ISRAEL METRO

September 2025

Metro NTA

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Introduction

Zohar Zoller
Deputy CEO, NTA

ISRAEL
Metro Project

Noa Oren
Deputy CEO – Metro, NTA

Tel Aviv Metropolis

The Tel Aviv Metropolitan area is the country's business and financial heart and the center of a significant part of the economic activity responsible for most of Israel's national product.

44%
of the population in Israel

50%
of jobs

62%
of Business product

Metro NTA

Facts and Figures

The largest and most complex project ever delivered in Israel!

$40-50bn
Estimated cost

$8.5bn
Economic benefits

2037
Stage A – Operation

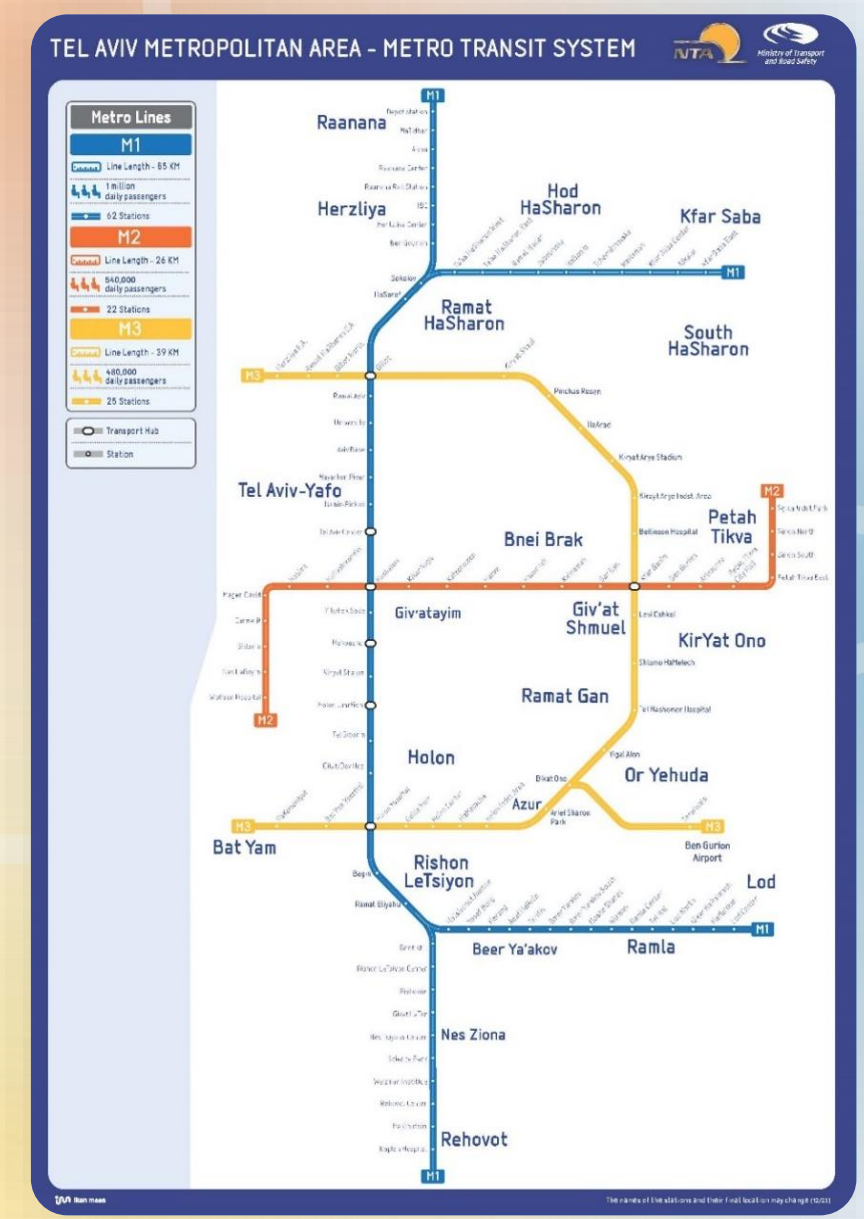
+30%
Increase use of Public transport

2 mil
Passengers per day

Metro NTA

General Overview

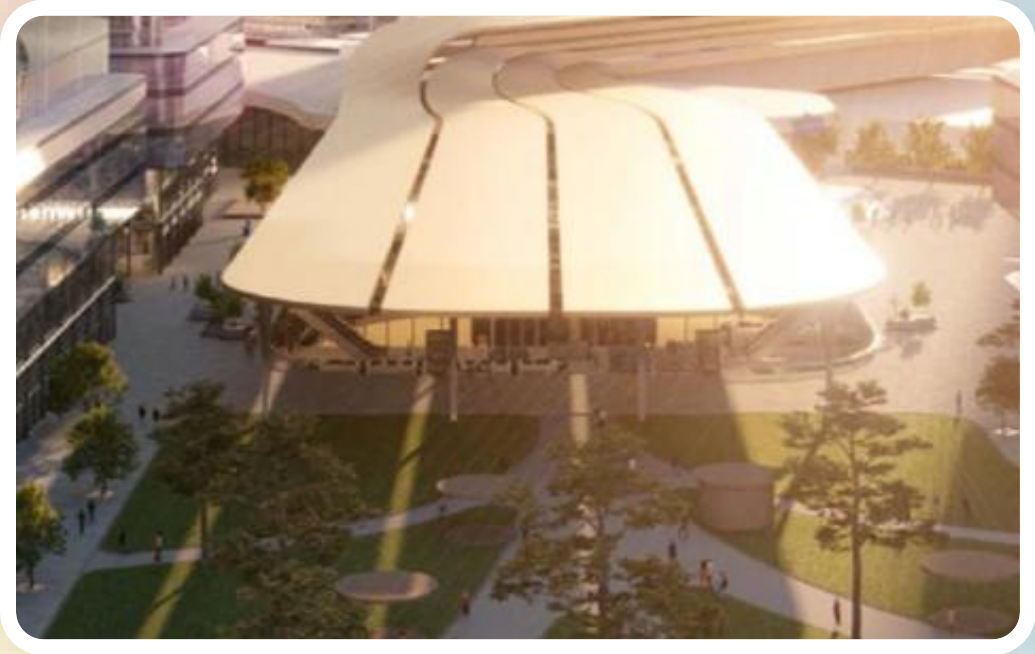
- **3** Lines (**M1**/**M2**/**M3**)
- **150** km Underground Network (double tunneling)
- **109** Stations
- **24** Municipalities
- **4** Depots
- **7** Transportation Hubs



LVC (Land Value Capture)

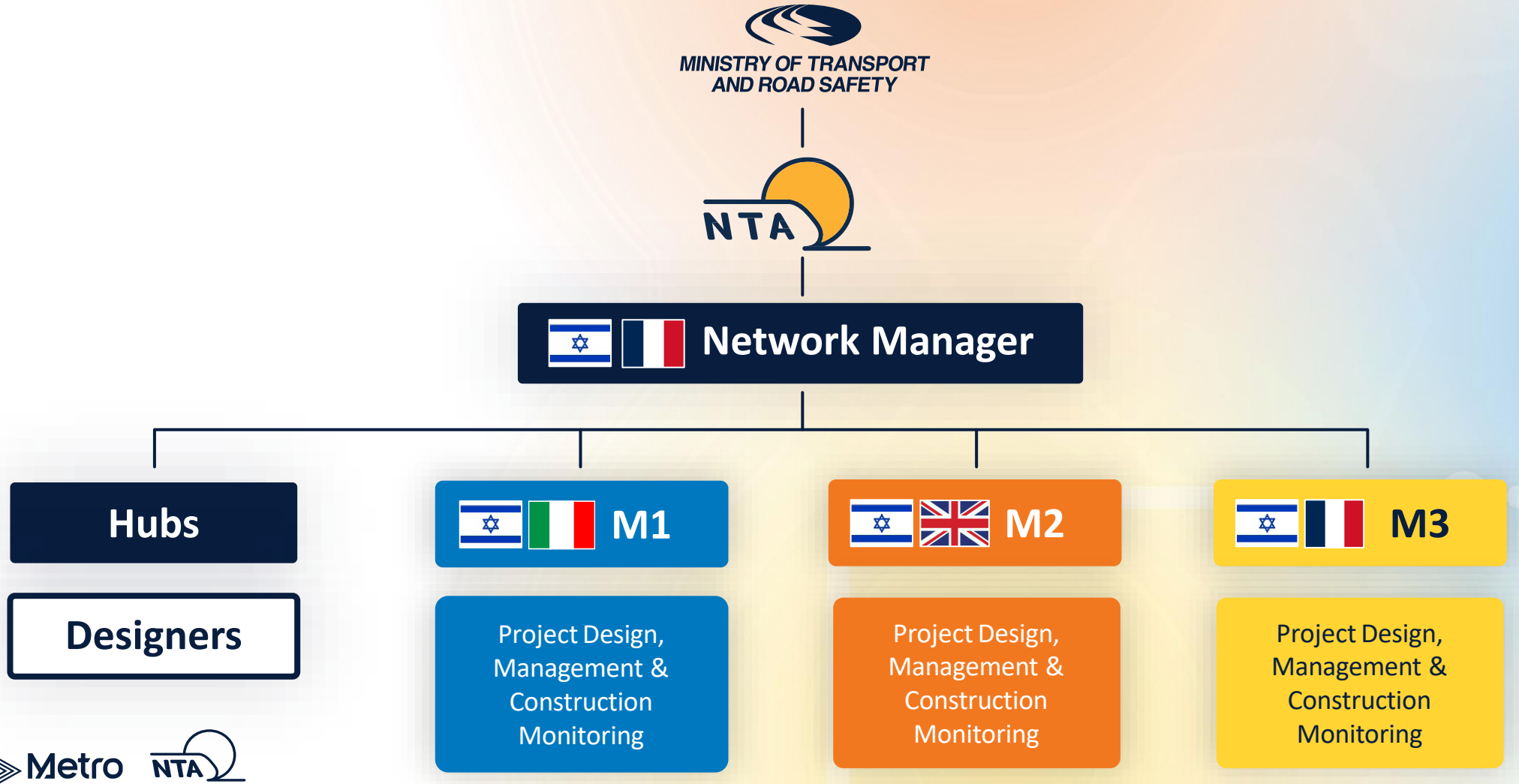
Development Above Stations

Glilot
Gordon Architects



TLV Center
HQ Architects

Managerial Structure



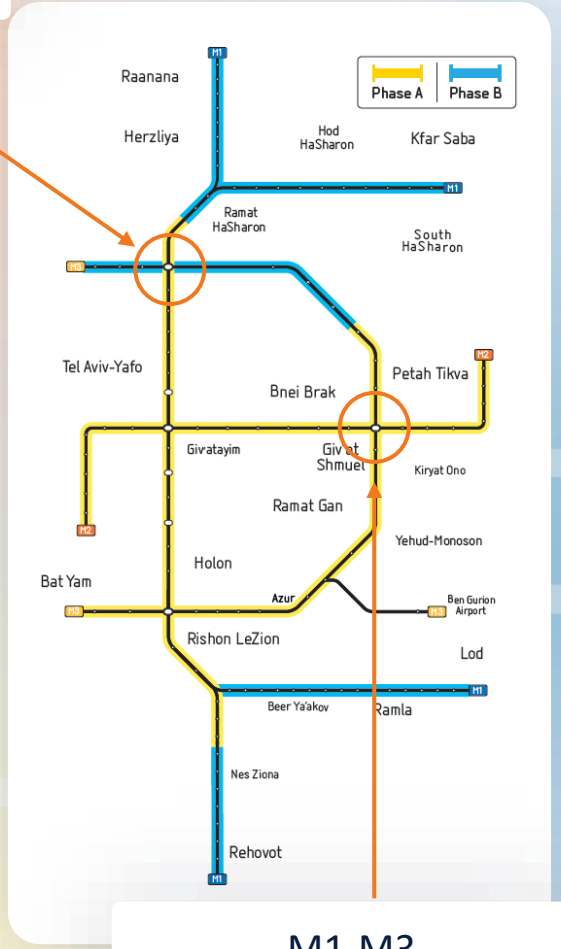
Project Staging

The Metro Project is divided into two main execution stages:

		M1	M2	M3	Total network
Stage Execution 1	Track Length	28 km	26 km	24 km	**78** km
	stations	20	22	17	**59** Stations
	Depots	Rishonim	Sgula	Mesubim	**3** Depots
Stage Execution 2	Track Length	58 km	-	11 km + 5 km to airport	**74** km
	stations	42	-	7 km + 1 km to airport	**50** Stations
	Depots	Ra'anana	-	-	**1** Depot
		85 km	**26** km	**39** km	

Total: 150 km, 109 Stations

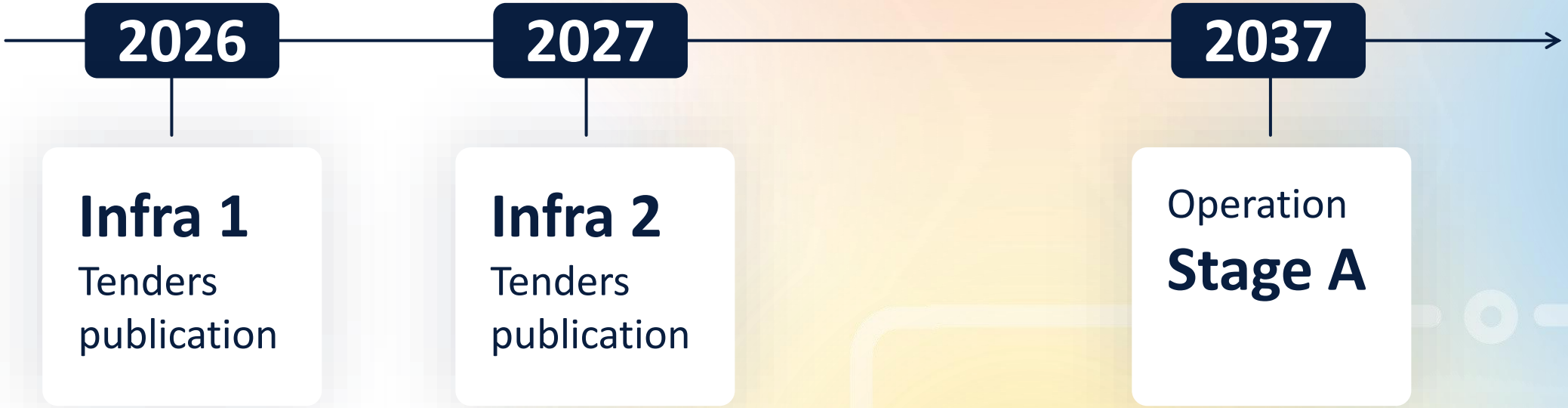
M1-M3 Connection (Glilot)



M1-M3 Connection (Kfar Ganim)

