدينة المنورة.
- التمثيل الهندســـي : Line
- صيغة البيانـــات : MapInfo File
- نظام الإسقاط : WGS_1984_UTM_Zone_37N
- حقول الطبقــــة :

مقرلا	اسم الحقل	نوعه	توصيف	التوصيات
1.	NAME_ARABIC	Text	اسم الشارع بالعربيه	
2.	NAME	Text	اسم الشارع بالانكليزيه	
4.	NO	Double	رقم الشارع	يجب ان يكون نوع الحقل Integer بدل ان يكون نوعه Double
3.	AREA_	Double	مساحة	
5.	REGION	Double	منطقة	
6.	GRID	Text	غير معروف	
7.	CALSS	Text	نوع الشارع	يجب توحيد محتوى الحقل
8.	STR_WIDTH	Text	عرض الشارع	
9.	RIGHT_BLD_HIGH	Text	ارتفاع المباني يمين الطريق Text	حقل فارغ
11.	LEFT_BLD_HIGH		ارتفاع المباني شمال الطريق كود	حقل فارغ
11.	COMMERCIAL_COD Double		تجاري	
12.	COMMERCIAL	Text	تجاري	
14.	MI_PRINX	Double	غير مستخدم	
13.	MODUSR	Text	معلومات المستخدم(الموظف) الذي قام بالتعديل	حقل فارغ

- Class Rating:

  - Redesign this layer

  - Ensure the correctness of spatial data

  - Ensure that the metadata is correct

  - Standardize the content of each field

Building number layer (Building_No)

- Class description   :   This layer represents the building numbers of Medina.

- Data source: Medina Municipality.

- Engineering representation: Line

- Data format: MapInfo File

- Projection system   :   WGS_1984_UTM_Zone_37N

- Layer fields -   :

the number	field name	Its kind	Characterization	Recommendations
1.	B_NO	Text	building number	
2.	STREET_NAME	Text	Street name in Arabic	
4.	Y_STREET_NO	Text	Street number	This field should be deleted
3.	STREET_NO	Text	Street number	
5.	NM_BEFORE	Text	unknown	
6.	MI_PRINX	Not a Double user		
7.	MODUSR	Text	User (employee) information Who made the amendment	

- Class Rating:

  - Re-design this layer

Parcel

- Class description : .ةرونملا ةنيدملا يف يضارالا عطق ةقبطلا هذه لثمت

- Data source : .ةرونملا ةنيدملا ةنامأ : :

- Engineering representation : Polygon

- Data format : MapInfo File

- Projection system : WGS_1984_UTM_Zone_37N

- حقول الطبقــــــــة :

مقرلا	لقحلا مسا	هعون	فيصوت	تايصوتلا
1.	PARCELNO	Text	ضرالا هعطق مقر	
2.	PLAN_NAME	Text	ططخملا مسا	
4.	PLAN_NO	Text	ططخملا مقر	
3.	PLAN_TYPE	Double	ططخملا عون	
5.	LAND_USE	Text	ضرالا هعطق لامعتسا	
6.	RASTERNAME	Text	ططخملا ةروص	
7.	B_NO	Text	ىنبملا مقر	
8.	STR_NO	Double	عراشلا مقر	
9.	REMARKS	Text	تاظحالم	
11.	BEY_MEVKI_NO	Text	عقوملا تانايب مقر	
11.	BEY_MEVKI_DATE	Text	عقوملا تانايب خيرات	
12.	LANDUSE_MU_NO	Text	ةلماعملا مقر	
14.	Text LANDUSE_MU_DATE		ةلماعملا خيرات	
13.	MI_PRINX	Double	مدختسم ريغ	
15.	RASTAMOUNT	Double	فورعم ريغ	
16.	MODUSR	Text	(فظوملا)مدختسملا تامولعم ليدعتلاب ماق يذلا	
17.	LEVEL_STATUS	Text	ضرالا هعطق هيعضو	
18.	STR_LEVEL	Double	1 عراشلا بوسنم	
19.	STR_LEVEL2	Double	2 عراشلا بوسنم	

مقرلا	لقحلا مسا	هعون	فيصوت	تايصوتلا
21.	STR_LVL1_DIR	Text	فورعم ريغ	غراف لقح
21.	STR_LVL2_DIR	Text	فورعم ريغ	غراف لقح

- تقييم الطبقه:

  - اعداه تصميم هذه الطبقه
  - التأكد من صحه البيانات المكانيه
  - التأكد من صحه البيانات الوصفيه
  - توحيد محتوب كل لقح

طبقة مناطق الزياده (Zaidah_area)

