

Design and Bankability

Matthijs Bouw

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●one architecture



The strongest solutions come from those who know their communities best: the residents.







[MEET THE PROJECTS](#)

[THE CHALLENGE](#)

[RESOURCES](#)

[NEWS+EVENTS](#)



Search

Creating a Blueprint for Resilience that Harnesses Bay Area Innovation



Safari





'Worldwide, water is the connecting challenge, the number one global risk and the opportunity for transformative and sustainable impact and comprehensive cultural change.'

Henk Ovink Special Envoy for International Water Affairs for the Kingdom of the Netherlands
Sherpa to the UN High Level Panel on Water

**Water for
as Resilient Cities
Leverage Asia**





①
RE-WATER

④
RESILIENT KAMPUNG

②
INDUSTRIAL GREENBELT

③
FUTURE-READY PORT

⑤
URBAN / RURAL SHORELINE

water(shed) as leverage

one resilient semarang

Design helps build an understanding, a conversation, support and stewardship

TWO ROUNDS OF PUBLIC WORKSHOPS

REBUILD BY DESIGN **IES READY!**

NO APPOINTMENT REQUIRED. WORKSHOPS ARE FREE. TRANSPORTATION REQUESTS MUST BE MADE AT LEAST 72 HOURS BEFORE THE EVENT.
 一个免费工作坊系列 IES READY! 工作坊 免费 交通需求 一个免费工作坊系列 IES READY! 工作坊 免费 交通需求

L.E.S. PUBLIC WORKSHOPS ON NEIGHBORHOOD FLOOD PROTECTION

TALLERES PÚBLICOS SOBRE LA PROTECCIÓN CONTRA INUNDACIONES EN COMUNIDADES
下东区街坊防洪公开研讨会

MONDAY, FEB. 9TH 6 - 9^{PM}
LUNES, 9 DE FEBRERO, 6 - 9^{PM}
周一 2月9日, 6 - 9^{PM}
LUTHER EASTMAN UNIV CLUB
101 AVENUE D

MONDAY, FEB. 10TH 6 - 9^{PM}
LUNES, 10 DE FEBRERO, 6 - 9^{PM}
周二 2月10日, 6 - 9^{PM}
LUTHER EASTMAN UNIV CLUB
101 AVENUE D



FREE FOOD
免费食物

FREE RAFFLES
免费抽奖

FREE CHILDCARE
免费儿童看护

REBUILD BY DESIGN IS DEVELOPING FEASIBLE SOLUTIONS TO BETTER PROTECT RESIDENTS FROM FUTURE CLIMATE EVENTS.
RECONSTRUYENDO COMUNITADES EN EL DESARROLLO DE SOLUCIONES QUE PUEDAN SER EFECTIVAS PARA PROTEGER A LOS RESIDENTES DE FUTUROS EVENTOS CLIMÁTICOS.

重建设计正致力于开发可行的解决方案以更好地保护居民免受未来的气候灾害困扰。

QUESTIONS? CONTACT... TRANSPORT REQUESTS? CONTACT...
PREGUNTAS? CONTACT... TRANSPORT REQUESTS? CONTACT...