Metro NTA

Major Milestones



Line M1

Kobby Ben Atar

VP, Head of Metro Line M1

M1 Highlights

85 km
Length

62
stations

2
Depots

15 Transfer
Stations

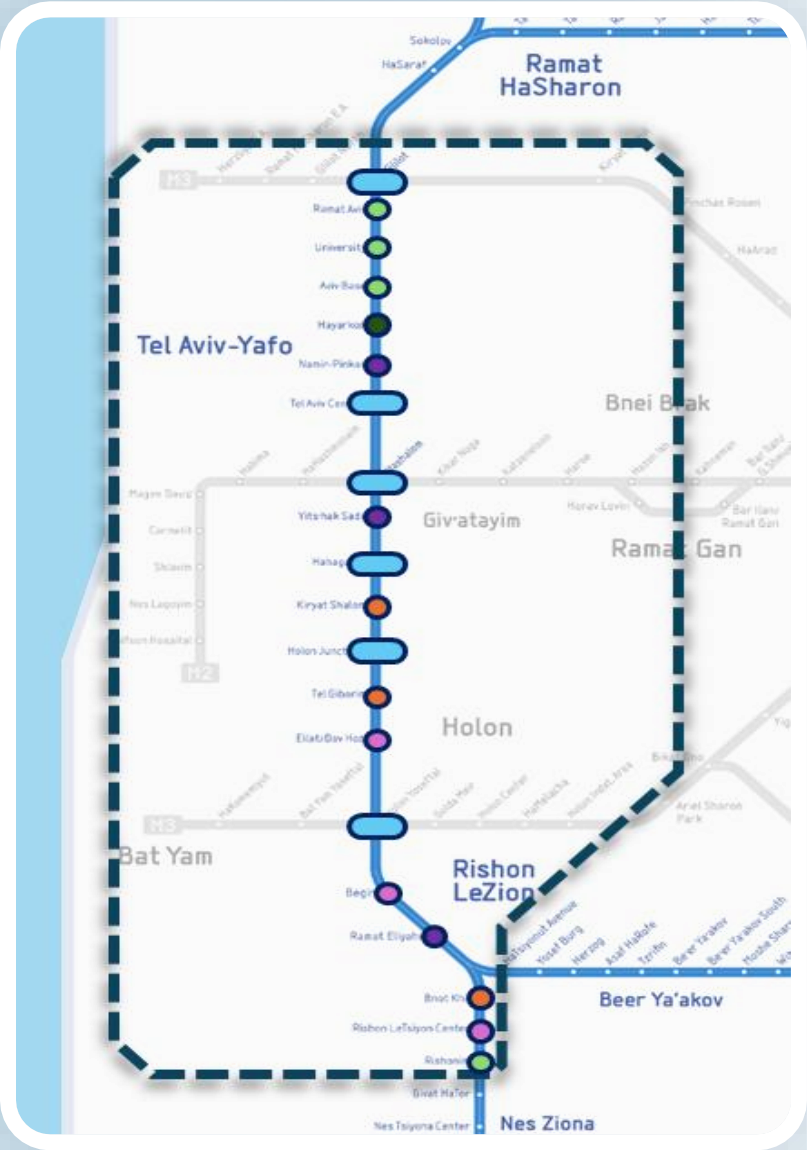
14
Municipalities

Project Staging – Stage 1

M1 Line is divided into two main execution stages

Track Length	28 km	**Depots**	Rishonim
stations	20	**Operational Elements**	10

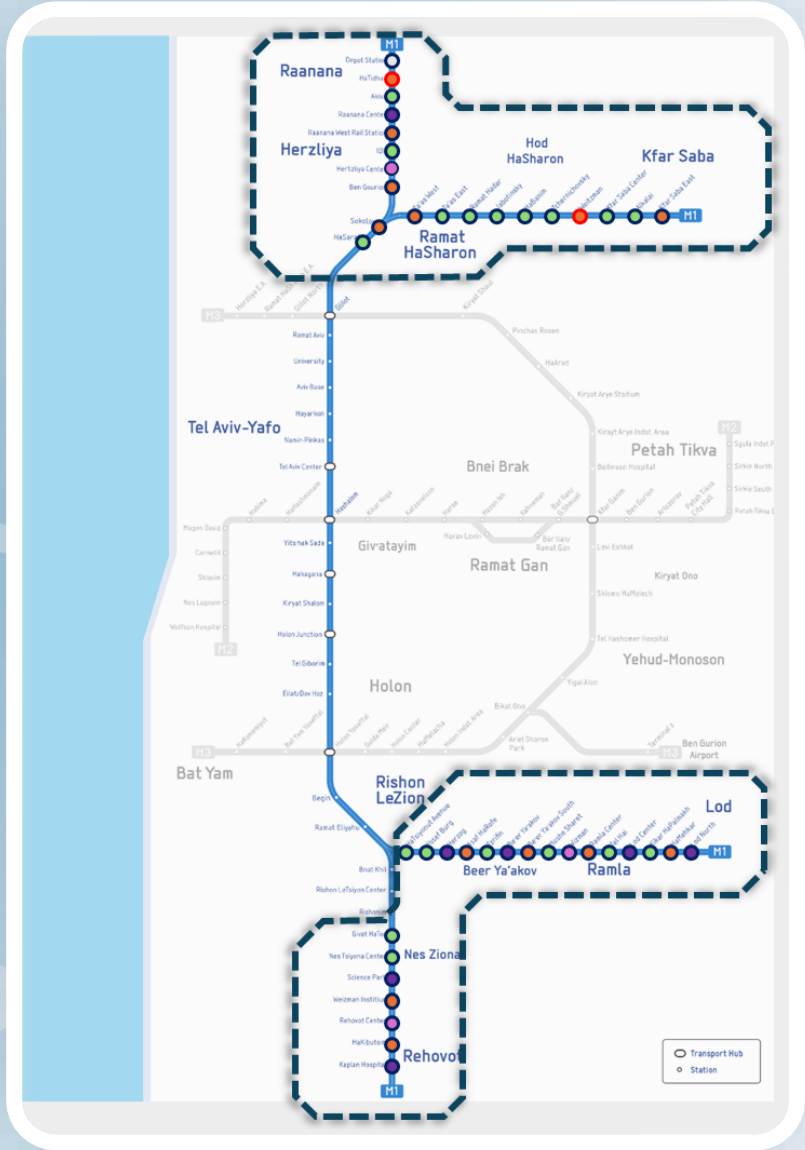
- Starts From Rishon Le Zion HaRishonim including the Depot until Glilot
- Execution Stage 1 is divided into **3 Sub-stages** of operation as follows:
  - **Sub-stage 1** – Rishonim to Holon Junction
  - **Sub-stage 2** – Holon Junction to Namir Pinkas
  - **Sub-stage 3** – Namir Pinkas to Glilot



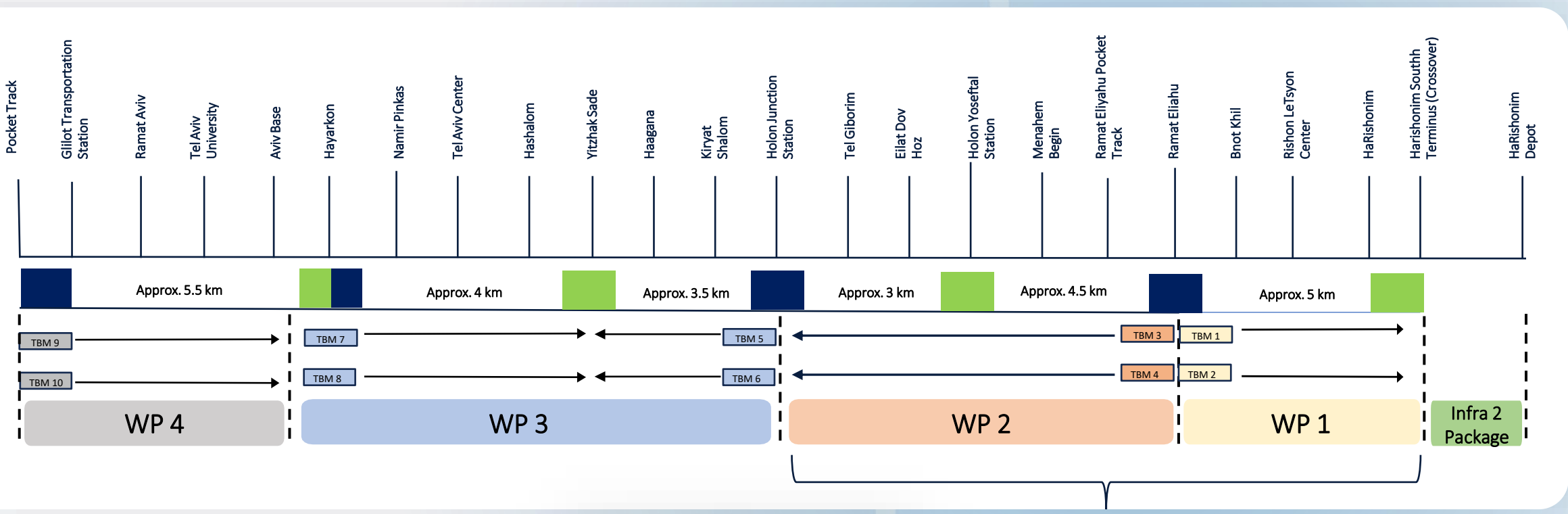
Project Staging – Stage 2

Track Length	57 km	**Depots**	Ra’anana
stations	42	**Operational Elements**	15

- Execution stage **2 is divided into Southern Branches and Northern Branches**:
  - The Southern Branches start from Lod in the east and Rehovot in the south (29 Km)
  - The Northern Branches include the continuation from Glilot to Kfar Saba in the east and Ra'anana in the north including Ra’anana Depot (28 Km)



Packaging Strategy

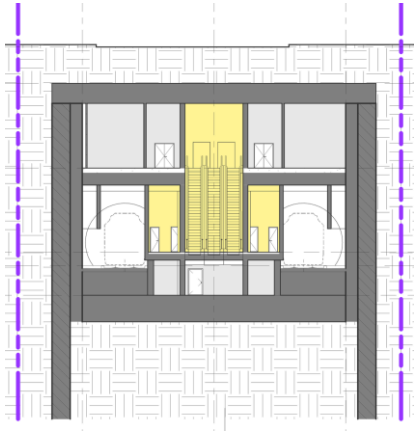


Work Packages	No. of C&C Stations
Package 1	4
Package 2	5
Package 3	7
Package 4	4
Total	20

Launching Shaft
Retrieval Shaft
TBM drive
TBM

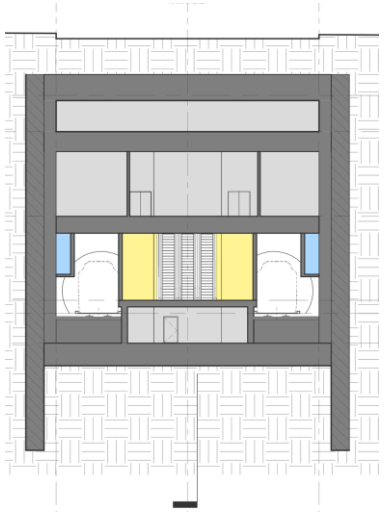
Typical Stations – M1

There are 4 types of stations in M1 Line:



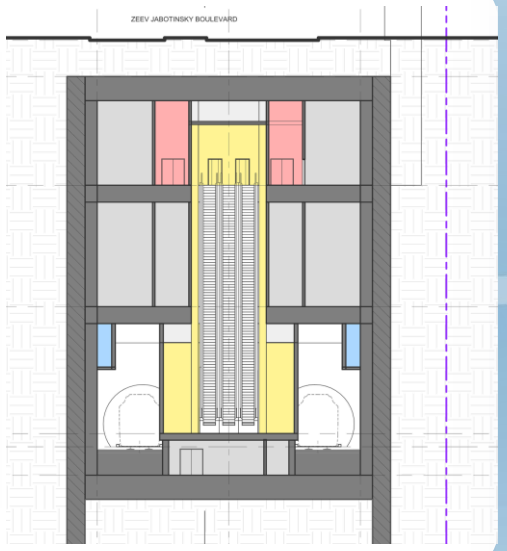
2 Level Station

Depth - ~24m
Length - ~226m
Width - ~22m



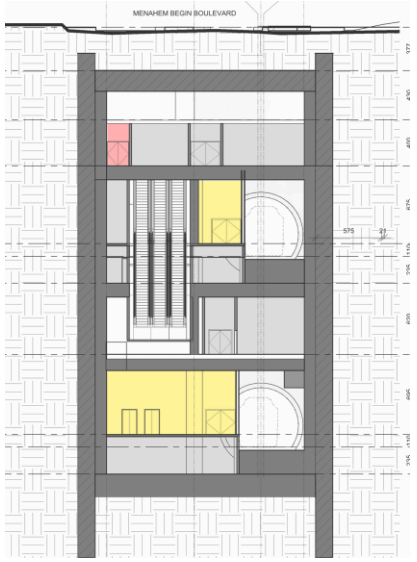
2 Level + Crossover

Depth - ~25m
Length - ~225m
+ ~100m Crossover
Width - ~22m



3 Level Station

Depth - ~37m
Length - ~193m
Width - ~21m



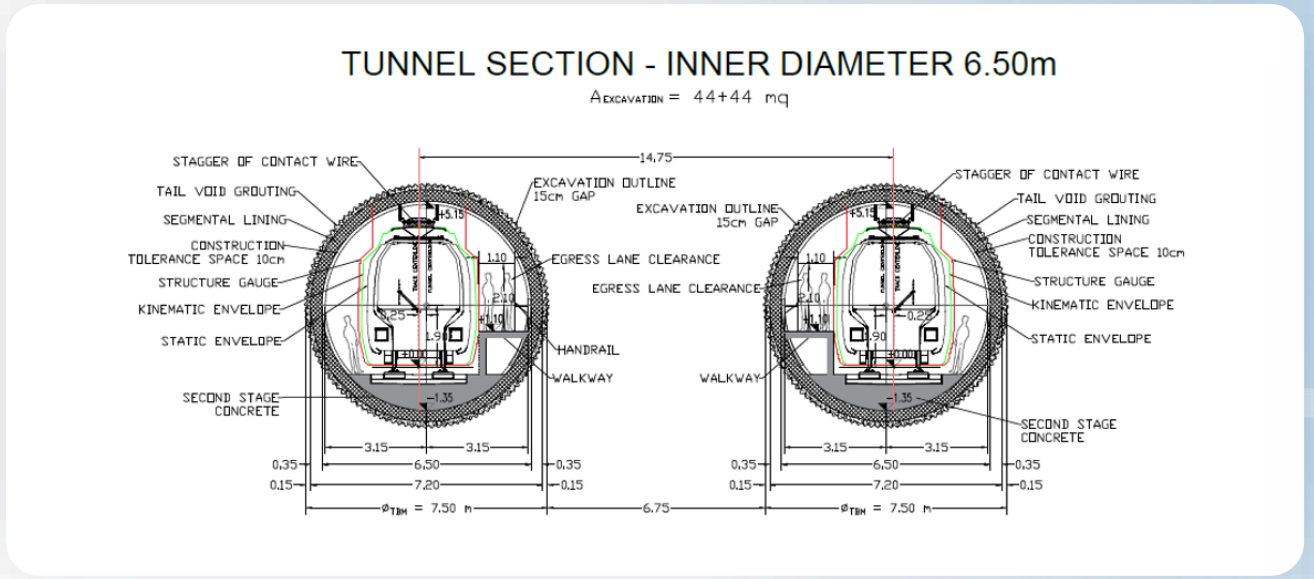
Narrow Station

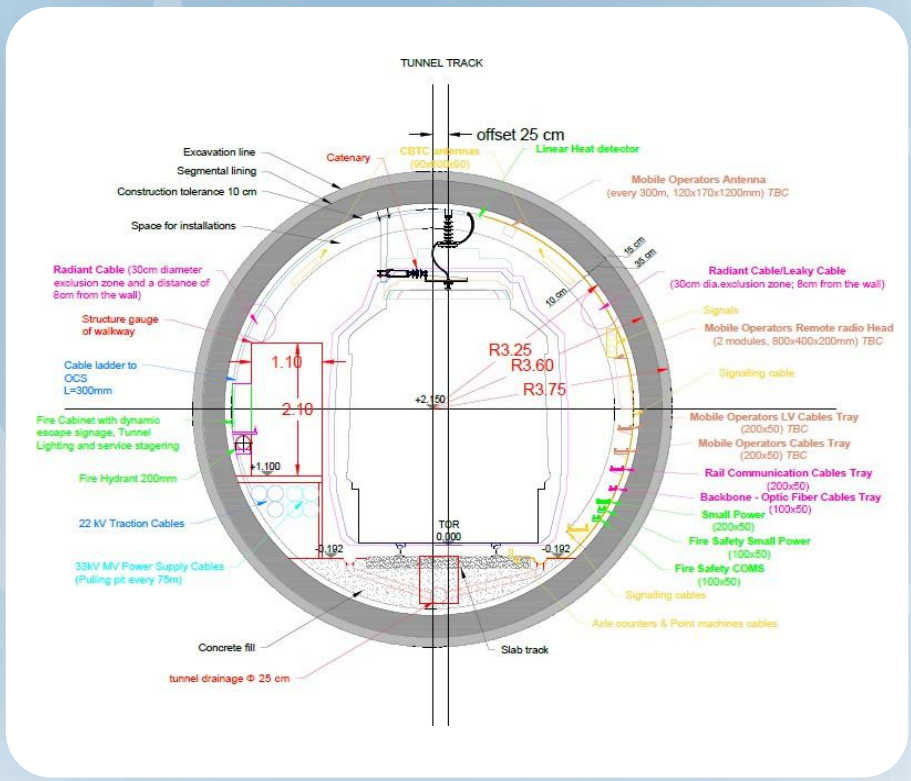
Depth - ~40m
Length - ~190m
Width - ~17m

* Station dimensions are approximate, not final and subject to change during the design

Tunnel– M1

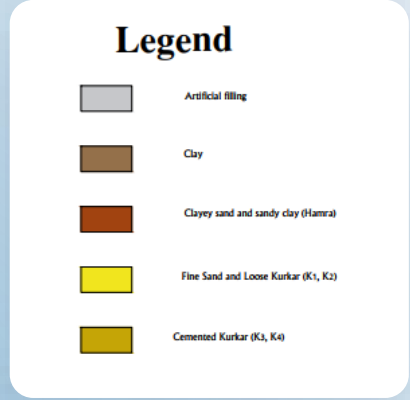
- It is defined a universal type of ring 5+1 configuration with no screwed bolts between segments.
- Inner tunnel diameter 6.5 meters, outer tunnel diameter 7.5 meters.
- Twin tunnels with one track per tunnel.

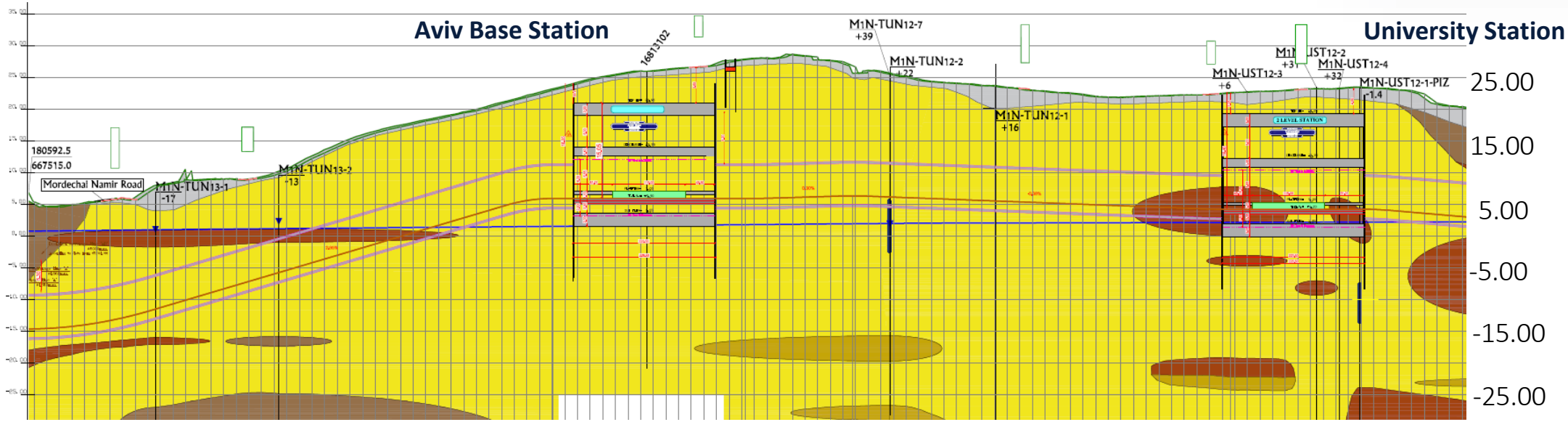




Geological Cross Section

- M1 Line is characterized by dominance of fine sand and loose Kurkar (yellow), with discontinuous layers of Clay and “Hamra“.
- There are places along the M1 Line, in few stations, such as the Hagana station that are located in clayey terrain (as in areas like the Ayalon and Yarkon Rivers), but most of the ground along the line is sandy.