- وصف الطبقـــــة : تمثل هذه الطبقة مناطق الزياده في المدينة المنورة.
- مصدر البيانـــات : : أمانة المدينة المنورة.
- التمثيل الهندســي Polygon
- صيغة البيانــــات : MapInfo File
- نظام الإسقاط : WGS_1984_UTM_Zone_37N
- حقول الطبقــــــة :

مقرلا	لقحلا مسا	هعون	فيصوت	تايصوتلا
1.	ORDRNO	Double	بلطلا مقر	Integer لقحلا عون نوكي نا بجي Double هعون نوكي نا لدب
2.	LTRNO	Double	مدختسم ريغ	
3.	LETTDAT	Text	مدختسم ريغ	غراف لقح
4.	CNTNO	Text	كصلا مقر	
5.	CNTDAT	Text	كصلا خيرات	
6.	CNTSRC	Text	كصلا عون	
7.	OWNNAME	Text	كلاملا مسا	
8.	SRVNO	Text	حاسملا مقر	

مقرلا	لقحلا مسا	Its kind	Characterization	Recommendations
9.	SRVDAT	Text	Survey history	
11.	BERAUNO	Double	Non-user	
11.	ADTRNO	Text	Non-user	
12.	MNGRNO	Text	Non-user	
13.	PARTASIZE	Double	Site area	
14.	PARTSIZE	Double	Non-user	Empty field
15.	AIRPHO1	Text	Non-user	Empty field
16.	AIRPHO2	Text	Non-user	Empty field
17.	AIRPHO3	Text	Non-user	Empty field
18.	AIRPHO4	Text	Non-user	Empty field
19.	STAG	Text	Non-user	Empty field
21.	BLDTYP	Double	Building type	Empty field
21.	PLNUSE	Text	Use the scheme	
22.	FLOORS	Double	Number of roles	Empty field
23.	BLDPER	Double	Build ratio	Empty field
24.	LOCATION	Double	Location	
25.	GIS_CODE	Text	unknown	
26.	MANCPALTY	Text	municipality	
27.	REGON	Text	Area	Empty field
28.	AREA	Text	space	Empty field
29.	STREET_NAME	Text	Street name in Arabic	
31.	STREETNO1	Text	Street number	
31.	NRTHBRD	Double	The length of the northern border	
32.	SUTHBRD	Double	The length of the southern border	
33.	EASTBRD	Double	The length of the eastern border	
34.	WESTBRD	Double	The length of the western border	
35.	NRTHTXT	Text	Description of the northern border	

the number	Field name	Its kind	Characterization	Recommendations
36.	SUTHTXT	Text	Description of the southern border	
37.	EASTTXT	Text	Description of the eastern border	
38.	WESTTXT	Text	Description of the western borders	
39.	NRTHARA	Text	Description of the northern plot of	
41.	SUTHARA	Text	land Description of the southern plot	
41.	EASTARA	Text	of land description of the eastern plot	
42.	WESTARA	Text	of plot Description of the western plot of land	
43.	NTOIN	Double	Northern regression	Empty field
44.	STOIN	Double	Southern Recoil	Empty field
45.	ETOIN	Double	Eastern rebound	Empty field
46.	WTOIN	Double	Western recoil	Empty field
47.	NTOOUT	Double	Northern prominence	Empty field
48.	STOOUT	Double	Southern prominence	Empty field
49.	ETOOUT	Double	Eastern prominence	Empty field
51.	WTOOUT	Double	Western prominence	Empty field
51.	NOTE	Text	Notes	
52.	PLANNO	Text	No. planned	
53.	PARTNO	Text	piece number	Empty field
54.	PLANNAME	Text	Scheme name	
55.	PLANDATE	Text	Planned date	
56.	ORDRDAT	Text	The date of application	
57.	P_CHK	Double	unknown	Empty field
58.	K_ID	Double	unknown	
59.	ZAIDAH_OWNER_TYPE Text		the owner's name	
61.	MI_PRINX2	Double	Non-user	
61.	MI_PRINX	Double	Non-user	
62.	MODUSR	Text	Mister information Blood (employee) Empty field	

the numberField name		Its kind	Characterization	Recommendations
			Who made the amendment	

- Class Rating:

    - Redesign this layer

    - Ensure the correctness of spatial data

    - Ensure that the metadata is correct

    - Standardize the content of each field

The Valley of the Valley

- Class description   This layer represents the valleys in Medina.

- Data source: Medina Municipality. Geometric

- representation: Polygon

- Data format   MapInfo File:

- Projection system   WGS_1984_UTM_Zone_37N:

- Layer fields -   :

the numberField name		Its kind	Characterization	Recommendations
1.	ID	Double symbol		
2.	MI_PRINX	Not a Double user		
3.	MODUSR	Text	User (employee) information Who made the amendment	Empty field
4.	NAME	Text	Noun	Empty field

- Class Rating:

    - Redesign this layer

    - Ensure the correctness of spatial data

    - Ensure that the metadata is correct

    - Standardize the content of each field

Layer Parcel (Par_Boundary)

- Class description : This layer represents the boundaries of the plots of lands in Medina. :

- Data source Medina Municipality.