IES READY! 212-264-1201

REBUILD BY DESIGN **IES READY!**

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L.E.S. PUBLIC WORKSHOPS ON NEIGHBORHOOD FLOOD PROTECTION

TALLERES PÚBLICOS SOBRE LA PROTECCIÓN CONTRA INUNDACIONES EN L.E.S.
下东区街坊防洪公开研讨会

MONDAY, MARCH 10TH
LUNES, 10 DE MARZO
周二, 3月10日
6^{PM} - 9^{PM}
RUTGERS COMMUNITY CTR
200 MADISON ST

TUESDAY, MARCH 11TH
MIÉRCOLES, 11 DE MARZO
周三, 3月11日
6 - 9^{PM}
GIRLS CLUB
101 AVENUE D @ 8TH STREET




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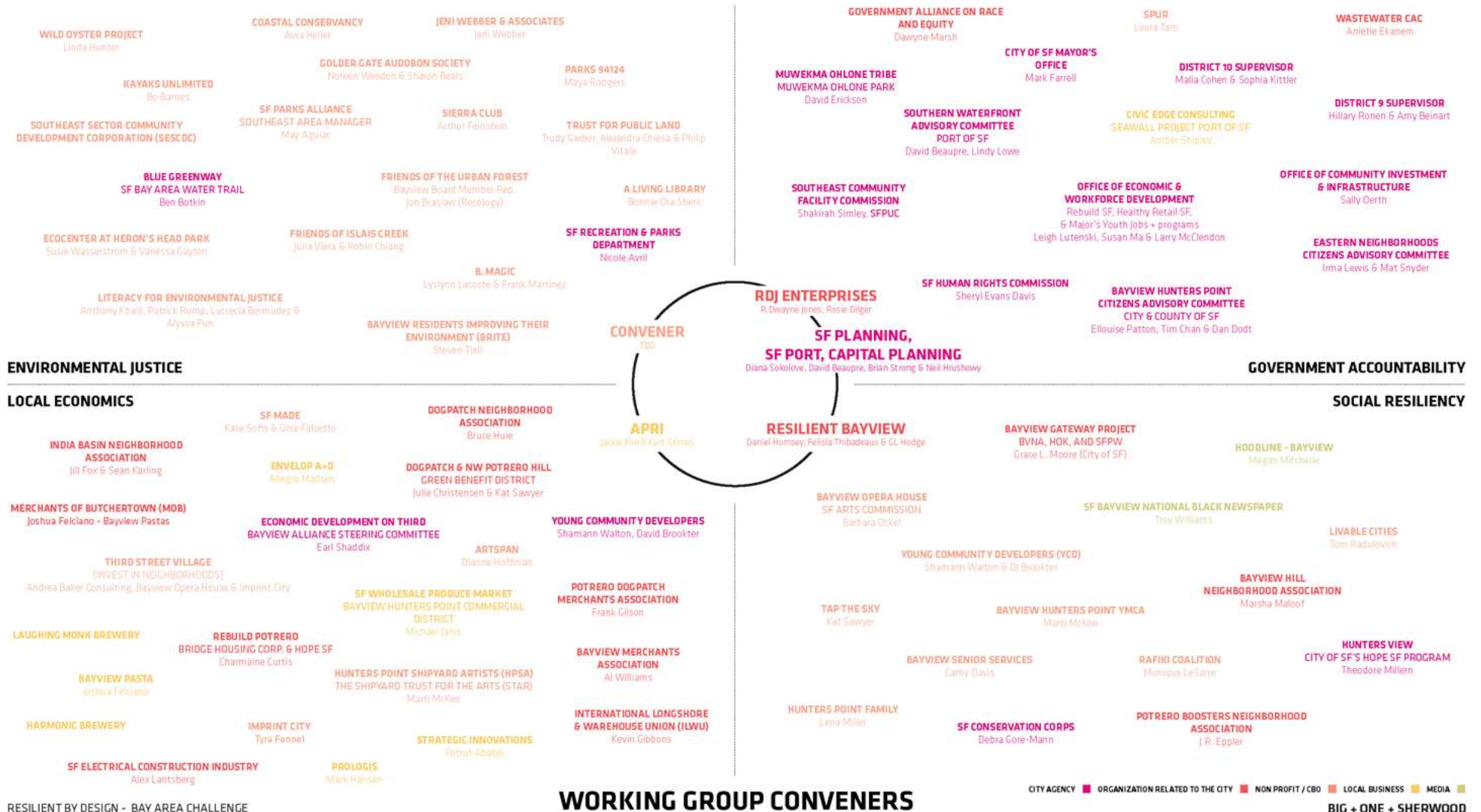
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QUESTIONS? CONTACT... TRANSPORT REQUESTS? CONTACT...