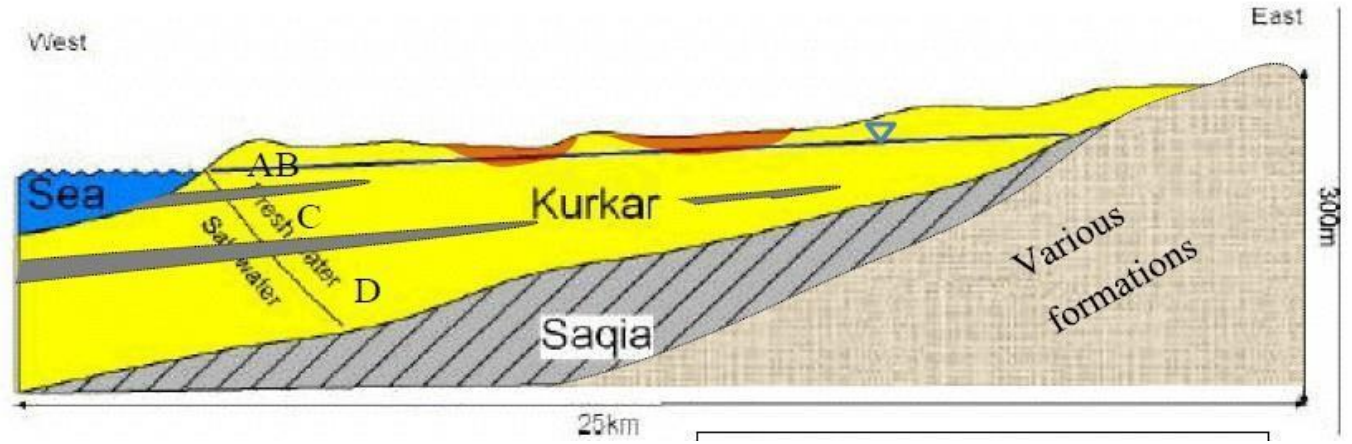


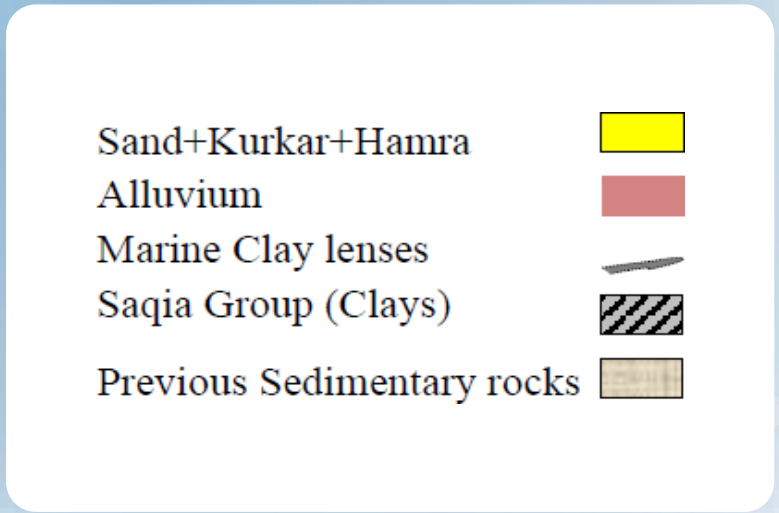


*The findings are based on initial surveys

Hydro - Geology

- The Metro tunnels pass through the Coastal Aquifer - a porous, Phreatic Aquifer.
- Going eastwards from the sea, the Aquifer gets thinner, groundwater level rises and hydraulic conductivity decreases.
- The general flow direction is seawards.
- The Aquifer is polluted in places and is heavily exploited for drinking and irrigation.
- Most of the tunnels would be submerged under groundwater.



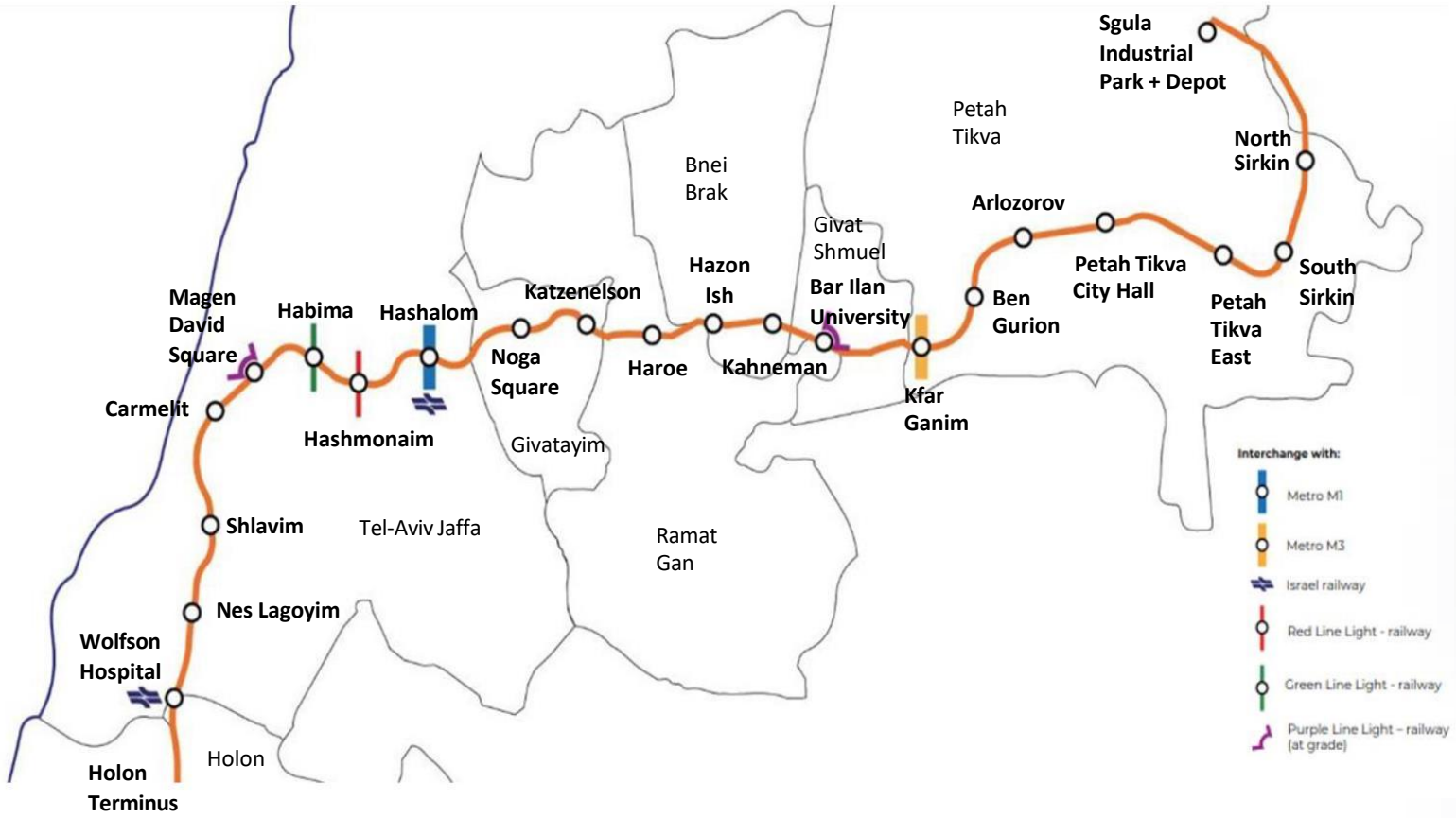


Line M2

Adi Kain Carni

VP, Head of Metro Line M2

Overview



26 Km Length

22 stations

7 Municipalities

1 Depot

2 Interchange Stations

Project Scope

Advanced Works
(by local Contractors)

- Enabling Works including Utilities diversion
- Acoustic protection
- Launching Shafts (2)

Infra #1

- Launching Shafts (2)
- 23 km of Tunnelling
- 19 x Underground Stations
- 1 x At Grade Station
  - 2 Hubs (by others)
  - crossovers
- Eastern Portal, Terminus

Infra #2

- Fit out & Station MEP Systems
- Rolling Stock
- Track & Power
- Operations & Maintenance

Segula Depot

Depot early works
(site preparation and earth works)

Infra #1: Bridges and structures that are not Rail Systems-dependent

Infra #2: Test track, Power, Rail Systems, communications and fit out

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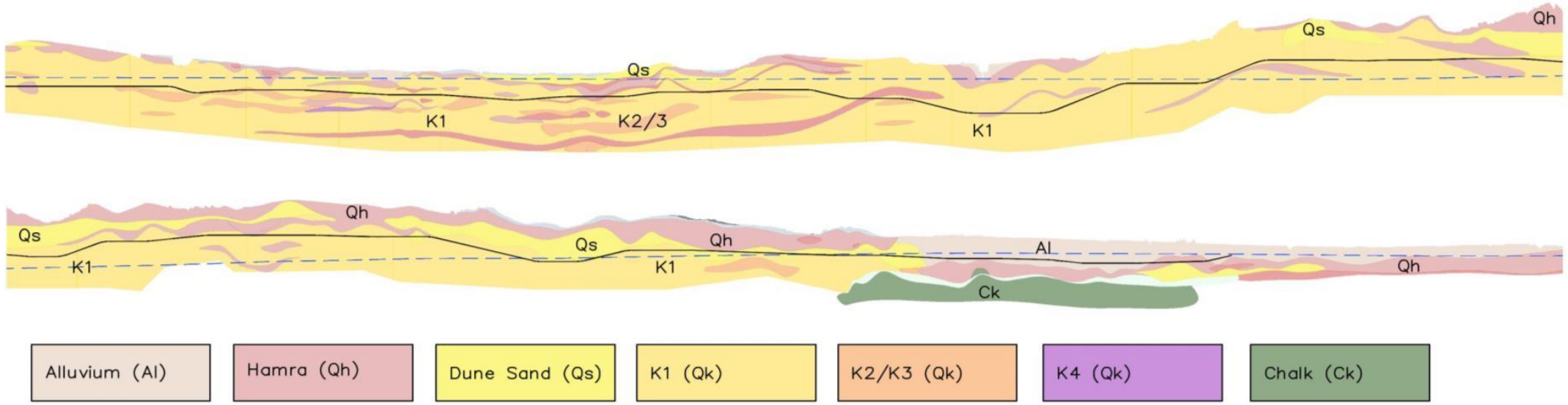
Sample section – Haroe to HaShalom

- Urban environment
- Depth of stations across M2 line:
  ~ 25m to 38m (from ground level to top of rail)

Geotechnical Conditions



- Majority of TBM & mined excavation in Dune Sand to K2 Material
- Blue dashed line - water level
- Black line - alignment

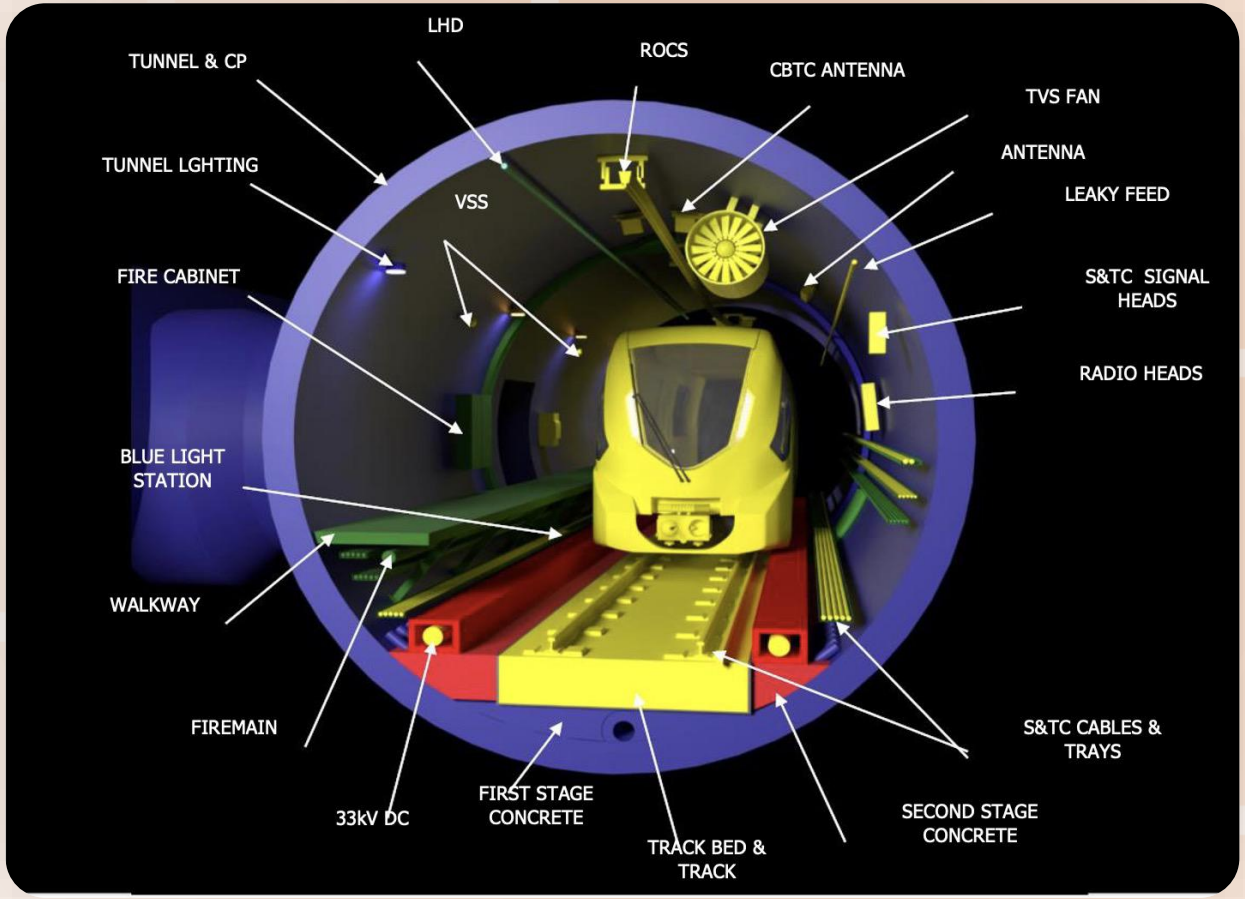
Indicative Tunnel Layout by Package

INFRA 1: CIVILS

INFRA 2: CIVILS

INFRA 2: ARC & MEP

INFRA 2: RAIL SYSTEMS



Indicative Cut & Cover Station Layout

11 Cut & Cover stations Dimensions:

~ 180m long

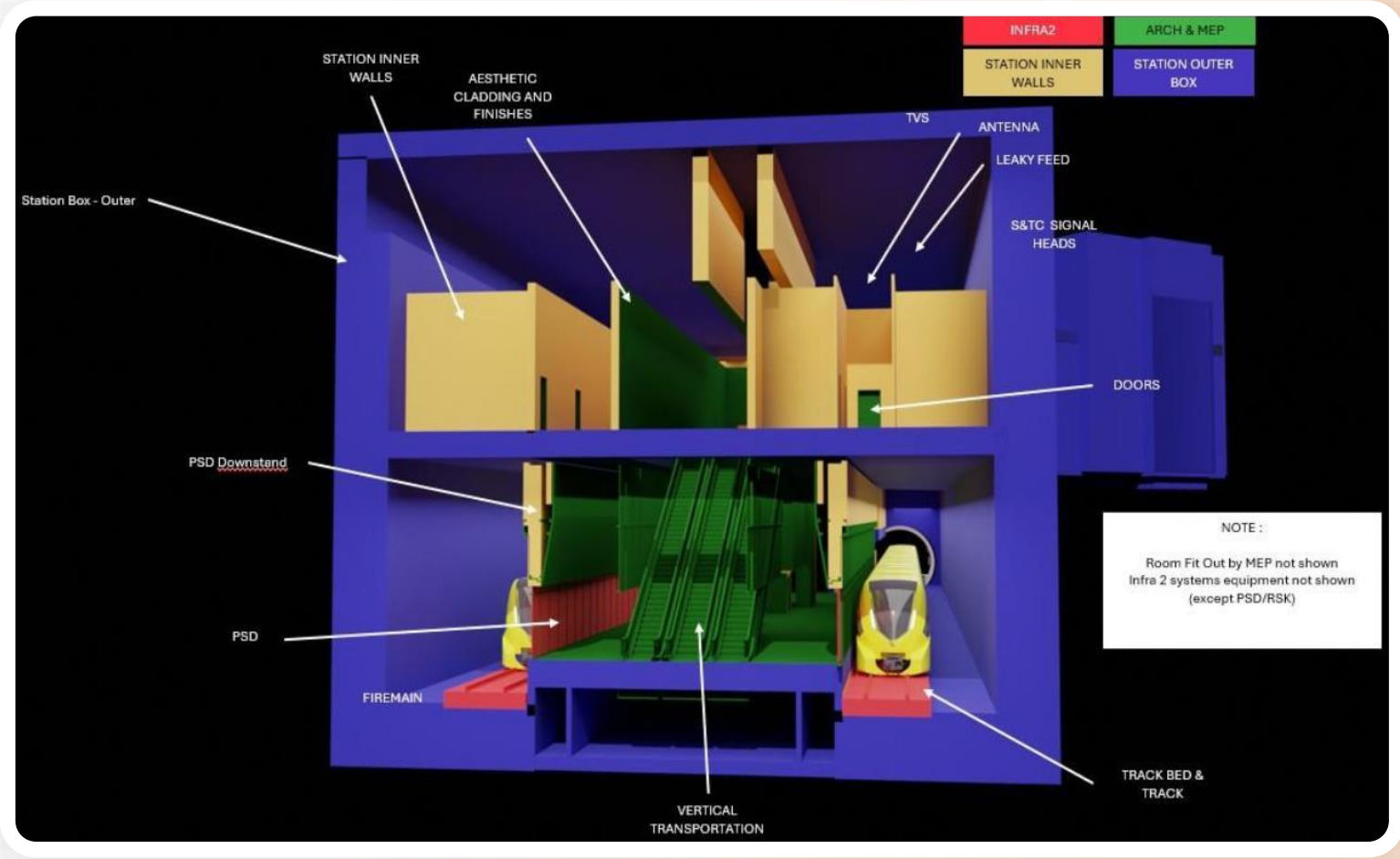
~ 23m wide

Long. Section 3 level C&C station

Sectional view, typical C&C station

View of Platform, typical C&C station

Indicative Cut & Cover Station by Package

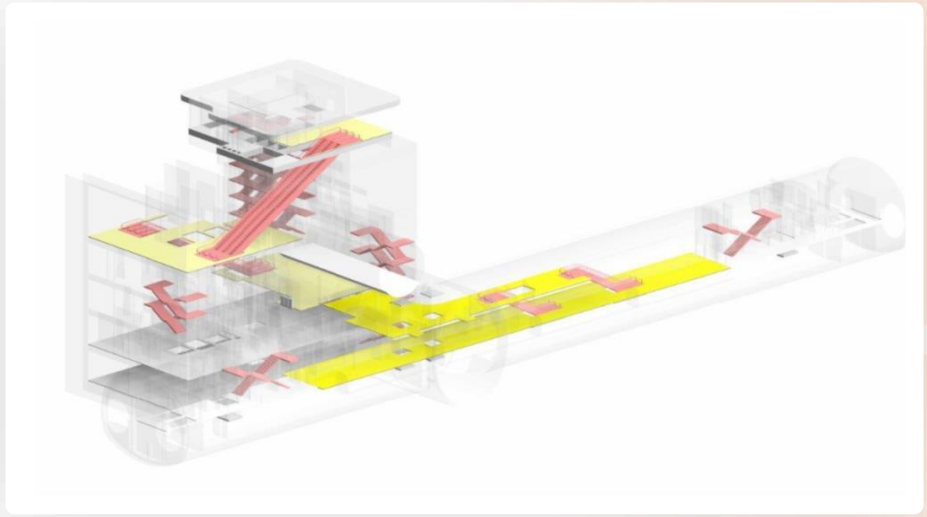


Indicative Mined (NATM) Station Layout

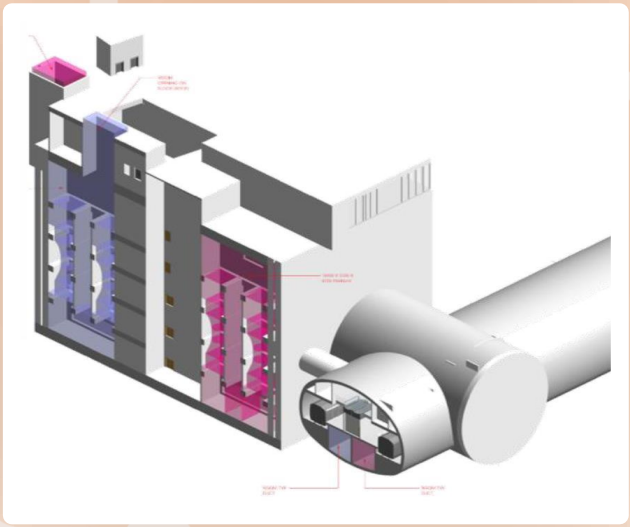
8 Mined (NATM) stations Dimensions:

Cavern cross-section: ~ 21.6m wide x 16.8m high

Station length: ~170m



Axo view of mined station Public routes



Cutaway view of TVS in mined station

Indicative Mined (NATM) Station by Package

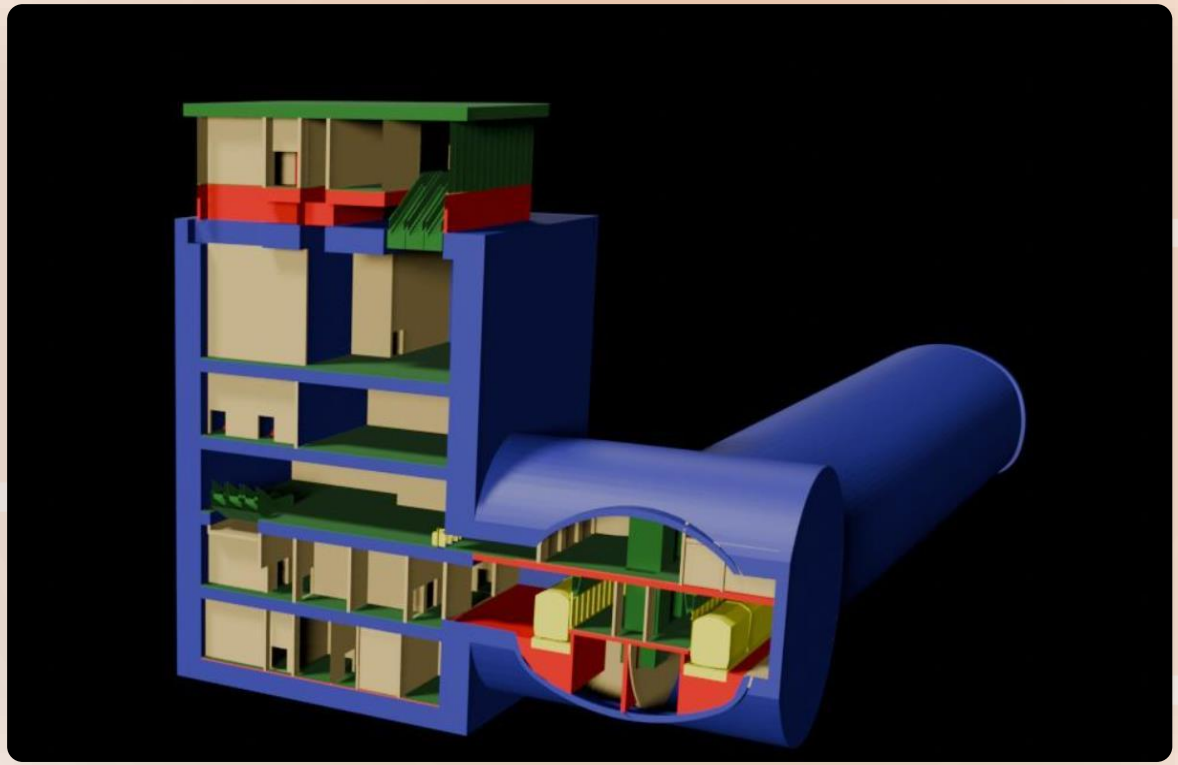
INFRA 1: CIVILS

INFRA 2: CIVILS

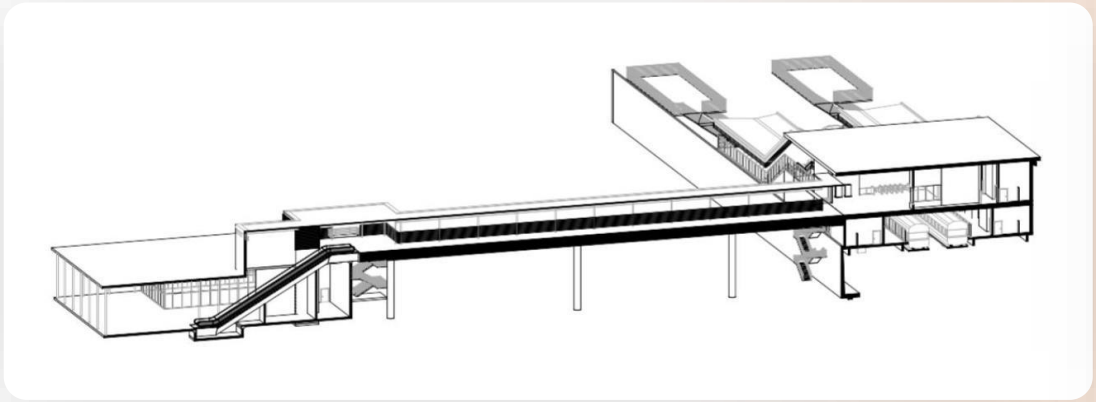
INFRA 2: PARTITION WALLS

INFRA 2: ARC & MEP

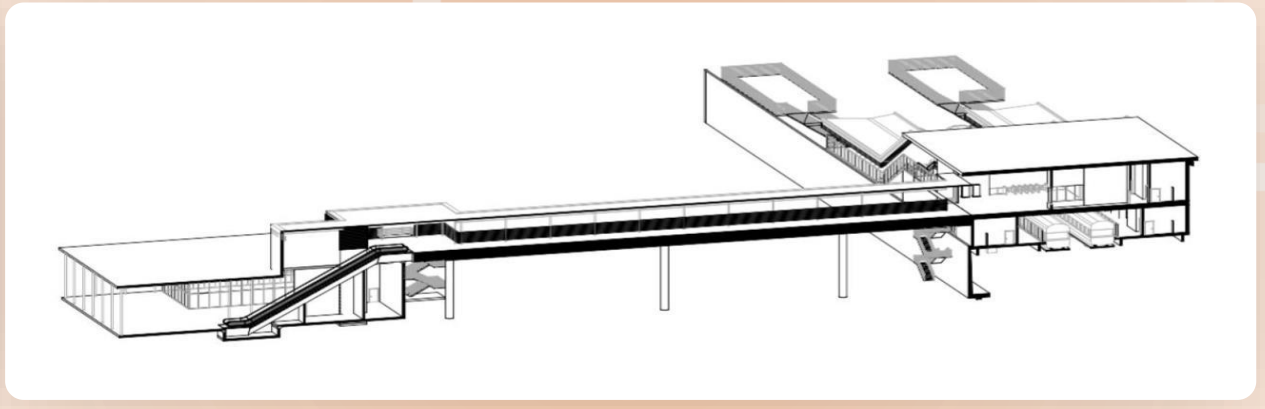
INFRA 2: RAIL SYSTEMS



Indicative At Grade Station Layout



Axo view of at grade station



Section through at grade station

Indicative Depot Layout by Package

ADVANCED WORKS (SUB SURFACE)

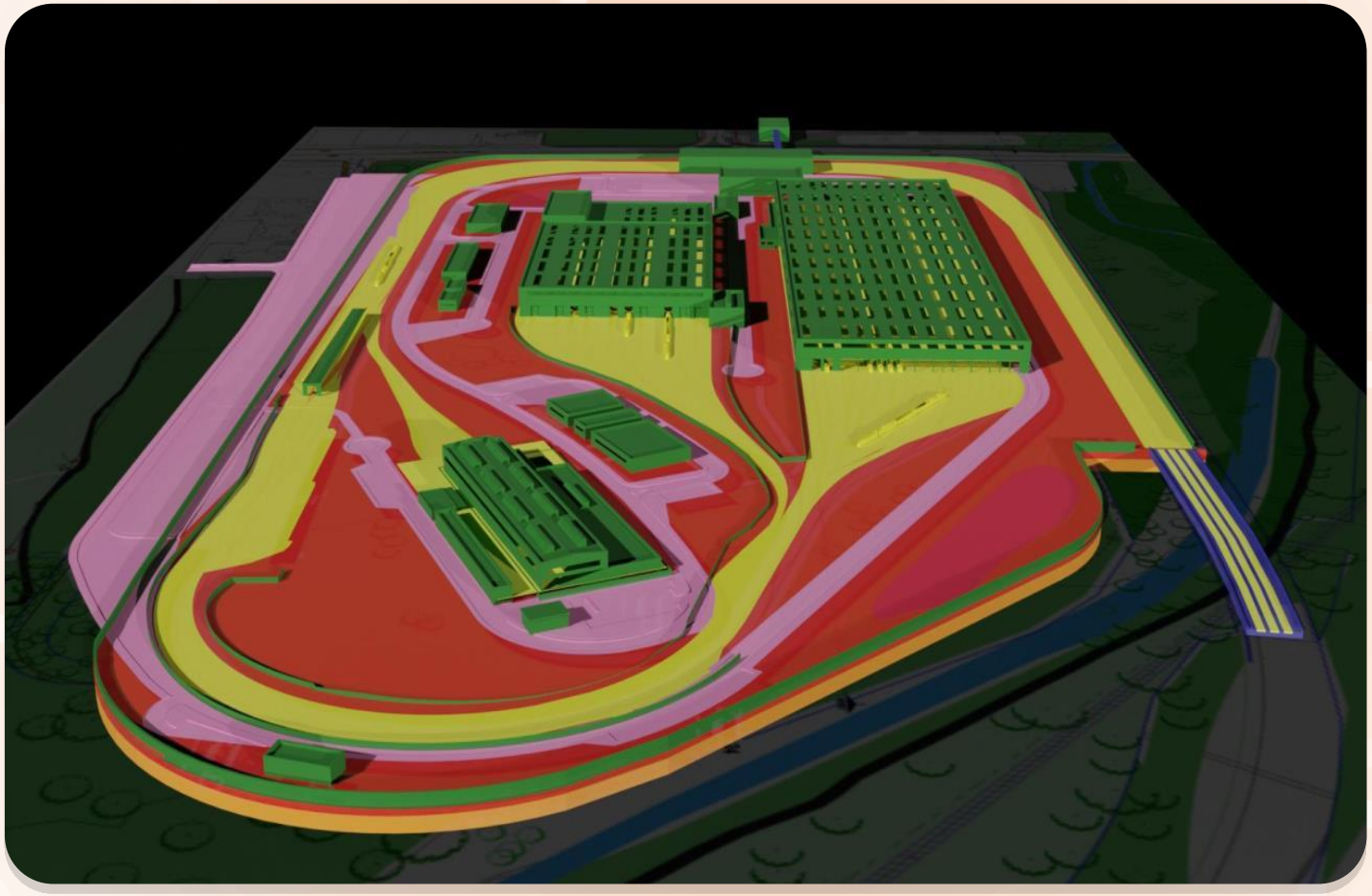
INFRA 1: BRIDGE

INFRA 2: CIVILS

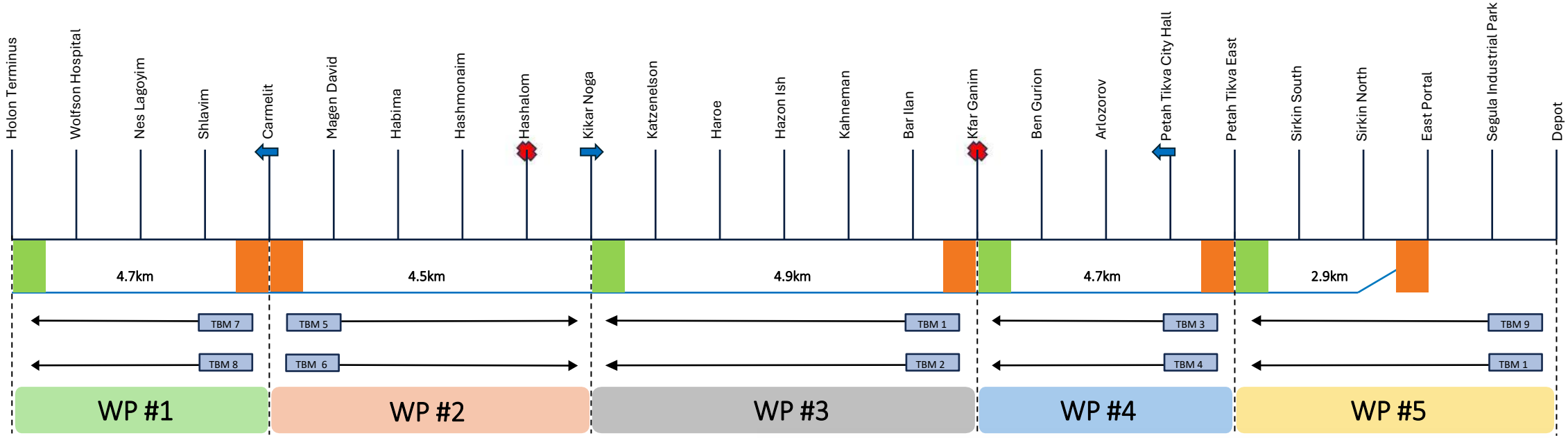
INFRA 2: ARC & MEP

INFRA 2: RAIL SYSTEMS

INFRA 2 : FINAL ROAD



Infra #1 – Work Package

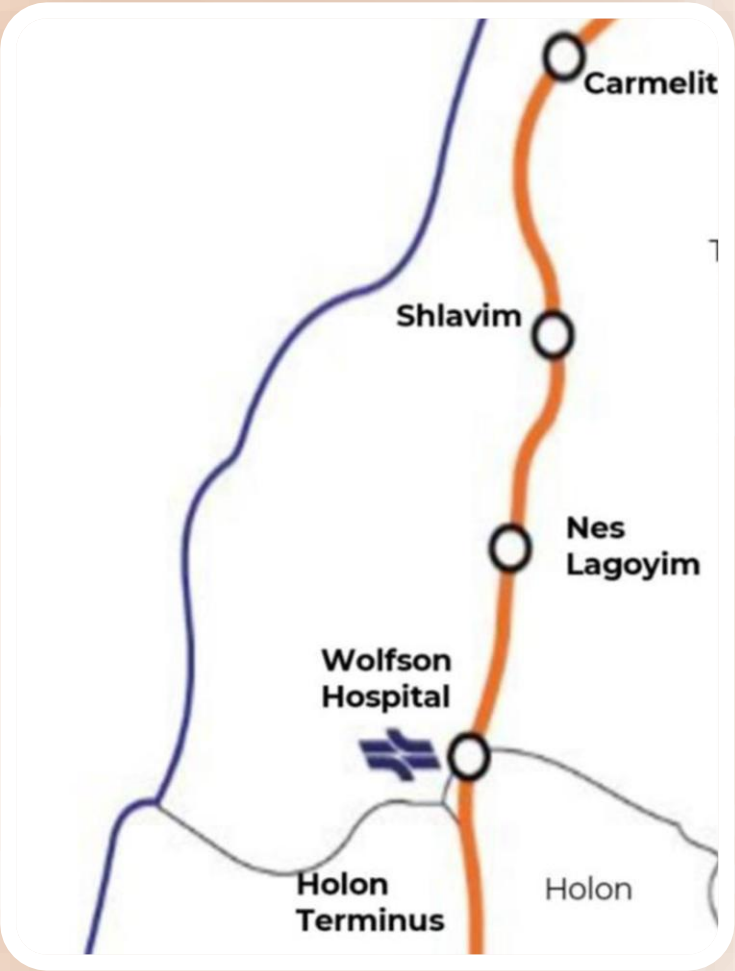


Launch Site
TBM drive
Hub
TBM Reception
TBM
Assignment WP

Note: Infra #1 work packages (stations and lengths) are approximate and subject to change