- Engineering representation Polygon

- Data format MapInfo File:

- Projection system : WGS_1984_UTM_Zone_37N

- Layer fields - :

the number	Field name	Its kind	Characterization	Recommendations
1.	PLANNO	Text	No. planned	
2.	PLANNAME	Text	Scheme name	
3.	Text ORACLE_PLAN_NAME		Scheme name	This field should be deleted
4.	PLAN_TYPE	Chart type	Double	
5.	YEAR	Text	Planned date	
6.	OFFICE_RASTER	Text	unknown	
7.	DWG_NAME	Text	Name and location of the AutoCAD file	
8.	PLAN_DIR	Text	unknown	
9.	STATUS	Text	Status of the scheme	
11.	SOURCES	Text	Source	
11.	EDITOR	Text	unknown	
12.	OFFICE_NAME	Text	unknown	
13.	BERAUNO	Double	Non-user	
14.	PLAN_DATE	Text	Planned date	
15.	LNDUSE	Double	Use of plots of land	
16.	LANDUSE	Text	Use of plots of land	
17.	PLANIND	Double	No. planned	
18.	OWNER_TYPE	Text	The name of the owner	
19.	NUM_OF_PARCEL	Double	Number of pieces The lands	

the number	Field name	Its kind	Characterization	Recommendations
21.	PLAN_OUT_PER	Unknown Double		
21.	GOGLOC	Unknown Double		
22.	GOGLOCATION	Text	unknown	
23.	SCALE	Double chart scale		
24.	BUILDING_AREA_PER	Double	Building area	
25.	CNTNO	Text	Instrument number	
26.	CNTSRC	Double	Instrument type	
27.	CNT_SOURCE	Text	unknown	
28.	CNTDAT	Text	Instrument history	
29.	MINS_NO	Text	unknown	
31.	MINS_DAT	Text	unknown	
31.	NOTES	Text	Notes	
32.	KAR_OK	Double	unknown	
33.	USER_NAME	Text	user name	
34.	MI_PRINX	Double	Non-user	
35.	MODUSR	Text	informations User (employee) who He made the adjustment	Empty field

- Class Rating:

    - Redesign this layer

    - التأكد من صحة هذه البيانات المكانية •

    - التأكد من صحة هذه البيانات الوصفية •

    - توحيد محتوب لكل حقل •

طبقة قطع الاراضي الجديده (New_Parcel)

- وصف الطبقـــــــة : تمثل هذه الطبقة قطع الاراضي الجديده في المدينة المنورة.
- مصدر البيانـــات : : أمانة المدينة المنورة.
- التمثيل الهندسـي Polygon
- صيغة البيانــــات : MapInfo File
- نظام الإسقاط : WGS_1984_UTM_Zone_37N
- حقول الطبقـــــة :

الرقم	اسم الحقل	نوعه	توصيف	التوصيات
1.	ORDRNO	Double	رقم الطلب	يجب ان يكون نوع الحقل Integer بدل ان يكون نوعه Double
2.	LTRNO	Double	غير مستخدم	
3.	LETTDAT	Text	غير مستخدم	
4.	CNTNO	Text	رقم الصك	
5.	CNTDAT	Text	تاريخ الصك	
6.	CNTSRC	Text	نوع الصك	
7.	OWNNAME	Text	اسم المالك	
8.	OWNID	Text	هوية المالك	
9.	SRVNO	Text	رقم المساح	
11.	SRVDAT	Text	تاريخ المسح	
11.	BERAUNO	Double	غير مستخدم	
12.	ADTRNO	Text	غير مستخدم	
13.	MNGRNO	Text	غير مستخدم	
14.	PARTASIZE	Double	مساحة الموقع	
15.	PARTSIZE	Double	غير مستخدم	
16.	AIRPHO1	Text	غير مستخدم	
17.	AIRPHO2	Text	غير مستخدم	
18.	AIRPHO3	Text	غير مستخدم	