IES READY! 212-264-1201

ROUND 1: MODELS OF
PROTECTION OPTIONS







LEIGH LUTENSKI - SF PLANNING



AL WILLIAMS



NICOLE AVRIL - SF PARKS DEPARTMENT



DANIEL HOMESY - SF RESILIENT NEIGHBORHOOD INITIATIVE



BRIAN STRONG - SF CAPITAL PLANNING



BO BARNES - KAYAKS UNLIMITED



SHAKIRA SIMLEY - SF PUC



SF PUBLIC UTILITIES COMMISSION



JACKIE FLIN, APRI



DIANA SOKOLOVE, JOSHUA SWITZKY - SF PLANNING



FELICIA THIBODEAUX, RESILIENT BAYVIEW



EARL SHADDIX - ECONOMIC DEVELOPMENT ON THIRD



DAVID BEAUPRE - PORT OF SF



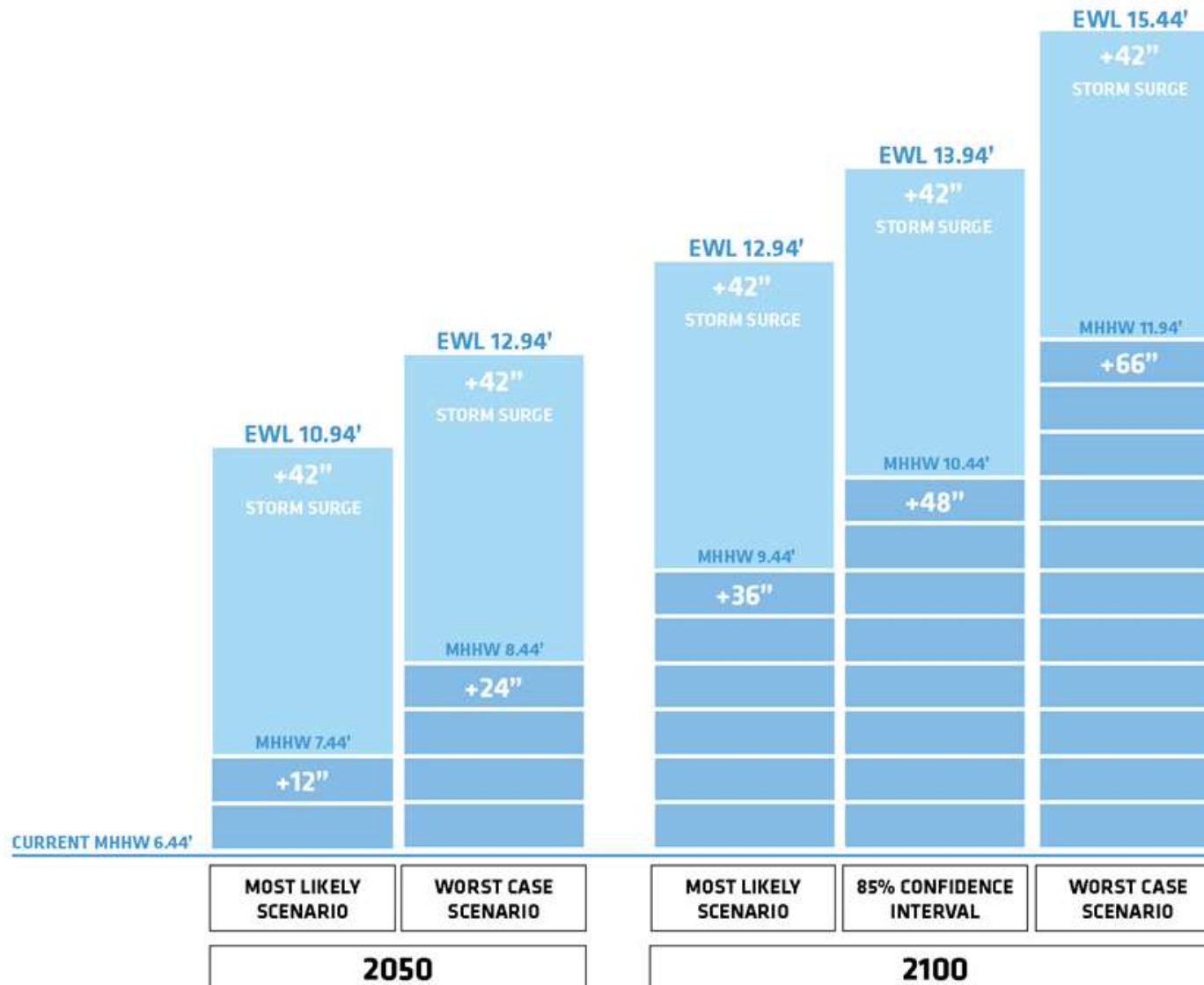
BAYVIEW ARTISTS



TIM DOHERTY - SF MTA



ISLAIS CREEK KAYAKING



NORTH AMERICAN VERTICAL DATUM (NAVD88)