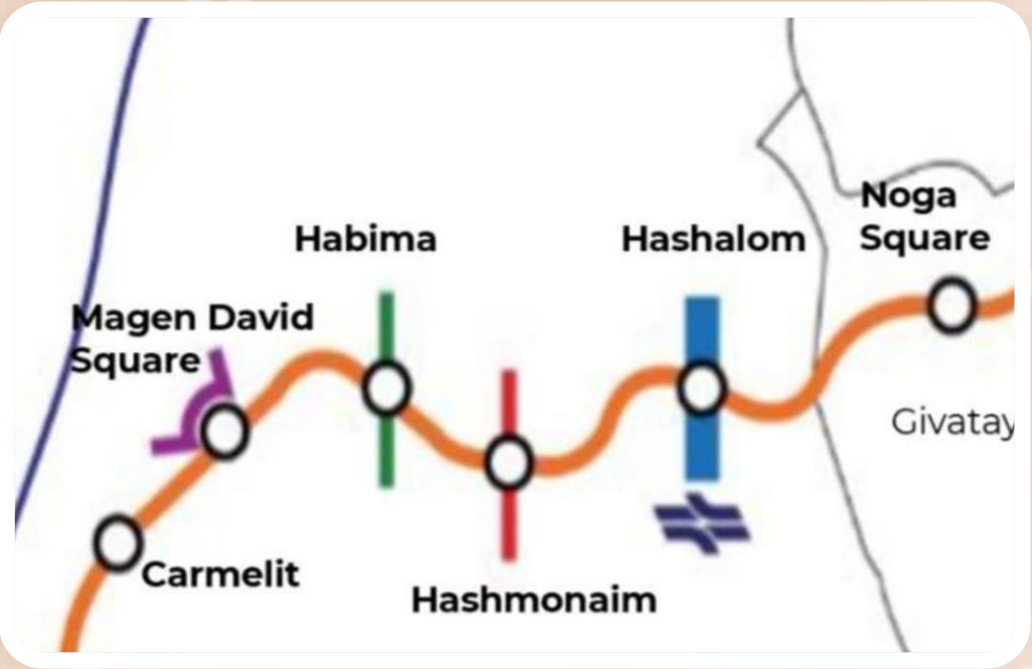
Infra #1 – Work Package #1

Highlights	
Launching Shaft	Carmelit South
TBMs	2
Tunneling	~4.7 km twin tunnel
Underground stations	4 x cut & cover plus terminus
Underground crossovers	2 x mined (NATM) 1 x cut & cover
Local municipalities	Tel Aviv, Holon



Infra #1 – Work Package #2

Highlights	
Launching Shaft	Carmelit North (by others)
TBMs	2
Tunneling	~4.5 km twin tunnel
Underground stations	2 x cut & cover 1 x mined (NATM)
Local municipalities	Tel Aviv
Notes	Hashalom cut and cover station by M1



Infra #1 – Work Package #3

Highlights	
Launching Shaft	Kfar Ganim (by others)
TBMs	2
Tunneling	~4.9 km twin tunnel
Underground stations	2 x cut & cover 5 x mined (NATM)
Underground crossovers	2 x mined (NATM)
Local municipalities	Ramat Gan, Bnei Brak, Givatayim, Givat Shmuel

Infra #1 – Work Package #4

Highlights	
Launching Shaft	Petah Tikva East
TBMs	2
Tunneling	~4.7 km twin tunnel
Underground stations	2 x cut & cover 2 x mined (NATM)
crossovers	1 x mined (NATM)
Local municipalities	Petah Tikva

Infra #1 – Work Package #5

Highlights	
Launching Shaft	Eastern Portal
TBMs	2
Tunneling	~2.9 km twin tunnel
At Grade Section	~1.2 km + depot
Underground stations	2 x cut & cover
At Grade	1 x station Eastern Portal Bridges and road (Depot)
Crossovers	1 x underground cut & cover
Local municipalities	Petah Tikva

Line M3

Lea Shmul
VP, Head of Metro Line M3

M3 Highlights

Tel Aviv Metropolis M3 Line

A cutting-edge metro line that will revolutionize transportation in the central district of Israel.

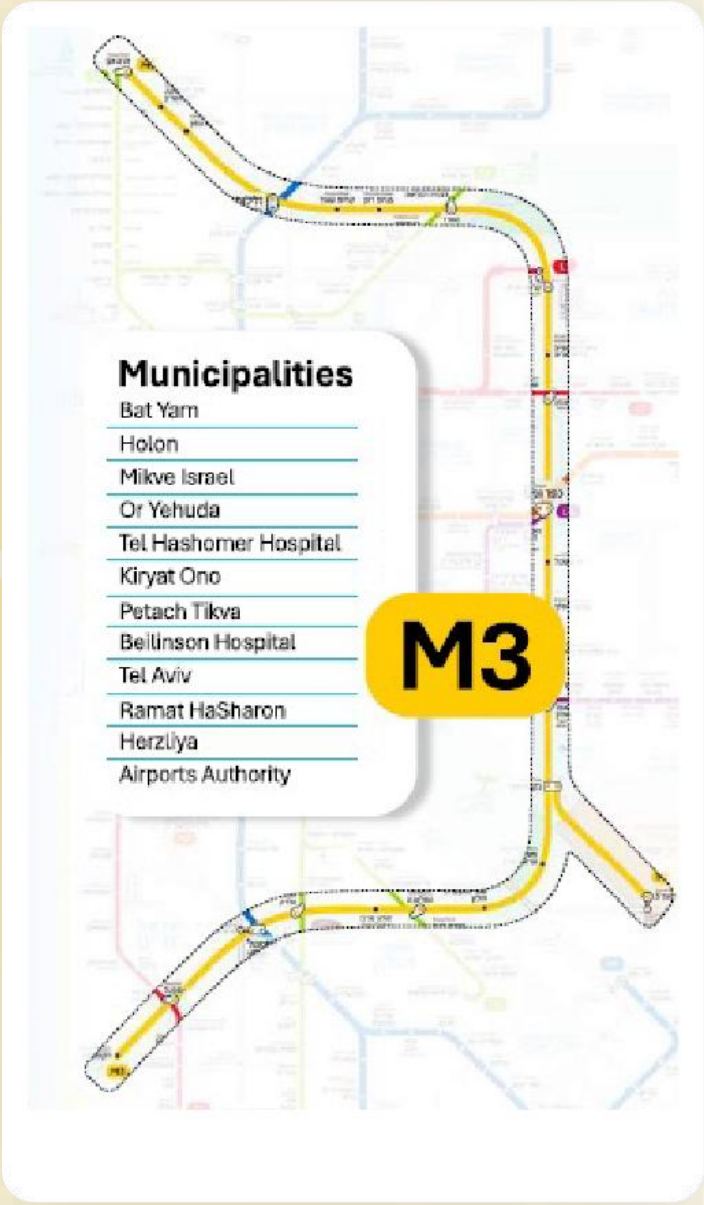
39 km
Length

25
stations

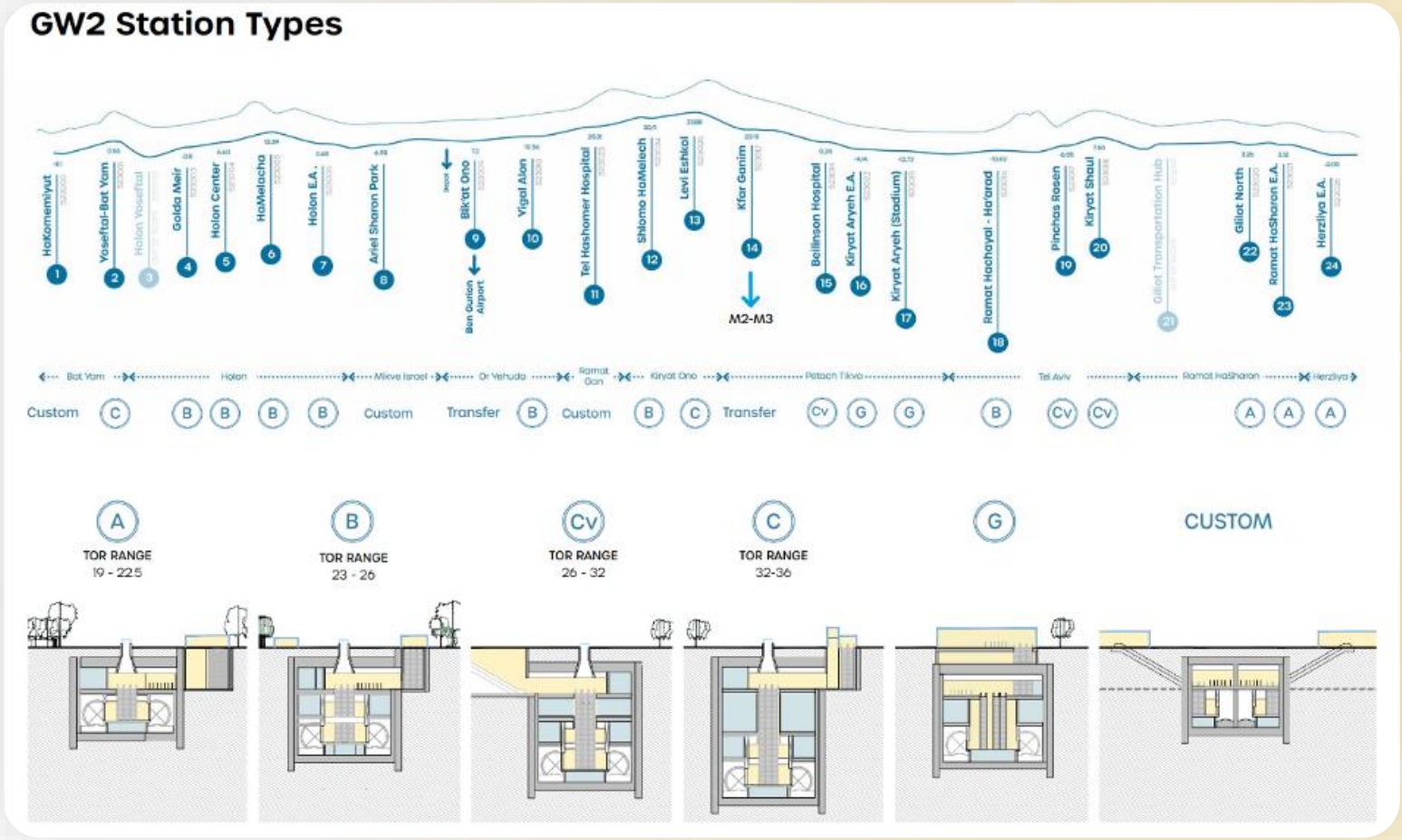
1
Depot

3 Interchange
Hubs

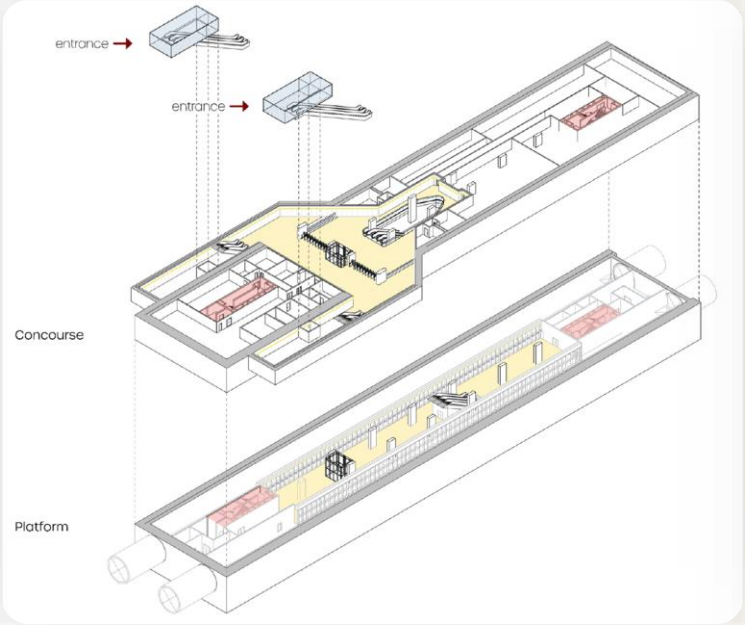
8 operation
Elements



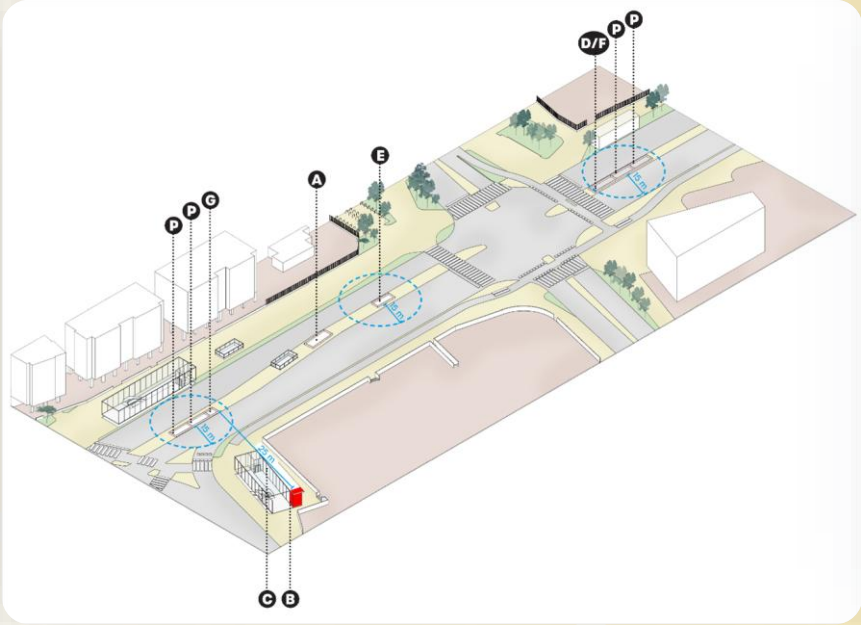
GW2 - Alignment and Stations Types



Indication Station Layout (Cut & Cover)



Underground Levels



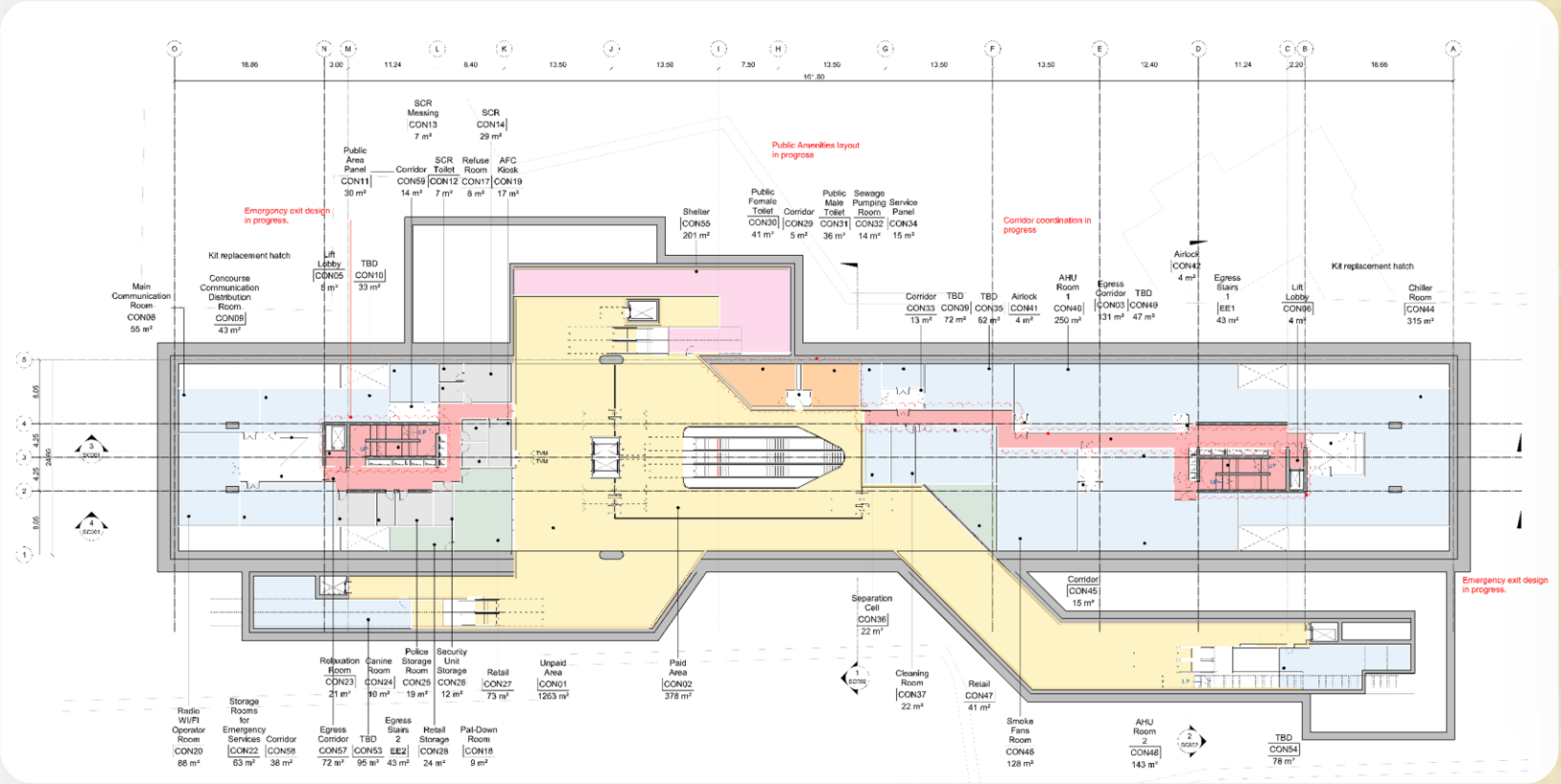
Grade Level

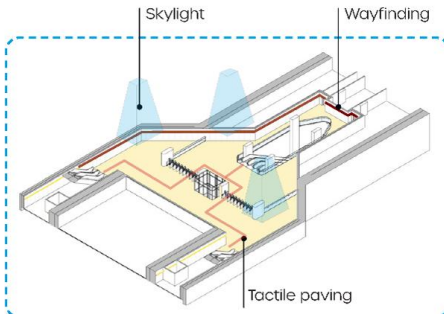
Total: 22 UGS Stations
Phase A – 16 Stations
Phase B – 6 Stations

Dimensions:
Length ~ 165 meters
Width ~ 24 meters

Typical Station Layout - Concourse Level

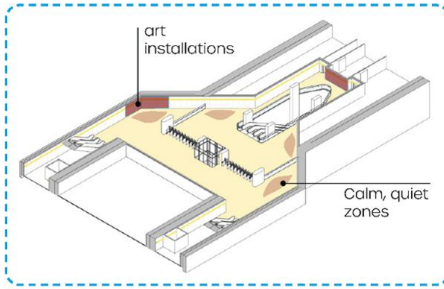
Concourse Level





ACCESSIBILITY

Accessible to all passengers. **Facilities and assistance** for passengers with disabilities to ensure everyone can navigate the station comfortably.



