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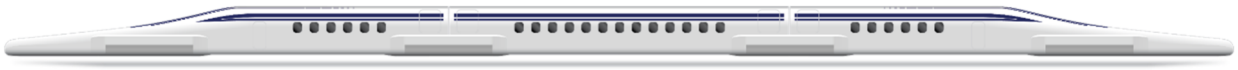

Exhibit I

BWRR's Proposal for Preferred Alternate Selection

BALTIMORE-WASHINGTON SCMAGLEV PROJECT

Sponsor's Proposal for Preferred Alternate Selection

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BALTIMORE-WASHINGTON RAPID RAIL

Sponsor's Proposal for Preferred Alternate Selection

Comparative Evaluation of SCMAGLEV Alternatives

1.0 Introduction

NEPA requires that the environmental impact statement evaluate the applicant's proposal and reasonable alternatives. As a result of that analysis a Preferred Alternative is selected. The purpose of this memorandum is to document the proposal of the Project Sponsor (BWRR) and a discussion of the preferred alternative among the 12 end-to-end alternatives being evaluated in the SCMAGLEV DEIS.

The alternatives under consideration are as follows:

A. J Alignment – Cherry Hill – TMF BARC Option #1 (Sponsor's Proposal)
B. J Alignment – Cherry Hill – TMF BARC Option #2
C. J Alignment – Cherry Hill – TMF MD Route-198
D. J Alignment – Camden Yards – TMF BARC Option #1
E. J Alignment – Camden Yards – TMF BARC Option #2
F. J Alignment – Camden Yards – TMF MD Route-198
G. J1 Alignment – Cherry Hill – TMF BARC Option #1
H. J1 Alignment – Cherry Hill – TMF BARC Option #2
I. J1 Alignment – Cherry Hill – TMF MD Route-198
J. J1 Alignment – Camden Yards – TMF BARC Option #1
K. J1 Alignment – Camden Yards – TMF BARC Option #2
L. J1 Alignment – Camden Yards – TMF MD Route-198

The objective basis of this comparative evaluation is guided by BWRR's analysis of environmental impacts, the requirements of the SCMAGLEV technology, Congress's intent for the MAGLEV Deployment Program and the Project's Purpose and Need statement:

- NEPA requires an analysis of environmental impacts
- The technical requirements of the SCMAGLEV system have been incorporated in the current alternatives.
- The intent of Congress is that the maglev project be:
    - Revenue-producing and self-sustaining once built.
    - Consistent with the expressed intent of the Maglev Deployment Program, i.e., "to directly advance and result in construction of a maglev project."
- The Project's Purpose and Need Statement (P&N) states that the "[t]he purpose of the SCMAGLEV Project is to evaluate, and ultimately construct and operate, a safe, revenue-producing, high-speed ground transportation system that achieves the optimum operating

speed of the SCMAGLEV technology to significantly reduce travel time in order to meet the capacity and ridership needs of the Baltimore-Washington region."

The Project's purpose has been accepted by cooperating agencies and complies with their regulatory review requirements. In particular, the US Army Corps of Engineers requires "Section 10/404 permits" to choose among practicable alternatives where "practicable" means "available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes" (23 CFR 230 – Section 404(b) (1) Guidelines). This permitting requirement reinforces the above-listed objectives.

The objectives listed below provide the criteria that allow alternatives to be differentiated. This provides an objective basis for a comparative evaluation and identification of a preferred alternative.

Practical objectives:

- Select an alternate that could feasibly result in the construction of the Project, while completely fulfilling NEPA requirements.
- Advance the Project towards construction and minimize capital costs to allow for the greatest economic opportunity and ridership.
- Minimize the duration of construction to ensure the earliest start of revenue service after the Record of Decision.
- Provide for a design that most efficiently controls operating costs of the SCMAGLEV system and, by so doing, will better enable reliable service and revenue to cover ongoing costs.
- Ensure project design and implementation will meet long-term ridership demand.

2.0 Methodology

To meet the above objectives through a comparative evaluation, criteria were developed for evaluation of the preferred alternative selection.