مقرلا	Field name	Its kind	Characterization	Recommendations
19.	AIRPHO4	Text	Non-user	
21.	STAG	Text	Non-user	
21.	BLDTYP	Double	Building type	
22.	PLNUSE	Double	Use the scheme	
23.	FLOORS	Double	Number of roles	
24.	FLATS	Double	The number of rooms	
25.	BLDPER	Double	Build ratio	
26.	LOCATION	Double	Location	
27.	GIS_CODE	Text	Non-user	
28.	MANCPALTY	Text	municipality	
29.	REGON	Text	Area	
31.	AREA	Text	space	
31.	STREET_NAME	Text	Street name in Arabic	
32.	STREETNO1	Text	Street number	
33.	NRTHBRD	Double	The length of the northern border	
34.	SUTHBRD	Double	The length of the southern border	
35.	EASTBRD	Double	The length of the eastern border	
36.	WESTBRD	Double	The length of the western border	
37.	NRTHTXT	Text	Description of the northern border	
38.	SUTHTXT	Text	Description of the southern border	
39.	EASTTXT	Text	Description of the eastern border	
41.	WESTTXT	Text	Description of the western borders	
41.	NRTHARA	Text	Description of the northern plot of	
42.	SUTHARA	Text	land Description of the southern plot	
43.	EASTARA	Text	of land description of the eastern plot	
44.	WESTARA	Text	of plot Description of the western plot of land	
45.	NTOIN	Northern recoil Double		

the number	Field name	Its kind	Characterization	Recommendations
46.	STOIN	Double	Southern Recoil	
47.	ETOIN	Double	Eastern rebound	
48.	WTOIN	Double	Western recoil	
49.	NTOOUT	Double	Northern prominence	
51.	STOOUT	Double	Southern prominence	
51.	ETOOUT	Double	Eastern prominence	
52.	WTOOUT	Double	Alluring prominence	
53.	NOTE	Text	Notes	
54.	PLANNO	Text	No. planned	
55.	PARTNO	Text	piece number	
56.	PLANNAME	Text	Scheme name	
57.	PLANDATE	Text	Planned date	
58.	ORDRDAT	Text	The date of application	
59.	B_NO	Text	building number	
61.	P_AREA	Double	unknown	
61.	D_AREA	Double	unknown	
62.	D_AREA2	Double	unknown	
63.	GOVERMENT	Text	unknown	Empty field
64.	B_NRTHTXT	Text	unknown	
65.	B_SUTHTXT	Text	unknown	
66.	B_EASTTXT	Text	unknown	
67.	B_WESTTXT	Text	unknown	
68.	B_NRTHARA	Text	unknown	
69.	B_SUTHARA	Text	unknown	
71.	B_EASTARA	Text	unknown	
71.	B_WESTARA	Text	unknown	
72.	K_ID	Unknown Double		

the number	Field name	Its kind	Characterization	Recommendations
73.	K_STR_NAME	Text	Street name in Arabic	
74.	K_STR_NO	Text	Street number	
75.	MI_PRINX2	Not a Double user		
76.	MI_PRINX	Not a Double user		
77.	informations User (employee) Who made the amendment	Text	User (employee) information Who made the amendment	Empty field

- Class Rating:

    - Delete a layer

The Neigh

- Class description : .ةرونملا ةنيدملا يف ءايحالا ةقبطلا هذه لثمت

- Data source : . .ةرونملا ةنيدملا ةنامأ

- Engineering representation Polygon

- تاــــنايبلا ةغيص : MapInfo File

- طاقسإلا ماظن : WGS_1984_UTM_Zone_37N

- ةــــــقبطلا لوقح :

مقرلا	لقحلا مسا	هعون	فيصوت	تايصوتلا
1.	NEIGH_NAME	Text	هيبرعلاب يحلا مسا	
2.	DISTRICT_NAME	Text	هيبرعلاب هقطنملا مسا	
3.	BELEDIYE	Text	هيبرعلاب هيدلبلا مسا	
4.	DIST_CODE	Double	هقطنملا زمر	
5.	NEIGH_CODE	Double	يحلا زمر	
6.	BEL_CODE	Double	هيدلبلا زمر	
7.	AREA	Double	ةحاسم	

مقرلا	لقحلا مسا	هعون	فيصوت	تايصوتلا
8.	POPULATION	Double	ناكسلا ددع	غراف لقح
9.	BUILDING_HIGH	Double	فورعم ريغ	غراف لقح
11.	MI_PRINX	Double	مدختسم ريغ	
11.	MODUSR	Text	(فظوملا)مدختسملا تامولعم ليدعتلاب ماق يذلا	غراف لقح

- هقبطلا مييقت:

  - هقبطلا هذه ميمصت هداعا

  - ةيناكملا تانايبلا ةحص نم دكأتلا

  - ةيفصولا تانايبلا ةحص نم دكأتلا

  - لقح لك بوتحم ديحوت

MP_Tanzeem() ميظنتلا ةقبط

- ةــــــقبطلا فصو   This layer represents the organized areas in Medina.