FUTURE INUNDATION SCENARIOS





PARTICIPANTS OF THE WORKSHOPS
WERE ABLE TO SKETCH
COLLECTIVELY IDEAS ABOUT A FREE-
FLOWING CREEK AND AFFORDABLE
WORK AND LIVE AREAS.



AT THE END OF THE STICKER MAP ACTIVITY
EACH STUDENT GROUP PRESENTED TO THE
REST OF THE PARTICIPANTS THEIR VISION
FOR THE AREA, HELPING SPARK EVEN MORE
GREAT IDEAS IN THE LARGER GROUP.



STICKER MAP ACTIVITY



BIG + ONE + SHERWOOD

RESIDENT BY DESIGN / BAY AREA CHALLENGE



BAPPEDA



UNDIP



DESA BEDONO



WARGA SUKOREJO



WARGA KEMIJEN



BBWS JRATUN SELUNA



BPP SIMA

water(shed) as leverage



PSDA / ESDM PROPINSI JATENG



PAK PURNOMO SASONGKO

one resilient semarang



WORKSHOP PRESENTATION



ACTIVITY 1 SWOT ANALYSIS VERIFICATION



ACTIVITY 1 SWOT ANALYSIS VERIFICATION



ACTIVITY 1 SWOT ANALYSIS DISCUSSION



ACTIVITY 1 SWOT ANALYSIS VERIFICATION



ACTIVITY 1 SWOT ANALYSIS VERIFICATION



ACTIVITY 1 SWOT ANALYSIS DISCUSSION



ACTIVITY 1 SWOT ANALYSIS VERIFICATION



ACTIVITY 2 OPPORTUNITY CARDS



WORKSHOP PRESENTATION



WORKSHOP ACTIVITY LEVERAGE BIG MOVES



WORKSHOP ACTIVITY LEVERAGE BIG MOVES



WORKSHOP ACTIVITY SPONGY URBAN #1



WORKSHOP ACTIVITY DEVIATION 1



WORKSHOP ACTIVITY DEVIATION 1



WORKSHOP ACTIVITY RESTITUTION

water(shed) as leverage



WORKSHOP ACTIVITY LEVERAGE BIG MOVES



WORKSHOP ACTIVITY SPONGY URBAN #2

one resilient semarang

CURRENT APPROACH TO COASTAL PROTECTION

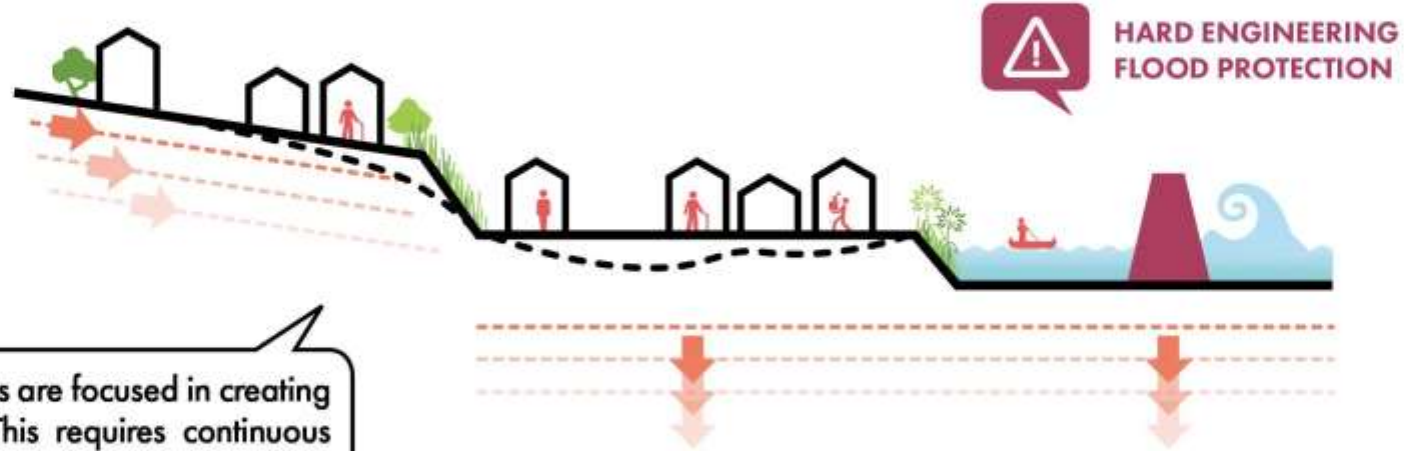
PENDEKATAN YANG ADA SAAT INI UNTUK PERLINDUNGAN PESISIR