BWRR identified the following criteria:

1. Be able to reasonably mitigate any unavoidable environmental impacts including property and infrastructure as identified in Alternate Matrix (Appendix A).
2. Minimize construction cost.
3. Minimize duration of construction to achieve earliest start of revenue service.
4. Minimize Operation & Maintenance (O&M) cost.
5. Comply with Federal safety requirements, a specific objective of the Project's Purpose and Need.

The comparative evaluation of alternatives applies the relevant evaluation criteria with a rating as follows:

- **Achieves criteria.**
- **Does not achieve criteria** (i.e. does not meet one or more of the above objectives).

Each end-to-end alternative is a combination of the following three components:

1. Baltimore Station – Cherry Hill or Camden Yards
2. Trainset Maintenance Facility (TMF) – BARC Option #1, BARC Option #2, or Route 198
3. Alignment – J vs. J1

The evaluation is initiated with the Baltimore station components, followed by the TMF components. The alignment component evaluation is then based on the Baltimore station and TMF components which are clearly superior from an overall perspective. Rationale is provided to support the ratings.

Component evaluations are then compiled to support identification of the preferred end-to-end alternative being the best overall combination of components that can most effectively be advanced to construction, with least impact on the environment.

3.0 Comparative Evaluation of Alternatives

3.1 Baltimore Station Alternatives

Two station alternatives are under consideration in Baltimore:

- Camden Yards Station – an underground station located in Downtown Baltimore adjacent to the Baltimore Convention Center
- Cherry Hill Station – an elevated station located south of Middle Branch/Baltimore Harbor in the Cherry Hill section of Baltimore

In the table below, the two stations are assessed according to the methodology described in Section 2.0.

Criterion	Camden Yards	Cherry Hill
1. Reasonably Mitigate Impacts	**Does Not Achieve Criteria** Impacts during construction to CSX freight rail, MARC commuter rail, MTA Light RailLink, and vehicular traffic cannot be reasonably mitigated Historic District - Downtown Baltimore historic business and government buildings, and religious building would be lost and cannot be replaced. Loss of jobs and economic activity due to partial shutdown of the Baltimore Convention Center and other impacted business and governmental operations cannot be reasonably mitigated.	**Achieves Criteria** Temporary shutdowns to CSX branch line and MTA Light RailLink will be limited to nights and weekends

Criterion	Camden Yards	Cherry Hill
2. Minimizes Construction Cost	**Does not Achieve Criteria** Additional cost of $1.18 billion compared to Cherry Hill station (additional tunneling and underground station, with cut and cover construction in major city artery) Building/property acquisitions will add substantial cost compared to Cherry Hill (not included in the $1.18 billion cost differential above).	**Achieves Criteria**
3. Minimizes Construction Schedule	**Does Not Achieve Criteria** Requires time to acquire and demolish major buildings (Federal Reserve Bank, Bank of America building, section of the Convention Center, etc.), relocating a historic church, extended closure of critical CSX Howard Street rail tunnel, extended closure of MARC commuter rail train station, extended closure of MTA Light RailLink service, extended closures to I-395, Pratt Street and West Conway Street (*)	**Achieves Criteria** Requires temporary shutdowns for CSX two-trains-per-day branch line and MTA Light RailLink service Requires staged reconstruction with detours of West Patapsco Avenue, Annapolis Road, Cherry Hill Road, and Waterview Avenue
4. Minimizes O&M Costs	**Does Not Achieve Criteria** Extra O&M costs associated with underground station: ventilation systems, vertical circulation, fire & life safety, groundwater protection/grouting, etc.	**Achieves Criteria**
5. Complies with Federal Safety Requirements	**Achieves criteria**	**Achieves Criteria**

(*) Items in Section 3 of this table cannot be mitigated

Note: station construction is on the critical path for the start of revenue service.

Cherry Hill Station is BWRR's proposal and recommended preferred alternative in Baltimore. The Cherry Hill Station is an above ground station that is far less costly to construct in a shorter period of time, and less costly to operate and maintain. Additionally, there would be minimal disruption to the City of Baltimore during construction and during operations.