- تاــــنايبلا ردصم   : Medina Municipality. :

- Engineering representation   Polygon

- Data format   MapInfo File:

- Projection system   WGS_1984_UTM_Zone_37N:

- Layer fields -   :

the number	Field name	Its kind	Characterization	Recommendations
1.	FILENAME	Text	File name	
2.	MI_PRINX	Not a Double user		
3.	MODUSR	Text	User (employee) information Who made the amendment	

- Class Rating:

- Redesign this layer

- Ensure the correctness of spatial data

- Ensure that the metadata is correct

Land use layer

- Class description : This layer represents the land use in Medina. : Medina

- Data source Municipality.

- Engineering representation Polygon:

- Data format MapInfo File:

- Projection system WGS_1984_UTM_Zone_37N:

- Layer fields - :

the number	Field name	Its kind	Characterization	Recommendations
1.	USE	Text	Land uses	
2.	AREA	Area Double		
3.	MI_PRINX	Not a Double user		
4.	MODUSR		User (employee) information is an empty field Text Who made the amendment	

- Class Rating:

   - Redesign this layer

   - Ensure the correctness of spatial data

   - Ensure that the metadata is correct

Layer (Ikhtizal_Wadi)

- Class description : This layer represents plots of lands in Medina.

- Data source : Medina Municipality. :

- Engineering representation Polygon

- Data format MapInfo File:

- Projection system WGS_1984_UTM_Zone_37N:

- Layer fields - :

the number	Field name	Its kind	Characterization	Recommendations
1.	ORDRNO	Application number Double		
2.	LTRNO	Double		
3.	LETTDAT	Text		
4.	CNTNO	Text	Instrument number	
5.	CNTDAT	Text	Instrument history	
6.	CNTSRC	Text	Instrument type	
7.	OWNNAME	Text	the owner's name	
8.	OWNID	Text	The identity of the owner	
9.	SRVNO	Text	Surveyor's number	
11.	SRVDAT	Text	Survey history	
11.	BERAUNO	Double		
12.	ADTRNO	Text		
13.	MNGRNO	Text		
14.	PARTASIZE	Double	Site area	
15.	PARTSIZE	Double		
16.	AIRPHO1	Text		
17.	AIRPHO2	Text		
18.	AIRPHO3	Text		
19.	AIRPHO4	Text		

the number	Field name	Its kind	Characterization	Recommendations
21.	STAG	Text		
21.	BLDTYP	Double	Building type	
22.	PLNUSE	Text	Use the scheme	
23.	FLOORS	Double	Number of roles	
24.	BLDPER	Double	Build ratio	
25.	FLATS	Double	The number of rooms	
26.	LOCATION	Double	Location	
27.	GIS_CODE	Text		
28.	MANCPALTY	Text	municipality	
29.	REGON	Text	Area	
31.	AREA	Text	space	
31.	STREET_NAME	Text	Street name	
32.	STREETNO1	Text	Street number	
33.	NRTHBRD	Double	The length of the northern border	
34.	SUTHBRD	Double	The length of the southern border	
35.	EASTBRD	Double	The length of the eastern border	
36.	WESTBRD	Double	The length of the western border	
37.	NRTHTXT	Text	Description of the northern border	
38.	SUTHTXT	Text	Description of the southern border	
39.	EASTTXT	Text	Description of the eastern border	
41.	WESTTXT	Text	Description of the western borders	
41.	NRTHARA	Text	Description of the northern plot of	
42.	SUTHARA	Text	land Description of the southern plot	
43.	EASTARA	Text	of the description of the eastern plot	
44.	WESTARA	Text	of land description of the western plot	
45.	NTOIN	Double	of northern regression	
46.	STOIN	Double	Southern Recoil	

the number	Field name	Its kind	Characterization	Recommendations
47.	ETOIN	Double	Eastern rebound	
48.	WTOIN	Double	Western recoil	
49.	NTOOUT	Double	Northern prominence	
51.	STOOUT	Double	Southern prominence	
51.	ETOOUT	Double	Eastern prominence	
52.	WTOOUT	Double	Western prominence	
53.	NOTE	Text	Notes	
54.	PLANNO	Text	No. planned	
55.	PARTNO	Text	piece number	
56.	PLANNAME	Text	Scheme name	
57.	PLANDATE	Text	Planned date	
58.	ORDRDAT	Text	The date of application	
59.	K_ID	Double		
61.	MI_PRINX	Double	Non-user	
61.	LASTUPDATE	Text		
62.	LASTINSERT	Text		
63.	MODUSR	Text	User (employee) information Who made the amendment	

- Class Rating:

  - Redesign this layer

Layer (Ikhtizal_Area)

- Class description   This layer represents plots of lands in Medina. : Medina

- Data source   Municipality.