The city's coastal protection efforts are focused in creating polders in the lowland areas. This requires continuous treatment and pumping of water out into the sea, actions presumably costly and difficult to manage. Upaya perlindungan pesisir berfokus pada pembangunan sistem polder di daerah dataran rendah yang membutuhkan upaya pemompaan air dan perawatan secara terus-menerus, yang secara relatif mahal dan sulit untuk dikelola.

CURRENT APPROACH TO COASTAL PROTECTION

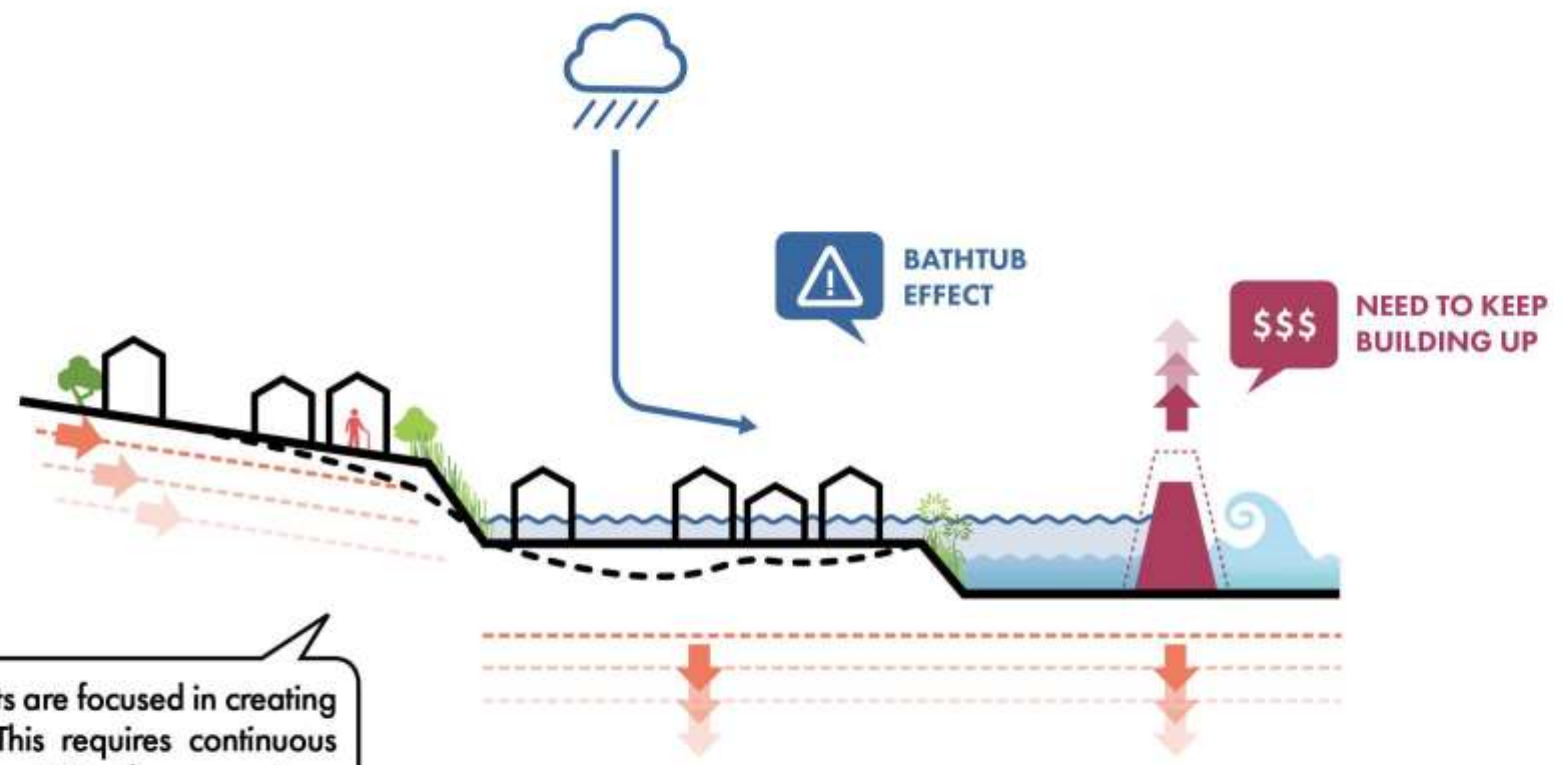
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FINANCIAL IMPACT 2030