The Camden Yards station is not preferred for the following reasons: the cost is over $1.18 billion higher than the Cherry Hill station alternative, construction impacts are substantial and cannot be reasonably mitigated; traffic delays will impact the Downtown Baltimore economy during construction and difficult location will deter riders when service starts.

3.2 TMF Alternatives

Three TMF alternatives are being considered:

- BARC Option 1 (West) – located in Prince George's County on USDA property on the west side of the Baltimore-Washington Parkway
- BARC Option 2 (East) – located in Prince George's County on USDA and NASA property (leased from USDA) on a former airstrip on the east side of the Baltimore-Washington Parkway
- MD Route-198 – located in Anne Arundel County north of MD-198 on the east side of the Baltimore-Washington Parkway

In terms of construction sequencing, completing construction of the TMF in a timely manner is critical to starting revenue service. A fully functioning TMF is needed to assemble the SCMAGLEV trainsets and conduct system tests prior to starting service.

In the table below, the three TMF options are assessed according to the methodology described in Section 2.0.

Criterion	BARC 1 (West)	BARC 2 (East)	MD-198
1. Reasonably mitigate impacts	**Achieves Criteria** Requires about 33% more deforestation which can be mitigated through reforestation	**Achieves Criteria** Requires about 33% less deforestation than BARC 1 (West) Assumes that NASA concerns, below, can be resolved. If not, then <u>does not achieve criteria</u>: • Frequency interference • Vibration and light interference • Interference with the Spacecraft Magnetic Test Facility	**Does Not Achieve Criteria** Impacts that cannot be reasonably mitigated include: • diverting the Little Patuxent River • revising an irrevocable Conservation Easement • encroaching on Tipton Airport airspace (FAA Safety) • relocating critical aerial and underground BGE infrastructure • constructing 60m (200 foot) tall rail shops across from a residential development

Criterion	BARC 1 (West)	BARC 2 (East)	MD-198
2. Minimizes Construction Cost	**Achieves Criteria**	**Achieves Criteria**	**Does Not Achieve Criteria** Adds $250 million to cost to divert the river and construct 60m (200 foot) high shop buildings
3. Minimizes Construction Schedule	**Achieves Criteria**	**Does Not Achieve Criteria** Potential delay to start of revenue service from the baseline schedule if NASA frequency interference, electromagnetic interference concerns, vibrations and lighting concerns cannot be easily mitigated or resolved.	**Does Not Achieve Criteria** Conservation Easement revisions, diversion of Little Patuxent River, relocation of critical BGE underground and aerial infrastructure, relocation of Woodland Job Corps facility, and construction of 60m (200 foot) high shop buildings, FAA waiver for Tipton Airport airspace intrusion.
4. Minimizes O&M Cost	**Achieves Criteria**	**Does Not Achieve Criteria** Based on potential restrictions on O&M activities due to NASA constraints associated with frequency interference, electromagnetic interference, lighting and vibrations.	**Does Not Achieve Criteria** Increased operation costs due to an additional 10km (6 mile) distance for deadheading trains at the beginning and end of each service shift, compared to the BARC alternatives Increased maintenance costs associated with Little Patuxent River diversion through or adjacent to facility structure and 60m (200 foot) high shop buildings
5. Complies with Federal Safety Requirements	**Achieves Criteria**	**Achieves Criteria**	**Does Not Achieve Criteria** Inspection shop and Factory buildings will intrude into Tipton Airport airspace, violating Federal Aviation Regulation Part 77 – Surfaces – safety regulation of FAA

BARC Option 1 (West) TMF is BWRR's proposal and recommended preferred alternative. It achieves all the criteria outlined in Section 2.0 with no substantial mitigation requirements.

BARC Option 2 TMF (East) is not preferred due to protracted process to reach resolution with NASA on concerns raised (frequency interference, electromagnetic interference, lighting, and vibrations on NASA facilities) potentially constrain operation and maintenance of the system.

The MD-198 TMF location is not preferred due to intrusion into Tipton Airport airspace in violation of FAA requirements, substantial issues that will substantially delay the start of revenue service, diverting the Little Patuxent River, and substantial impacts that cannot be reasonably mitigated.