- Engineering representatioń   Polygon

- Data format   MapInfo File:

- Projection system   :   WGS_1984_UTM_Zone_37N

- Layer fields -   :

the number	Field name	Its kind	Characterization	Recommendations
1.	ORDRNO	Double	Order number	
2.	LTRNO	Double		
3.	LETTDAT	Text		
4.	CNTNO	Text	Instrument number	
5.	CNTDAT	Text	Instrument history	
6.	CNTSRC	Text	Instrument type	
7.	OWNNAME	Text	the owner's name	
8.	OWNID	Text	The identity of the owner	
9.	SRVNO	Text	Surveyor's number	
11.	SRVDAT	Text	Survey history	
11.	BERAUNO	Double		
12.	ADTRNO	Text		
13.	MNGRNO	Text		
14.	PARTASIZE	Double	Site area	
15.	PARTSIZE	Double		
16.	AIRPHO1	Text		
17.	AIRPHO2	Text		
18.	AIRPHO3	Text		
19.	AIRPHO4	Text		
21.	STAG	Text		

the number	Field name	Its kind	Characterization	Recommendations
21.	BLDTYP	Double	Building type	
22.	PLNUSE	Text	Use the scheme	
23.	FLOORS	Double	Number of roles	
24.	BLDPER	Double	Build ratio	
25.	FLATS	Double	The number of rooms	
26.	LOCATION	Double	Location	
27.	GIS_CODE	Text		
28.	MANCPALTY	Text	municipality	
29.	REGON	Text	Area	
31.	AREA	Text	space	
31.	STREET_NAME	Text	Street name	
32.	STREETNO1	Text	Street number	
33.	NRTHBRD	Double	The length of the northern border	
34.	SUTHBRD	Double	The length of the southern border	
35.	EASTBRD	Double	The length of the eastern border	
36.	WESTBRD	Double	The length of the western border	
37.	NRTHTXT	Text	Description of the northern border	
38.	SUTHTXT	Text	Description of the southern border	
39.	EASTTXT	Text	Description of the eastern border	
41.	WESTTXT	Text	Description of the western borders	
41.	NRTHARA	Text	Description of the northern plot of	
42.	SUTHARA	Text	land Description of the southern plot	
43.	EASTARA	Text	of the description of the eastern plot	
44.	WESTARA	Text	of land description of the western plot	
45.	NTOIN	Double	of northern regression	
46.	STOIN	Double	Southern Recoil	
47.	ETOIN	Double	Eastern rebound	

the number	Field name	Its kind	Characterization	Recommendations
48.	WTOIN	Double	Western recoil	
49.	NTOOUT	Double	Northern prominence	
51.	STOOUT	Double	Southern prominence	
51.	ETOOUT	Double	Eastern prominence	
52.	WTOOUT	Double	Western prominence	
53.	NOTE	Text	Notes	
54.	PLANNO	Text	No. planned	
55.	PARTNO	Text	piece number	
56.	PLANNAME	Text	Scheme name	
57.	PLANDATE	Text	Planned date	
58.	ORDRDAT	Text	The date of application	
59.	K_ID	Double		
61.	MI_PRINX2	Double	Non-user	
61.	MI_PRINX	Double	Non-user	
62.	MODUSR	Text	User (employee) information Who made the amendment	

- Class Rating:

    - Redesign this layer

District layer

- Class description : This layer represents the regions in Medina.

- Data source : Medina Municipality. :

- Engineering representation Polygon

- Data format MapInfo File:

- Projection system WGS_1984_UTM_Zone_37N:

- Layer fields - :

the number	Field name	Its kind	Characterization	Recommendations
1.	DISTRICT_NAME	Text	The name of the region in Arabic	
2.	BELEDIYE	Text	The name of the municipality in Arabic	
3.	DIST_CODE	Double	Area code	
4.	BEL_CODE	Double	Municipal code	
5.	AREA	Double	space	
6.	MI_PRINX	Double	Non-user	
7.	MODUSR	Text	User (employee) information Who made the amendment	Empty field

- Class Rating:

    - Redesign this layer

    - Ensure the correctness of spatial data

    - Ensure that the metadata is correct

    - Standardize the content of each field

Land Sukuk Layer (Deed)

- Class description : This layer represents land bonds in Medina.