DAMPAK FINANSIAL 2030

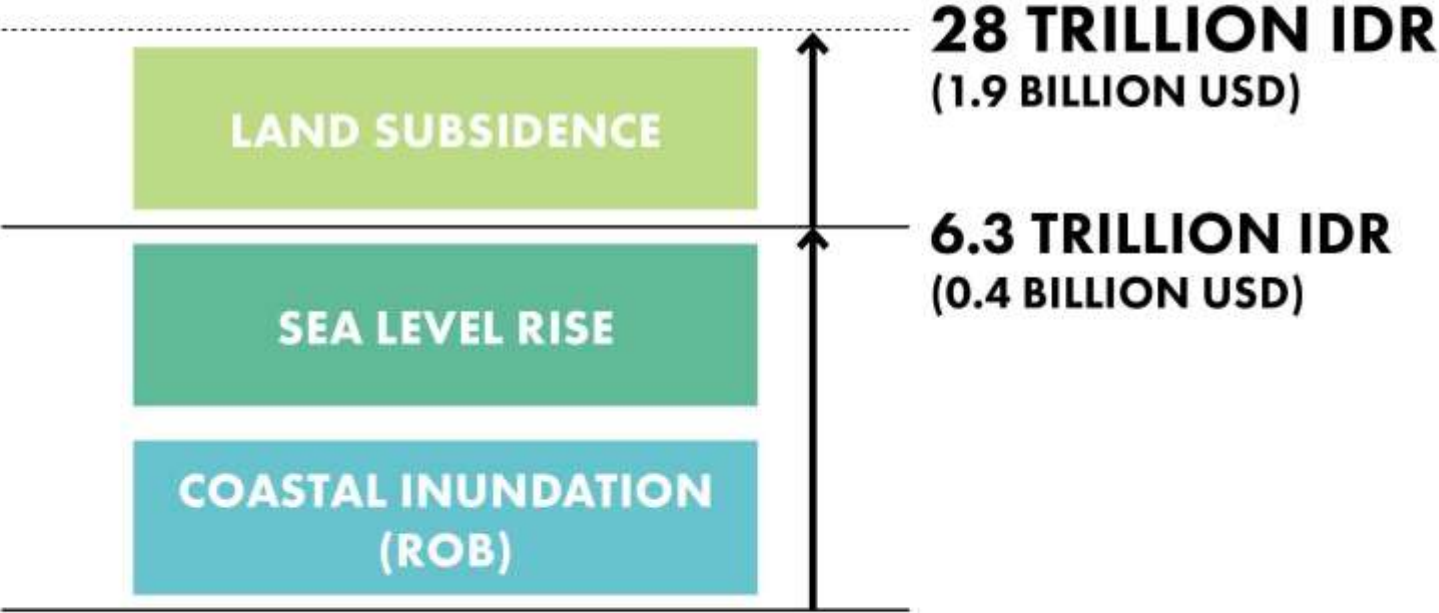
Current estimations regarding the financial impact of climate adaptation do not take into account land subsidence or city growth in the risk areas. What would the cost of no action be if these are properly calculated? Diagram ini menunjukkan estimasi dampak finansial dari perubahan iklim, tanpa menghitung dampak penurunan tanah dan pertumbuhan kota. Bagaimana dampaknya jika kedua faktor terakhir dihitung?