3.3 Alignment Alternatives

Two alignment alternatives are under consideration:

- Alternative J – generally follows along the east side of the Baltimore-Washington Parkway
- Alternative J1 – generally follows along the west side of the Baltimore-Washington Parkway

The two alignment alternatives are similar in the northern and southern tunnel portions of the route and at the passenger stations. They are differentiated by the viaduct portion in the center of the route, with Alternative J running through mostly federal properties on the east side of the Baltimore-Washington Parkway, and Alternative J1 running through federal, municipal and private properties on the west side of the Baltimore-Washington Parkway. Infrastructure and facility differences between the two alignment alternatives include:

- Locations and lengths of tunnel transition portals
- Locations and lengths of ramps connecting the alignments to the TMF alternatives
- Locations of MOW facilities and ramps associated with the MD-198 TMF
- Locations of substations and power distribution lines
- Numbers and locations of miscellaneous SCMAGLEV facilities
- Locations and sizes of stormwater management facilities

In the table below, the two alignment alternatives are assessed according to the methodology described in Section 2.0.

Criterion	Alternative J (BWP East)	Alternative J1 (BWP West)
1. Reasonably Mitigate Impacts	**Achieves Criteria**	**Does Not Achieves Criteria** ~ 30% more visual impacts to housing units ~ 29% more construction effect to residential properties within 200 ft of ROW and Truck Routes ~ County and City parks are impacted
2. Minimize Construction Cost	**Achieves Criteria**	**Does Not Achieve Criteria** Adds $440 million to cost, including approximately 6.2 km (3.85 miles) more tunneling and an additional FA/EE.
3. Minimizes Construction Schedule	**Achieves Criteria**	**Does Not Achieves Criteria** Additional tunneling will require longer schedule and cost.

Criterion	Alternative J (BWP East)	Alternative J1 (BWP West)
4. Minimizes O&M Cost	**Achieves Criteria**	**Does Not Achieve Criteria** Higher maintenance costs associated with additional tunnel length (ventilation, lighting, etc.) and one additional FA/EE facility. Higher energy consumption and cost associated with 4.1 km (2.5 miles) of climbing grade in acceleration and cruising zones, compared to 1.9km (1.2 miles) of climbing grade for Alternative J.
5. Complies with Federal Safety Requirements	**Achieves Criteria**	**Achieves Criteria**

Based on the above evaluation, Alternative J is BWRR's proposal and recommended preferred alignment.

Alternative J is by far the lower cost alternative with no substantial issues.

Alternative J1 is not preferred due to higher construction cost, and higher operating and maintenance costs.

4.0 Project Sponsor's Preferred Alternative

Based on the above evaluation and the Alternatives Comparison Matrix (Appendix A), **BWRR's proposal and recommended preferred end-to-end alternative is the combination of Cherry Hill Station, BARC 1 TMF (BARC West), and Alignment J**, identified as *Aggregated Alternative A* in the alternatives matrix provided in Section 1.0. This is the least impactful and lowest cost alternative to construct, operate, and maintain while also providing the earliest start to revenue service. This selection also meets the stated intent of the Maglev Deployment Program to advance to construction and produce a revenue stream while meeting the NEPA requirement of the least impact on the environment.