- Data source : Medina Municipality. :

- Engineering representation Polygon

- Data format MapInfo File:

- Projection system WGS_1984_UTM_Zone_37N:

- Layer fields - :

the number	Field name	Its kind	Characterization	Recommendations
1.	ORDRNO	Double	Order number	
2.	LTRNO	Double	Non-user	
3.	CNTNO	Text	Instrument number	
4.	CNTDAT	Text	Instrument history	
5.	CNTSRC	Text	Instrument type	
6.	OWNNAME	Text	the owner's name	
7.	OWNID	Text	The identity of the owner	
8.	SRVNO	Text	Surveyor's number	
9.	SRVDAT	Text	Survey history	
11.	BERAUNO	Double	Non-user	
11.	ADTRNO	Text	Non-user	
12.	MNGRNO	Text	Non-user	
13.	STAG	Text	Non-user	
14.	LOCATION	Double	Location	
15.	PARTASIZE	Double	Site area	
16.	NRTHBRD	Double	The length of the northern border	
17.	SUTHBRD	Double	The length of the southern border	
18.	EASTBRD	Double	The length of the eastern border	
19.	WESTBRD	Double	The length of the western border	
21.	NRTHARA	Text	Description of the northern plot of land	

the number	Field name	Its kind	Characterization	Recommendations
21.	SUTHARA	Text	Description of the Southern Plot	
22.	EASTARA	Text	Description of the Eastern Plot	
23.	WESTARA	Text	Description of the Western Plot Notes	
24.	NOTE	Text		
25.	AIRPHO1	Text	Non-user	
26.	AIRPHO2	Text	Non-user	
27.	AIRPHO3	Text	Non-user	
28.	AIRPHO4	Text	Non-user	
29.	OR_LT_DATE	Text	unknown	
31.	ORDRDAT	Text	The date of application	
31.	MI_PRINX	Not a Double user		
32.	MODUSR	Text	User (employee) information Who made the amendment	Empty field

- Class Rating:

    - Redesign this layer

    - Ensure the correctness of spatial data

    - Ensure that the metadata is correct

    - Standardize the content of each field

Building layer

- Class description   This layer represents the buildings in Medina.

- Data source   : Medina Municipality. :

- Engineering representation Polygon

- Data format   MapInfo File:

- Projection system   WGS_1984_UTM_Zone_37N:

- Layer fields -   :

the number	Field name	Its kind	Characterization	Recommendations
1.	B_NO	Text	building number	
2.	TYPE	Text	Building type	
3.	STREET_NO	Double	Street number	
4.	ST_NAME	Text	Street name in Arabic	
5.	BEL_CODE	Double	Municipal code	
6.	SOURCE	Text	Building source	
7.	MI_PRINX	Double	Non-user	
8.	MODUSR	Text	User (employee) information Who made the amendment	

- Class Rating:

  - Redesign this layer

    - Ensure the correctness of spatial data

    - Ensure that the metadata is correct

    - Standardize the content of each field

Building Permits Layer (Bld_Permits)

- Class description : This layer represents building permits in Medina.

- Data source : Medina Municipality. :

- Engineering representation Polygon

- Data format MapInfo File:

- Projection system WGS_1984_UTM_Zone_37N:

- Layer fields - :

the number Field name		Its kind	Characterization	Recommendations
1.	ORDRNO	Double	Order number	
2.	PLANNO	Text	No. planned	Empty field
3.	PLAN_TYP	Double	Chart type	Empty field
4.	PARCEL_NO	Text	Plot number	Empty field
5.	STR_NO	Double	Street number	Empty field
6.	BLD_NO	Text	building number	Empty field
7.	X_COORD	Double	X coordinates	
8.	Y_COORD	Double	The coordinates of y	
9.	MI_PRINX	Double	Non-user	
11.	MODUSR	Text	User (employee) information Who made the amendment	Empty field

- Class Rating:

    - Redesign this layer

    - Ensure the correctness of spatial data

    - Ensure that the metadata is correct

    - Standardize the content of each field

طبقة البلديات (Belediye)

- وصف الطبقـــــة : تمثل هذه الطبقة البلديات في المدينة المنورة.
- مصدر البيانـــات : أمانة المدينة المنورة. :
- التمثيل الهندســـي Polygon
- صيغة البيانــــات : MapInfo File
- نظام الإسقاط : WGS_1984_UTM_Zone_37N
- حقول الطبقـــــة : :

الرقم	اسم الحقل	النوع	توصيف	التوصيات
1.	BELEDIYE	Text	اسم البلدية	
2.	BEL_CODE	Double	رمز البلدية	
3.	BEL_AREA	Double	مساحة البلدية	
4.	MI_PRINX	Double	غير مستخدم	
5.	MODUSR	Text	معلومات المستخدم(الموظف) الذي قام بالتعديل	حقل فارغ

- تقييم الطبقة:
  - اعداد تصميم هذه الطبقة
  - التأكد من صحة البيانات المكانية
  - التأكد من صحة البيانات الوصفية

تقييم وتوصيات الاستشاري

فيما يلي ملخص لنتائج التقييم والتحليل والتوصيات للبيانات الجغرافية:

قائمة جودة البيانات	The actual state of the layer	Expected action	The final position of the layer
الدقة	Needs improvement	Need to do a field survey	
الاكتمال	It covers the Medina region and its environs,		
صحة البيانات	with a need to check and correct geographical and descriptive data		
التبعية	Middle case		
الامتداد	not suitable		
الطبقات	Polygons		
الصيانة	Almost daily		
البيانات الوصفية It needs to	be checked and corrected	Layer characterization	
Susceptibility	The possibility of exporting the layer to other formats	Export to GDB format	
priority	not suitable		
reading	Clear		
Reliability	Accredited		
Date created	11 years ago		
Credibility	Need to be confirmed		
Status	Needs improvement		
Graphic quality	Needs improvement		
safety	Needs improvement		
Discrimination	Needs improvement		
Data clarity	Need clarification		
The language	English	Translation into Arabic	English and Arabic
Matching	Not conforming to business rules	Correcting spatial errors and conforming to business rules	

Quality list data	The actual state of the layer	Expected action	The final position of the layer
		Descriptive	
Consistency	Needs improvement		

Summary of the consultant's evaluation

تمّت تهيئة البيانات الجغرافية والوصفية ما يقارب السبعون بالمئة من أهمية نظام المعلومات الجغرافية واستخدامها بشكل صحيح. حيث تمّ أن جميع التطبيقات المبنية على أساس استخدام نظام المعلومات الجغرافية تعتمد في مهامّها كقاعدة أساسية على البيانات الجغرافية والوصفية المطوّرة.

من خلال تقييمنا للبيانات المكانية والوصفية أمانة بلد المدينة المتوفرة لدى أمانة المدينة المنورة، تبيّن وجود مشاكل أخطاء يمكن تلخيصها كما يلي:

- يوجد قاعدة بيانات موحدة مبنية على بلد تقنية Linux ومرتبطة بجميع التطبيقات، لكنها تفتقر بلا للعلاقات الخاصة بالعمليات بالبيانات من أمان واعطاء الصلاحيات، توحيد الجداول، إنشاء العلاقات الوصفية، إنشاء العلاقات المكانية وغيرها. كما يوجد نسخة أخرى من قاعدة البيانات على شكل بلد مخزنة ملفات مخزّنة على بلد مجلّد يتم الوصول إليها عن طريق نظام الملف.

- أسماء الطبقات غير معبّرة ومتقنة.

- أخطاء مكانية فيما بين السلامات الجغرافية من مختلف الطبقات. على سبيل المثال، تداخل المباني فيما بينها الضارى العقار فيما بينها.

- Lack of metadata for all layers, or contain information that is repeated for the same value in various ways.

- Some of the field names for layers are not understood.

Accordingly, a master database must be built to be linked to the local databases in the municipalities of the Municipality of Medina. Where a data model must be built in the Municipality of Medina by relying on the existing data model in the Ministry, where geographical and descriptive adjustments are entered according to the needs of the secretariat's departments, and those required by the integration process with the electronic services systems in the municipality or that will be developed in the future, by specifying Requirements for applications and integration with existing systems in the Secretariat.

When designing geographical databases, the design must meet the following specifications:

Consulting engineering services project to study the development
of geographical information in the municipality of Medina

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- قاعدة بيانات تستوعب أنواع مختلف البيانات (المصورات الفضائية، التصوير الجوي، بيانات الخطية (Vector Data ، بيانات
نمطية (Raster Data) بيانات وصفية (Tabular Data ، بيانات إحصائية، خلا).

- قاعدة بيانات مرنة ومتاحة لكل التطبيقات بحيث يمكن التعامل معها والوصول إلا بياناتها اللازمة. تحقيق المرونة بأرشفة
- البيانات المحدّثة لمراجعتها وتحليلها في المستقبل . (Versioning Control
- اتساق البيانات . (Consistency)
- تحقيق أمن البيانات في قاعدة البيانات الجغرافية.) .(Security
- تحديد فئات المستخدمين والصلاحيات، بحيث يمكن الوصول إلا بيانات محددة خاصة بها دون غيرها. تحقيق إجراءات حفظ نسخ
- احتياطية من البيانات وإمكانية استرجاعها إذا حدث توقف طارئ أو حدوث إنهيار للنظام نتيجة لعطل فني أو كوارث طبيعية لا قدر
الله.

إنّ إنشاء قاعدة بيانات مركزية تستوعب جميع أنواع البيانات الجغرافية والوصفية يساعد في تحسين التصميم على المستويات التالية:

- مستوب تغيير أسماء الحقول الخاصّة بالطبقات.
- Change the level of layer names.
- The level of certainty of the accuracy of geographical data by using spatial relationships (topology).
- Using some special techniques to prevent errors in the metadata, such as Subtype, Domain, or others.

- Helping to maintain conformity and consistency for all geographic strata.