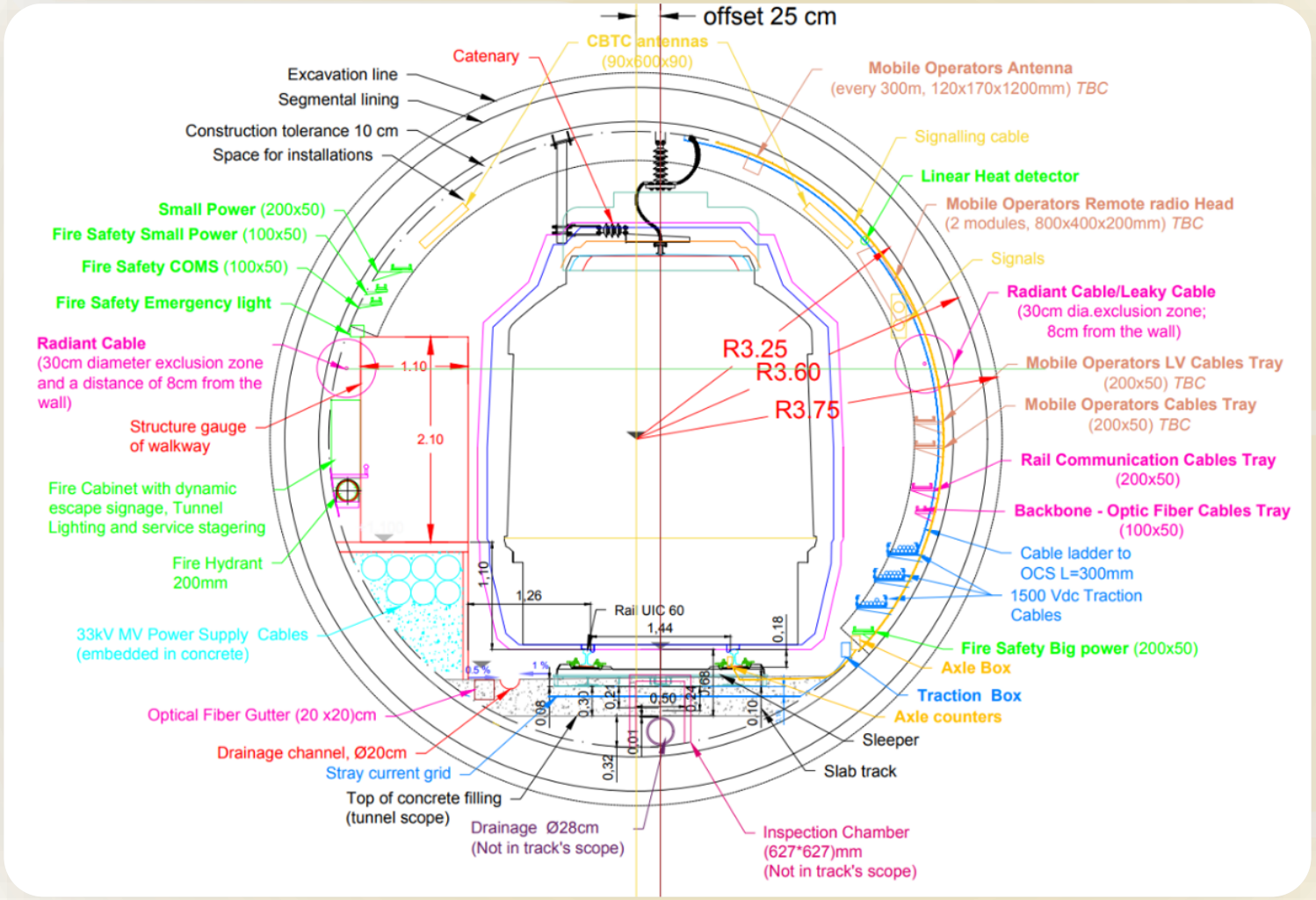
STATION ENVIRONMENT

Aesthetically pleasing designs, such as **green spaces** and **artwork**, create a relaxing and enjoyable atmosphere.

Cross section

TBM tunnels (double-tube) :

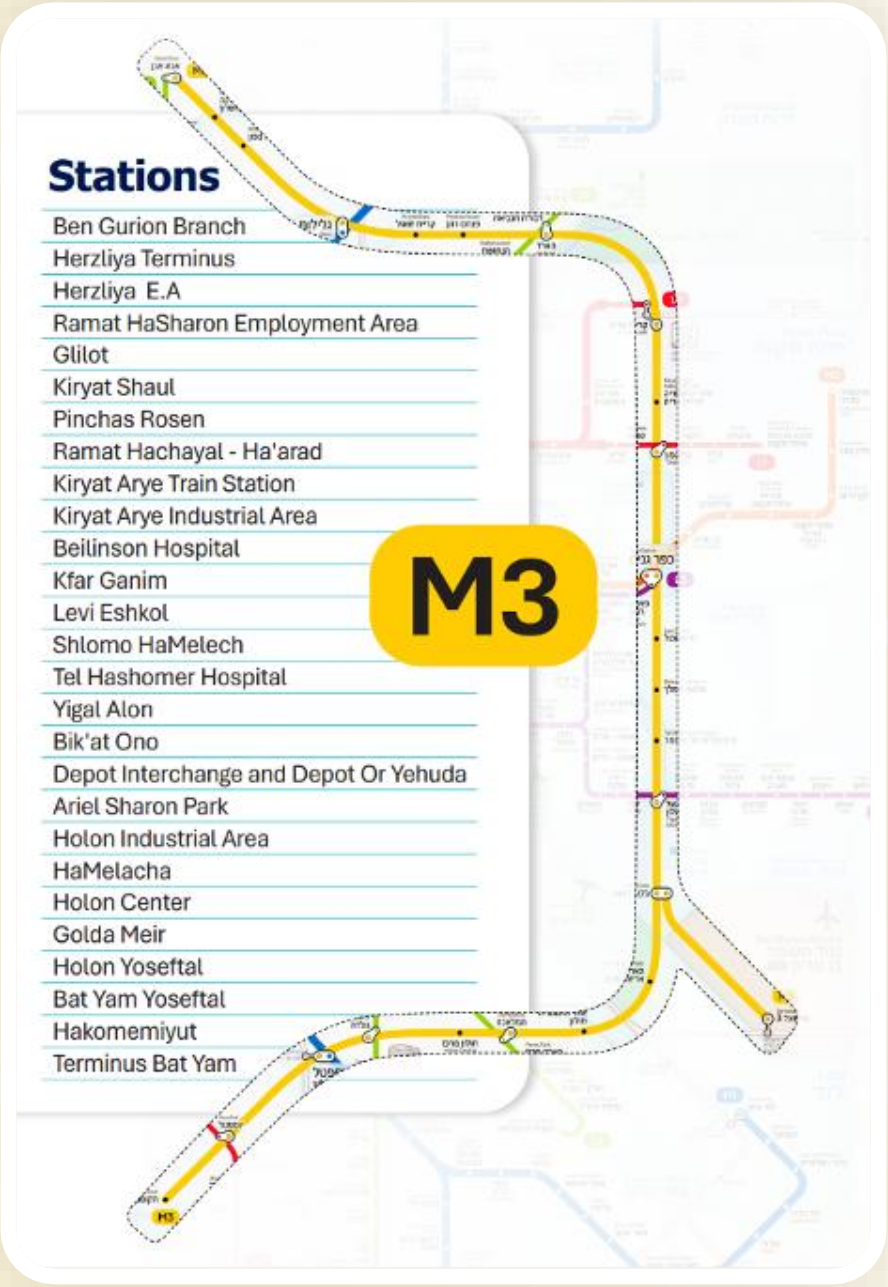
- Excavation diameter = 7.5 m
- Internal diameter = 6.5 m (including 0.10 m tolerance drive on the radius)
- Segments thickness = 0.35 m
- Radial gap: = 0.15 m



M3 Construction Stages

CONSTRUCTION STAGE A starts at Bat Yam Station and finishes at Yarkon National Park (Petach Tikva) stabling track.

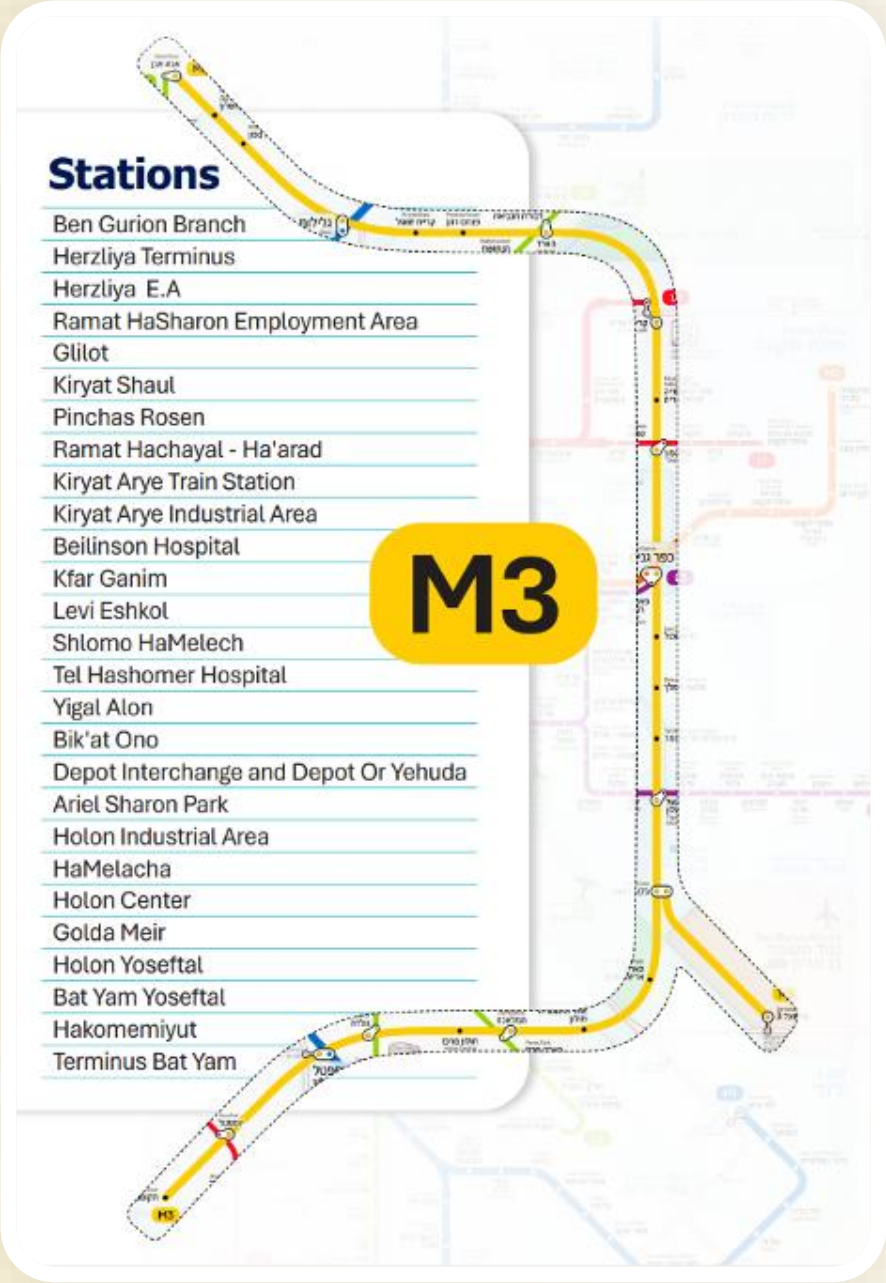
- Length: 25 km
- 16 underground stations
- 9 operational elements
- Mesubim depot compound



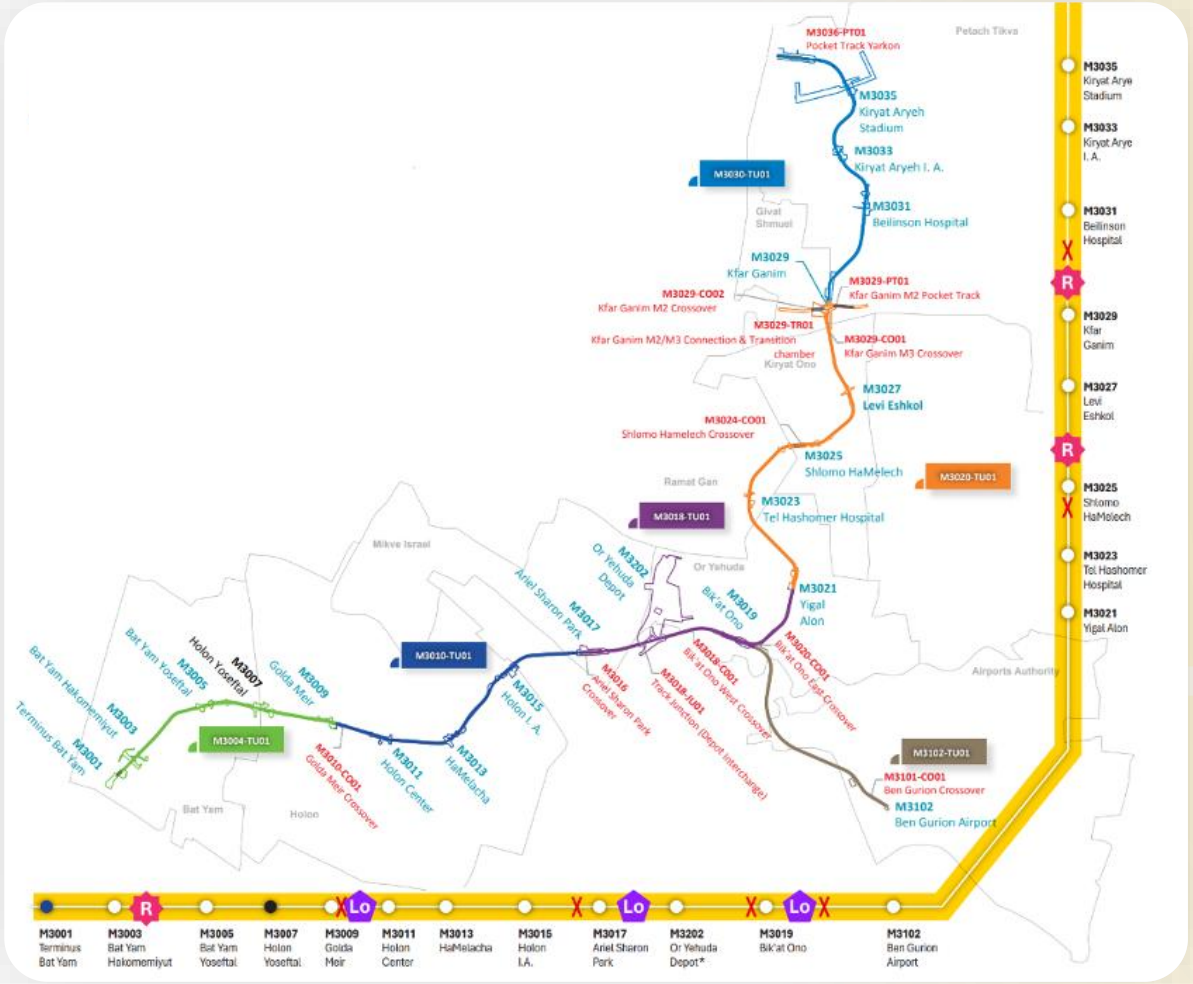
M3 Construction Stages

CONSTRUCTION STAGE B starts at the Yarkon National Park (Petach Tikva) stabling track and finishes at Herzliya Station.

- Length: 14 km
- 7 underground stations
- 5 operational elements
- Includes branch to Ben Gurion Airport



M3 Stages A



ELEMENT'S TYPE	UNITS
STAGE A	29
Station	16
Crossover	6
Chamber	3
Pocket Track	1
Terminus	1
Depot interchange	1
Depot	1
Tunnel	1 Km
Twin Tunnel	23 Km

LEGEND

Station	Cross Over
Operational Elements	Depot
TBM (TBM #)	Launching Shaft (L)
Retrieval Shaft (R)	Logistic Shaft (Lo)

*Note: Not part of WP # 1 Infra 1

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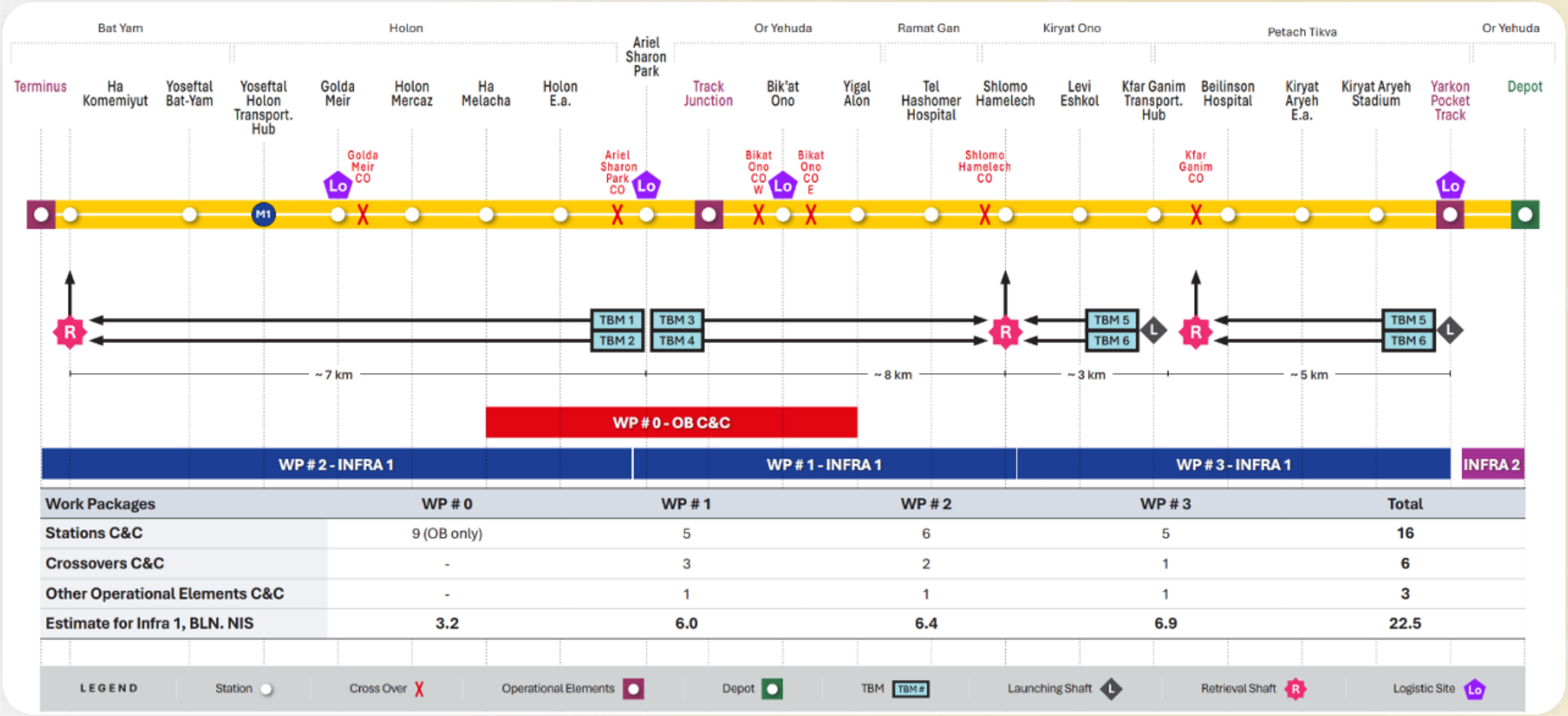
Infra 1 Packaging Strategy