Source: Suhelmi et al, Potential Economic Losses Due to Tidal Inundation and Flood at Semarang City, Forum Geografi, Vol. 28, No. 2, December 2014: 113 - 118

FINANCIAL IMPACT 2030
DAMPAK FINANSIAL 2030

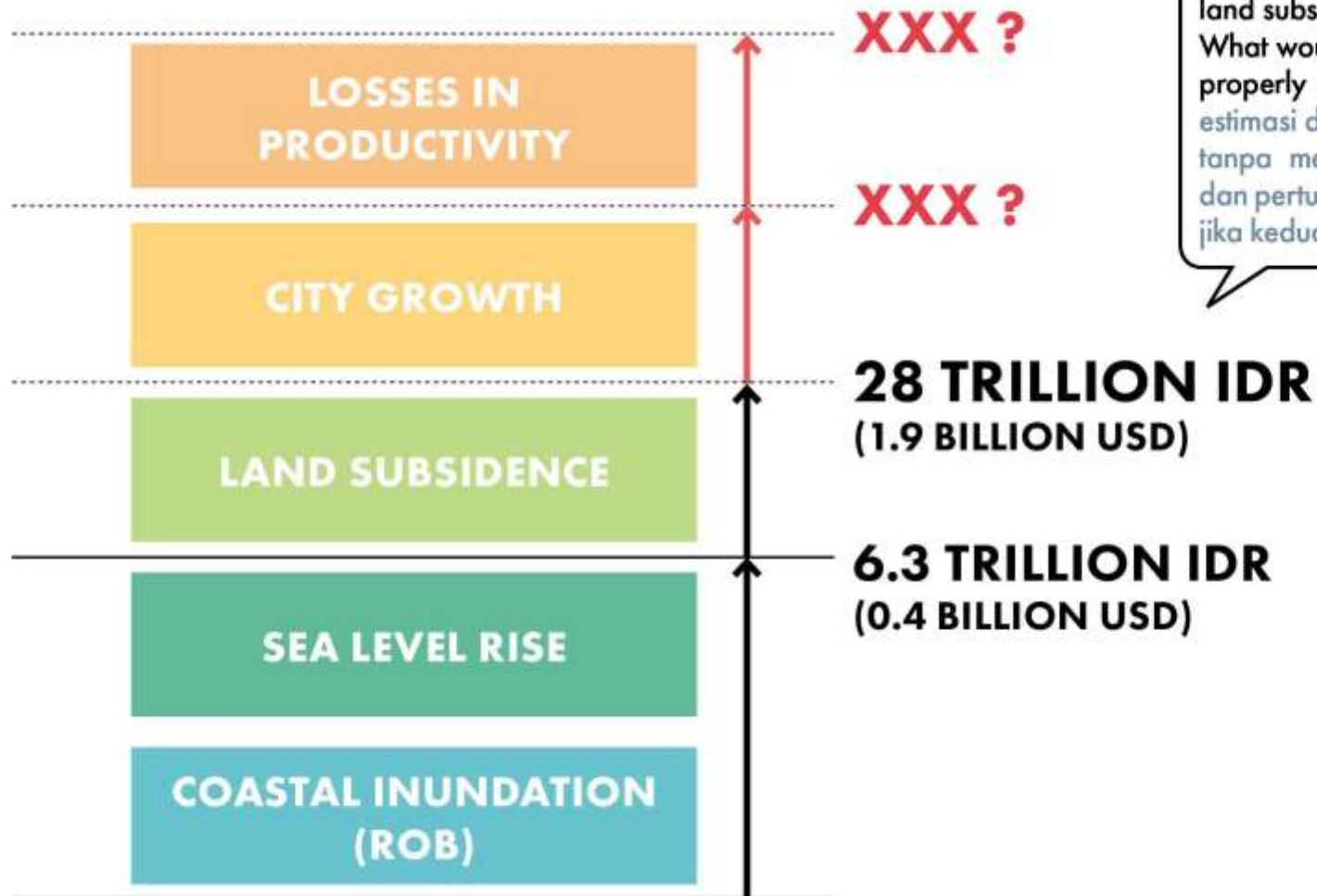
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Design helps build an understanding, a conversation, support and stewardship