Appendix A: Alternatives Comparison Matrix

Aggregated Alternative	A	B	C	D	E	F	G	H	I	J	K	L
Alignment Alternative	J	J	J	J	J	J	J1	J1	J1	J1	J1	J1
Baltimore Station Option	Cherry Hill	Cherry Hill	Cherry Hill	Camden Yards	Camden Yards	Camden Yards	Cherry Hill	Cherry Hill	Cherry Hill	Camden Yards	Camden Yards	Camden Yards
TMF Option	BARC #1	BARC #2	MD-198	BARC #1	BARC #2	MD-198	BARC #1	BARC #2	MD-198	BARC #1	BARC #2	MD-198
Civil Infrastructure Cost ($B)	8.87	8.87	9.12	10.05	10.05	10.30	9.31	9.31	9.57	10.49	10.49	10.75
Delay to Start of Revenue Service (years)	0	5	5	3	5	5	1	5	5	3	5	5
Additional O&M Cost	Base Cost	$	$	$	$$	$$	$	$$	$$	$$	$$$	$$$
Total Length (miles)	41.31	41.52	42.33	42.89	43.10	43.91	41.78	41.61	44.79	43.37	43.20	46.38
Tunnel Length (miles)	26.39	26.39	26.39	29.54	29.54	29.54	30.24	30.24	30.24	33.41	33.41	33.41
Viaduct Length (miles)	12.77	12.98	13.79	11.72	11.93	12.74	9.15	8.98	12.16	8.10	7.93	11.11
Portal Length (miles)	2.15	2.15	2.15	1.63	1.63	1.63	2.39	2.39	2.39	1.86	1.86	1.86
Spoils (Million Cubic Yards)	23.45	23.45	23.45	26.74	26.74	26.74	25.06	25.06	25.06	28.35	28.35	28.35
Zoned Business Acreage (facilities/station)	262.17	262.17	287.58	117.78	117.78	143.18	300.31	300.31	327.74	155.91	155.91	183.34
Zoned Business Acreage (Mainline)	10.75	10.75	10.75	2.16	2.16	2.16	19.03	19.03	19.03	10.45	10.45	10.45
Zoned Residential Acreage (Facilities/ Stations)	22.09	21.84	22.20	22.03	21.78	22.13	26.54	26.49	26.49	26.48	26.43	26.43
Zoned Residential Acreage (Mainline)	<0.1	<0.1	<0.1	0.00	0.00	0.00	4.63	4.63	4.63	4.62	4.62	4.62
Wetlands (based on NWI) (acres)	23.14	24.24	42.59	23.14	24.24	42.59	23.10	25.31	51.10	23.10	25.31	51.10
Floodplains (acres)	52.23	66.01	79.32	52.23	66.01	79.32	45.19	57.72	82.83	45.19	57.72	82.83
NPS Land (acres/%)	96.93/7.1	93.32/6.8	114.46/8.3	96.93/7.1	93.32/6.8	114.46/8.3	52.26/3.8	52.68/3.8	73.28/5.3	52.26/3.8	52.68/3.8	73.28/5.3
Patuxent Research Refuge (acres/%)	48.82/0.4	48.82/0.4	49.00/0.4	48.82/0.4	48.82/0.4	49.00/0.4	0/0	0/0	0/0	0/0	0/0	0/0
BARC (acres/%)	233.19/3.5	249.60/3.8	36.56/0.6	233.19/3.5	249.60/3.8	36.56/0.6	222.58/3.4	239.90/3.6	38.42/0.6	222.58/3.4	239.90/3.6	38.42/0.6
Fort Meade (acres/%)	22.56/0.4	22.56/0.4	22.56/0.4	22.56/0.4	22.56/0.4	22.56/0.4	6.93/0.1	6.93/0.1	6.93/0.1	6.93/0.1	6.93/0.1	6.93/0.1
Secret Service (acres/%)	10.04/2.0	16.12/3.3	10.44/2.1	10.04/2.0	16.12/3.3	10.44/2.1	0/0	6.06/1.2	0/0	0/0	6.06/1.2	0/0
NASA (acres/%)	15.08/1.2	15.08/1.2	15.08/1.2	15.08/1.2	15.08/1.2	15.08/1.2	0/0	0/0	0/0	0/0	0/0	0/0
County Park (acres/%)	0.23/<0.1	0.23/<0.1	0.23/<0.1	0.23/<0.1	0.23/<0.1	0.23/<0.1	72.15/8.8	72.48/8.8	88.35/10.7	72.15/8.8	72.48/8.8	88.35/10.7
Total Truck Trips (millions)	2.25	2.25	2.25	2.58	2.58	2.58	2.48	2.48	2.48	2.81	2.81	2.81
Construction Effect (Housing Units within 200 feet of ROW and Truck Routes)	660	650	650	613	603	603	852	836	907	805	789	860
Visual Impacts (housing units that would see the viaduct/facilities)	205	187	207	24	6	26	267	250	284	86	69	103