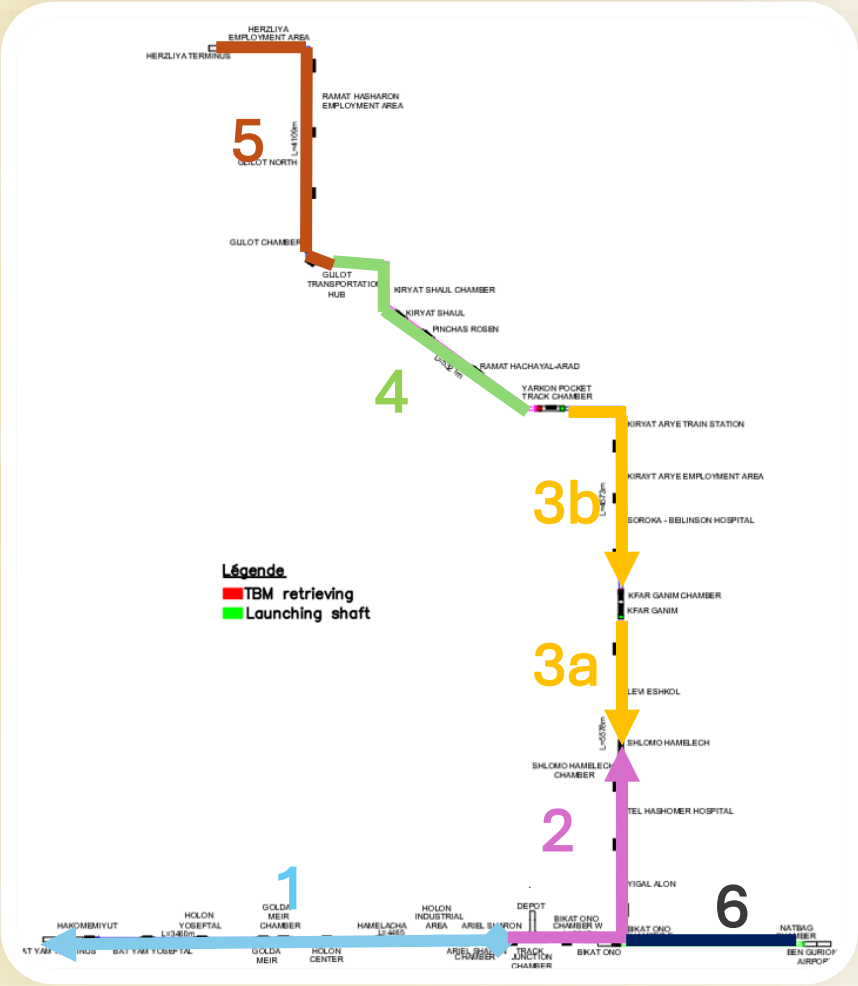
Work Packages	WP # 0	WP # 1	WP # 2	WP # 3	Total
Stations C&C	9 (OB only)	5	6	5	**16**
Crossovers C&C	-	3	2	1	**6**
Other Operational Elements C&C	-	1	1	1	**3**
Estimate for Infra 1, BLN. NIS	**3.2**	**6.0**	**6.4**	**6.9**	**22.5**

LEGEND: Station ○ | Cross Over X | Operational Elements ■ | Depot ■ | TBM [TBM #] | Launching Shaft L | Retrieval Shaft R | Logistic Site Lo

TBM Mining Scheme

The construction strategy encompasses 2x6 TBM drives. In the intermediate design phase, the construction schedule anticipates the stations to be built first. Consequently, the excavation length is estimated approximately, excluding station lengths.

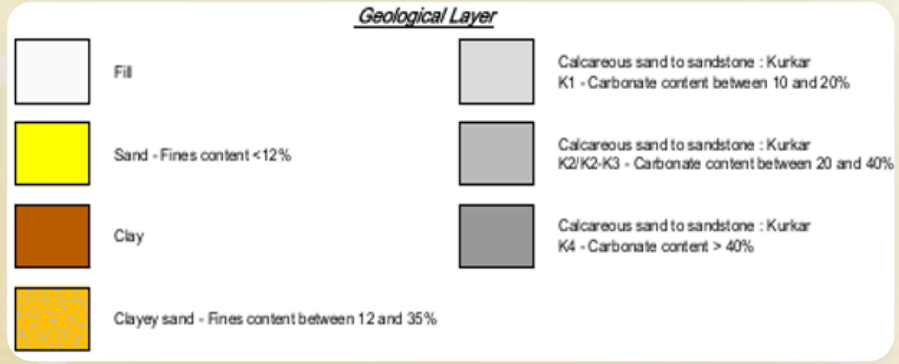
Drive	Launching	Retrieving	Length [m]
1	Ariel Sharon Cross-over	Hakomemiyut	6780
2	Ariel Sharon Park	Shlomo Hamelech Cross-over	5800
3a	Kfar Ganim	Shlomo Hamelech	2010
3b	Yarkon Pocket Track Chamber	Kfar Ganim Cross-over	4300
4	Glilot Transportation Hub	Yarkon Pocket Track Chamber	4600
5	Herzliya Employment Area	Glilot Transportation Hub	3200
6	Bikat Ono Chamber	Ben Gurion Airport	3420

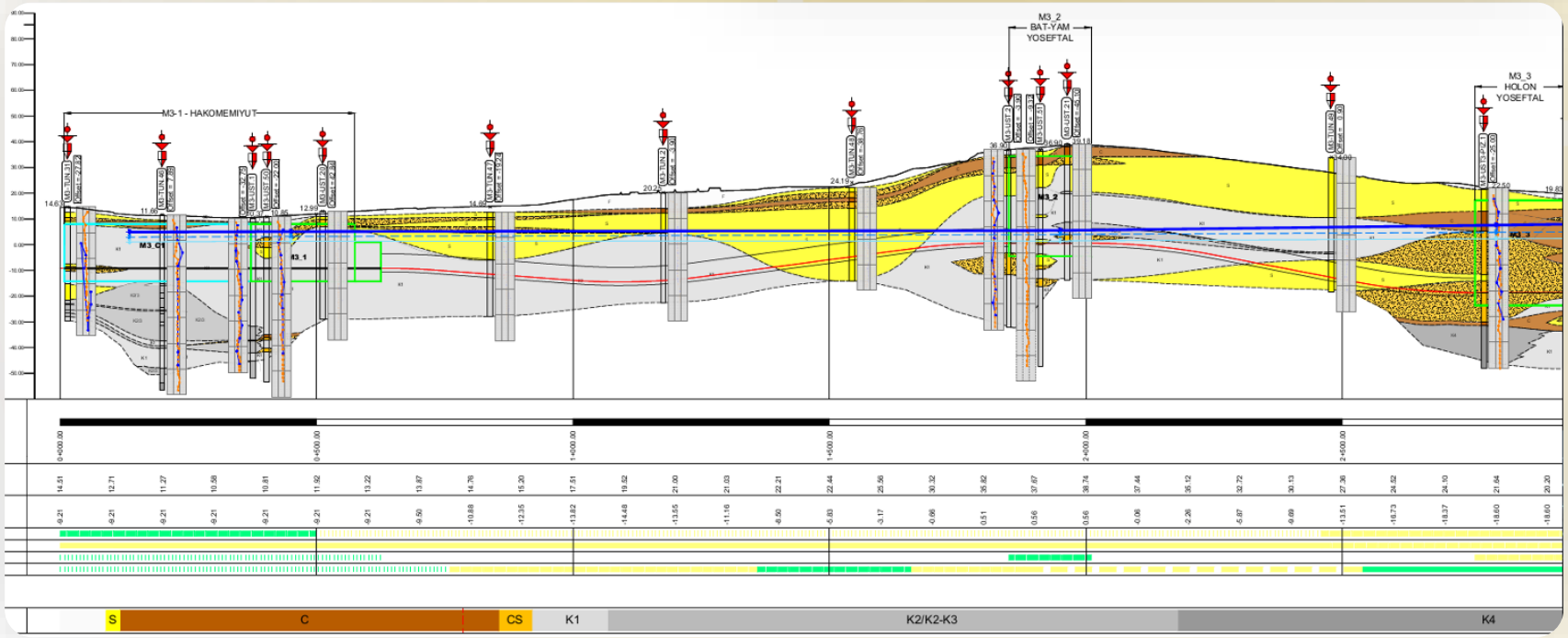


M3 Geological conditions

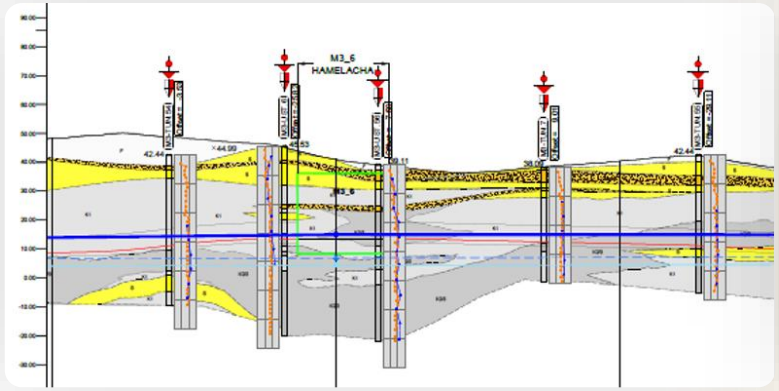
M3 line is composed of 4 main typical geological layers :

- Sand
- Clay
- Clayey sand
- Calcareous sandstone

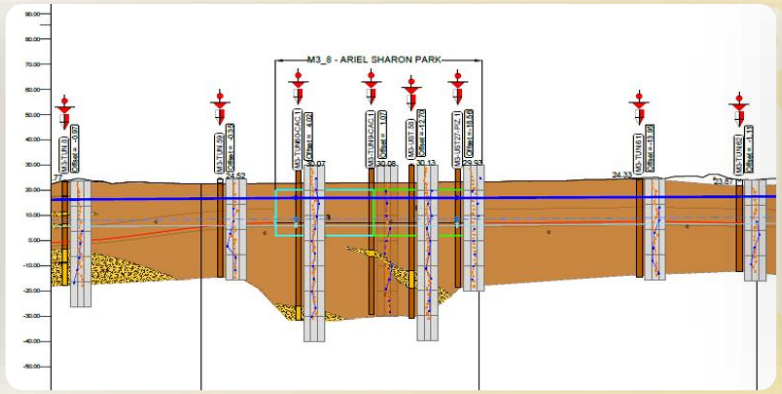




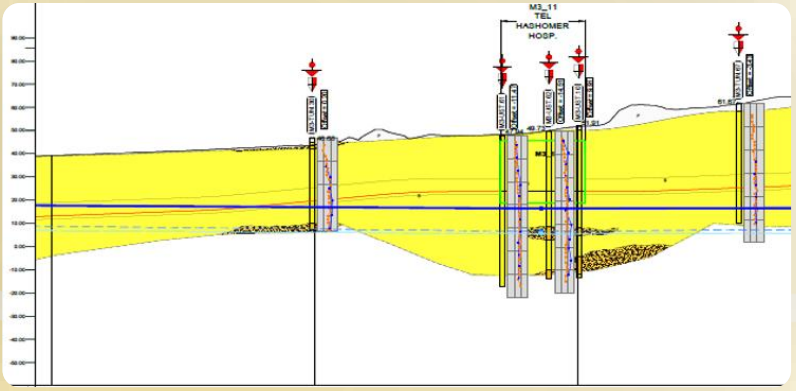
M3 Geological conditions



Section 1: Sand, sandy clay and kurkar; representing the costal deposits in the South-West.



Section 2: Clay; representing Ayalon and Yarkon valleys.

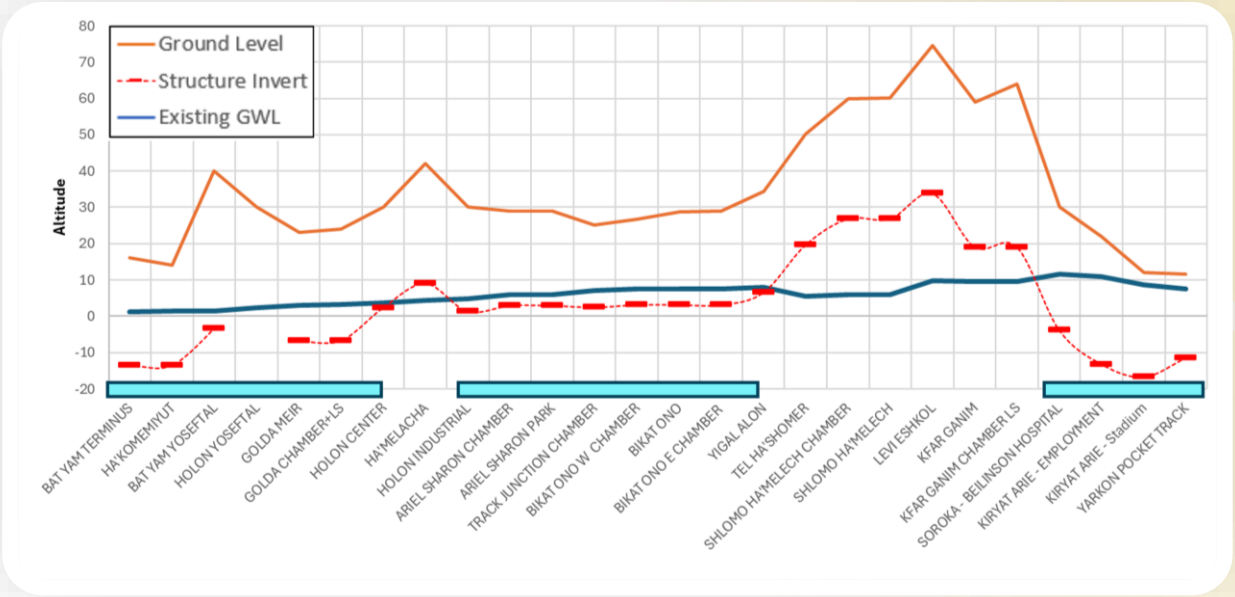


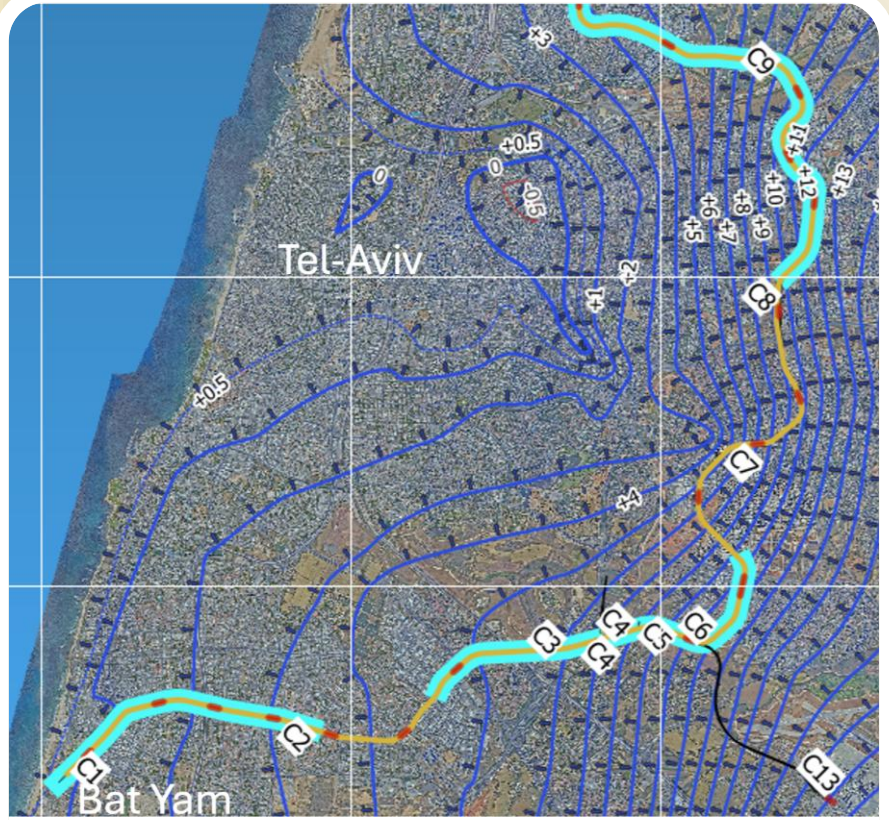
Section 3: Sand and sandy clay to clayey sand; representing all the rest.

Grade Level

Hydrogeological status

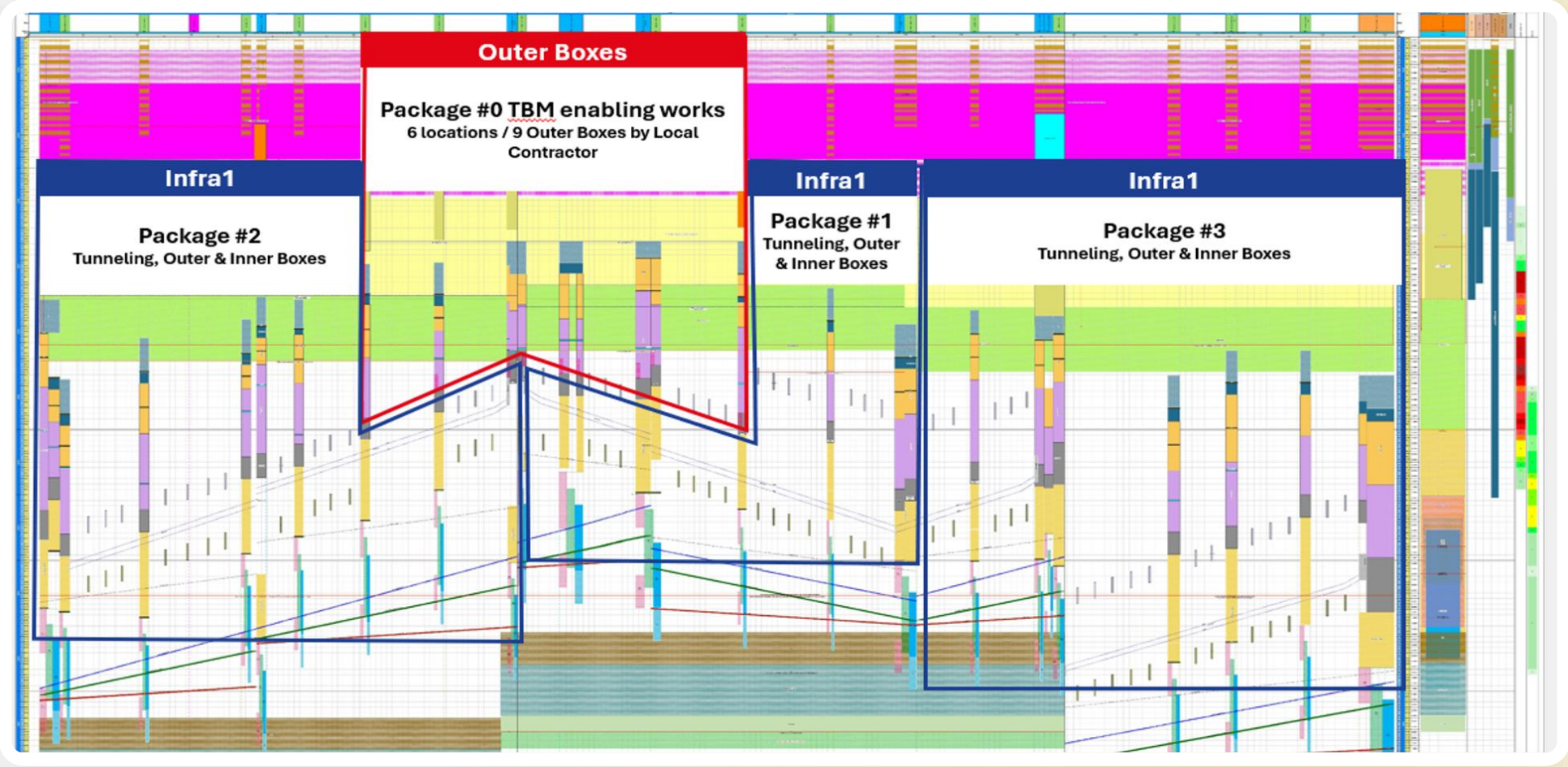
- Major part of the M3 line and 18 elements will be partially submerged below the groundwater level.
- Excavations for the 18 elements will require a groundwater control plan (i.e., dewatering – highlighted in **light blue**)





2023 GWL map

Duration of Work by Work Packages



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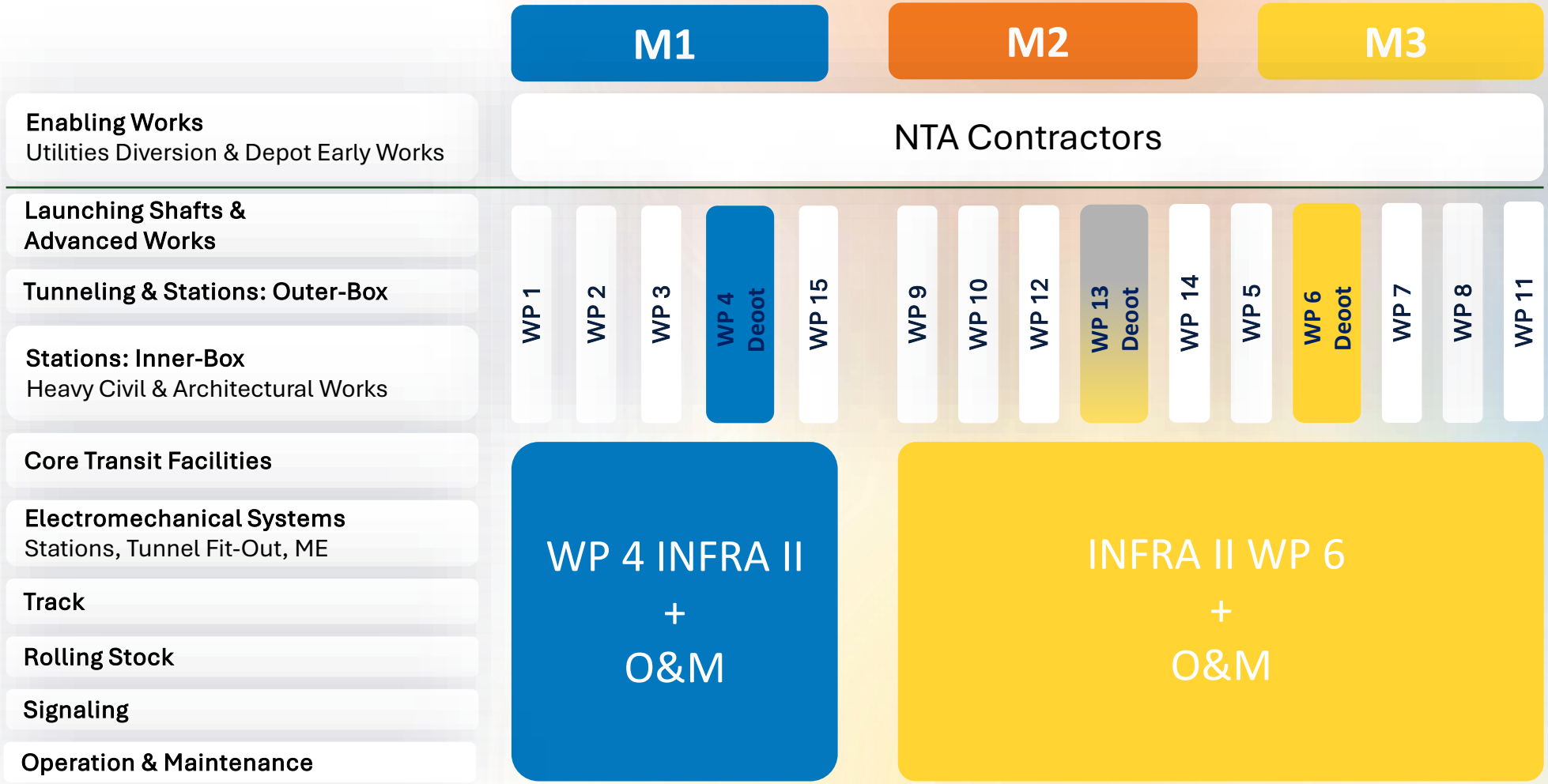
Helen Maor
Head of Procurement - Metro

Procurement Strategy Scheme



Tunneling And Stations Work Packages

What are we looking for?

- Experience in mega D.B. Infra projects
- Experience in delivery of projects in urban environment
- Experience in Rail tunneling
- Experience in complex underground structures

Stage A
12-14
Work Packages
(D.B)

5-9 km Twin Tunnels
Per Package

3-7 Underground Stations
Per Package

$0.5-2 Billion
Per Package

Systems And Rolling Stock Work Packages

What are we looking for?

- Experience in mega D.B. Infra projects
- Experience in delivery of projects in urban environment
- Experience in delivery of Metro projects
- Experience in integration of Rail projects

- Track
- Electromechanical Systems
- Signaling
- Rolling Stock
- Rail Systems
- Depots

2
Work Packages
(D.B)

M1	M2	M3
Work package	Work package	
$3-5 Billion Per Package		

2026 - 2028 — Tender Phase

2028 - 2037 — Design & Construction

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Examples For Threshold Requirements For Experience Of Design And Construction Of TBM Tunnels

1 | Experience of Design and Construction of TBM Tunnels

1 Experience of Design and Construction of TBM Tunnels

2 Experience of Construction of Underground Structures

Example for Threshold Requirements
Designed, Constructed and Completed TBM Tunnels operating in closed mode conditions in soft soil or sand
Constructed by EPBM or Slurry TBM
The internal diameter of the tunnel is at least 5.0 meters
Constructed beneath the groundwater table level; and
The tunnel or part thereof was constructed in a dense urban area

Examples For Threshold Requirements For Experience Of Design And Construction Of Underground Structures

2 | Experience of Design and Construction of Underground Structures

1 Experience of Design and Construction of TBM Tunnels

2 **Experience of Construction of Underground Structures**

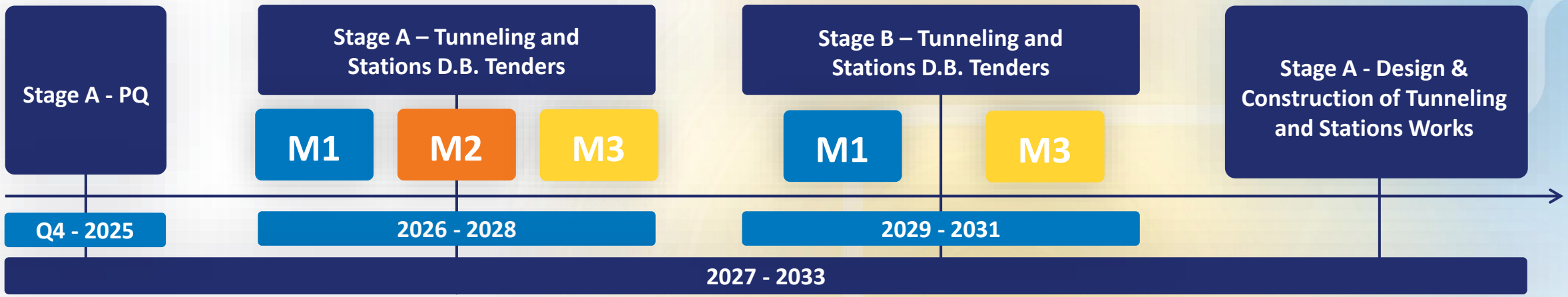
Example for Threshold Requirements	
	Designed, Constructed and Completed Underground Structures
	The construction method of the structure was Cut & Cover
	The construction of the structure required the dewatering of groundwater
	The structure was constructed utilizing diaphragm walls
	The structure was constructed in a dense urban area

Opportunities

Let's discuss…

What are we looking for?

- Experience in mega D.B. Infra projects
- Experience in delivery of projects in urban environment
- Experience in Rail tunneling
- Experience in complex underground structures



Opportunities

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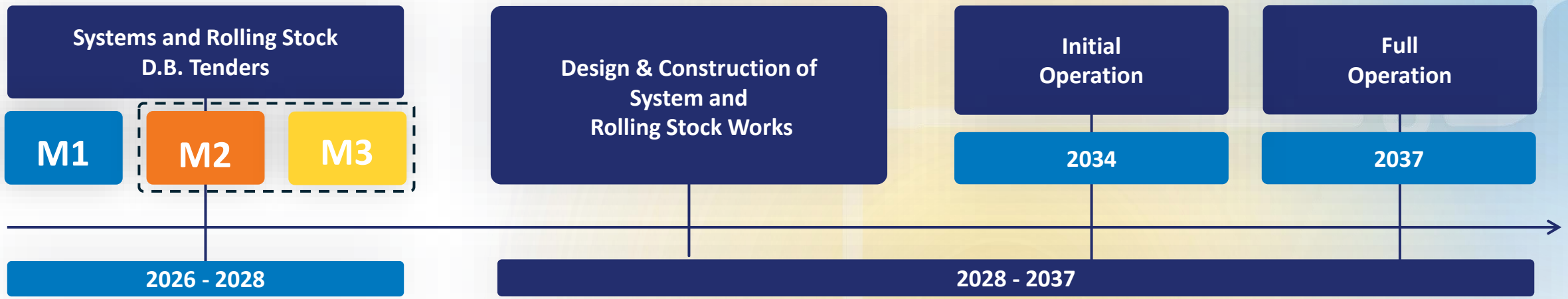

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Head of procurement - Metro
Barak Kirschner, BLK - Partner

Typical Tender Document Structure

Tender Document Structure

All Documents Are in English

Vol 1
Invitation to Bid

- Tender Process and Anticipated Schedule
- General provisions relating to the participation of bidders in the tender process
- The contents of the bid
- Method of submission
- Evaluation and selection of the Preferred Bidder and Second Ranked Bidder (if any)

Vol 2
Agreement

- Agreement Documents, Order of Priority and Precedence
- Commencement and Term of the Agreement
- Representations and Warranties
- Consideration and Terms of Payment
- Option to Expand the Services
- Resolution of Disputes

Vol 3
General Technical Requirement

- General Technical Requirements (Design Management, Safety Management, Permits and Consents)
- Interface Management
- Handover Process

Vol 4
Technical Specification

- Drawings and Reference Design Documents
- Surveys
- Geo-Technical Ground Conditions
- Functional Specifications

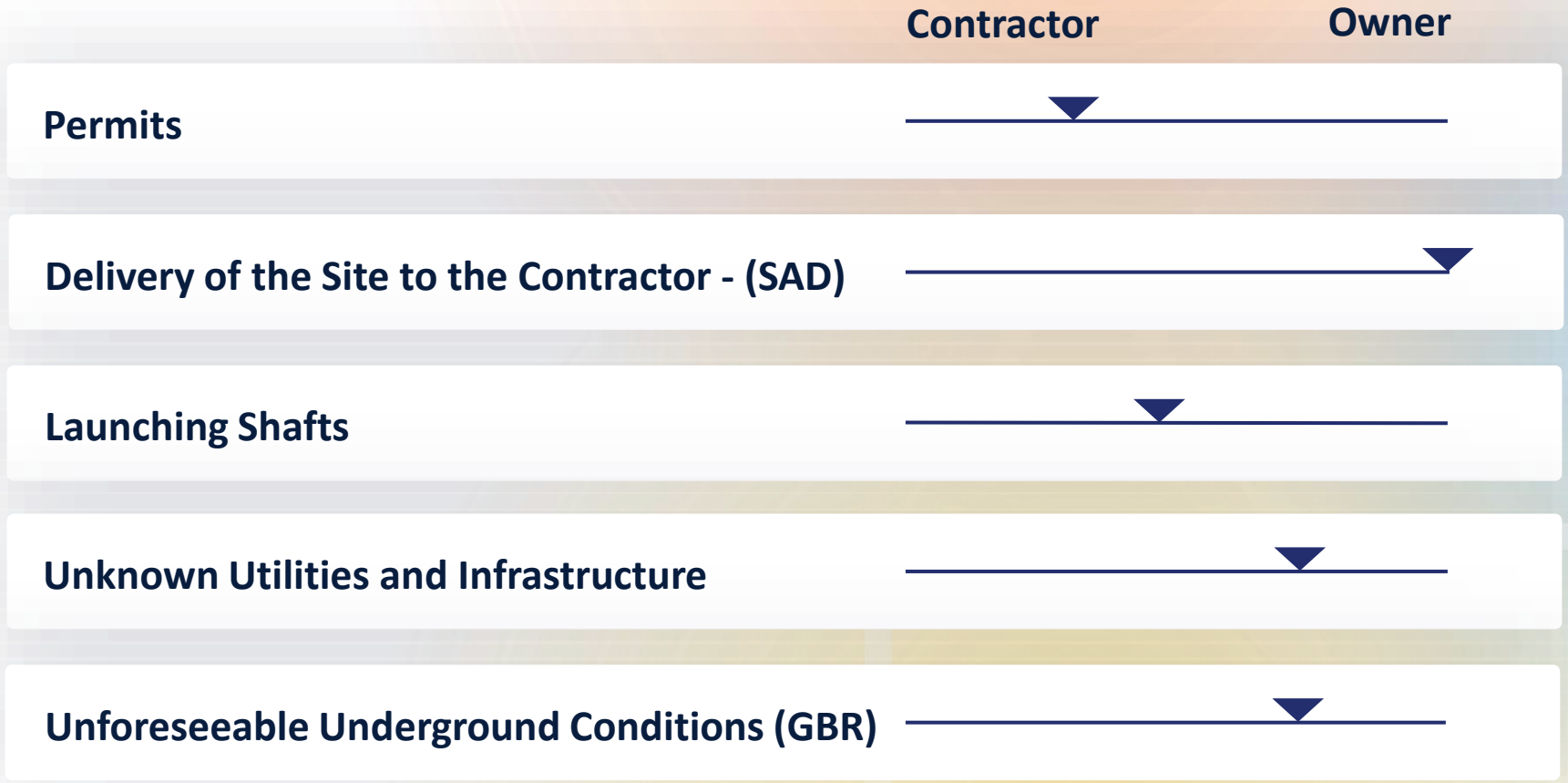
Risk Allocation

Basic Principals

* For the avoidance of doubt, the distribution of risks between the Contractor and the Owner shall be as stipulated in the Tender Documents and Agreement, notwithstanding its description in this presentation

Risk Allocation

Basic Principals



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Risk Allocation

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Typical Tender Process – Israeli Market

Typical Tender Process Includes the Following Stages

4-6 Months
PQ (RFQ)

- Pre-Qualification Requirements
- Pass/Fail Requirements (no scoring)
- Identification of Qualified Bidders

6-8 Months
ITB (RFP)

- Invitation to Bid
- Tender documents include the form of the Agreement and technical specifications
- Ability to Submit RFC (Request For Clarification)

3-6 Months
Bid Evaluation

- Legal Compliance
- Technical Evaluation
- Business Plan and Financial Evaluation (for PPP scheme only)
- Price Proposal Evaluation
- Final Scoring

1-2 Months
Preferred Bidder

- Selection of Preferred Bidder
- Second Rank Bidder (optional)
- Executing the Agreement

12 Months
Financial Close
(for PPP scheme only)

- Preferred Bidder (by that time, the counterparty to the Agreement) to raise finance
- Execution of Finance Agreements
- Execution of Project's Main Agreement (EPC, O&M, Interface, other)
- Promoting Design and Permitting processes

Not applicable to Infra 1 Tenders

Thank You & Shalom

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