Design helps to develop multiple benefits

A TAILORED APPROACH TO
TRADITIONAL INFRASTRUCTURE:
DIVERSITY!







PROGRAM



INFRASTRUCTURE



+



RESILIENCY INFRASTRUCTURE

PEOPLE!



RESILIENCY INFRASTRUCTURE



PROGRAM





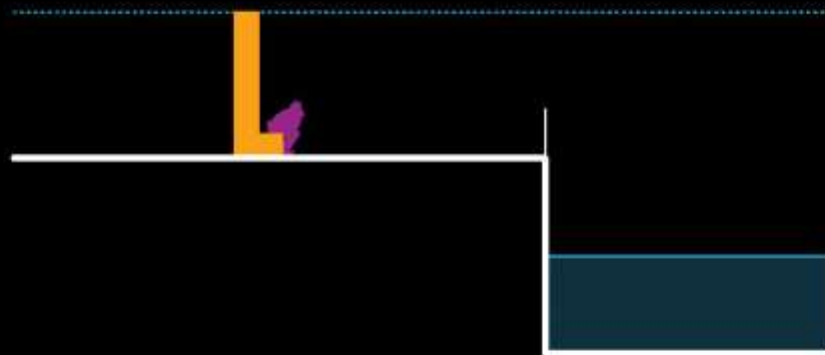
WALL ?



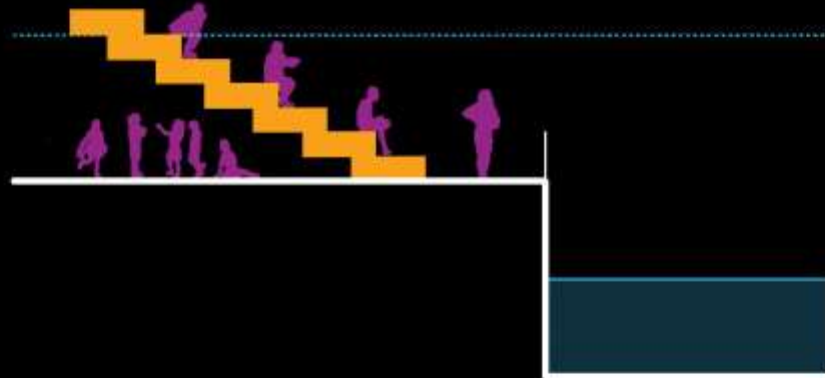
WALL ?



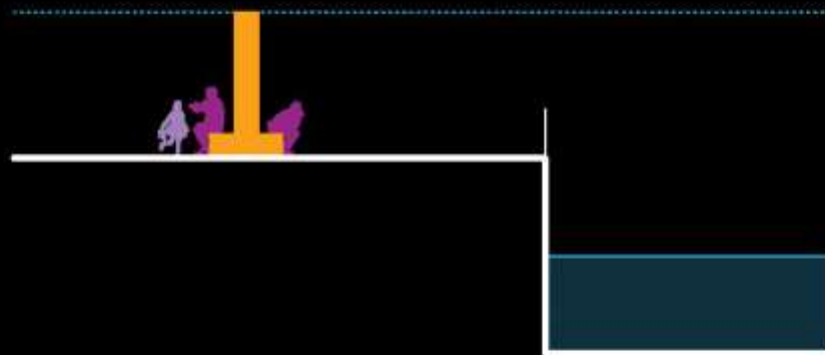
BENCH

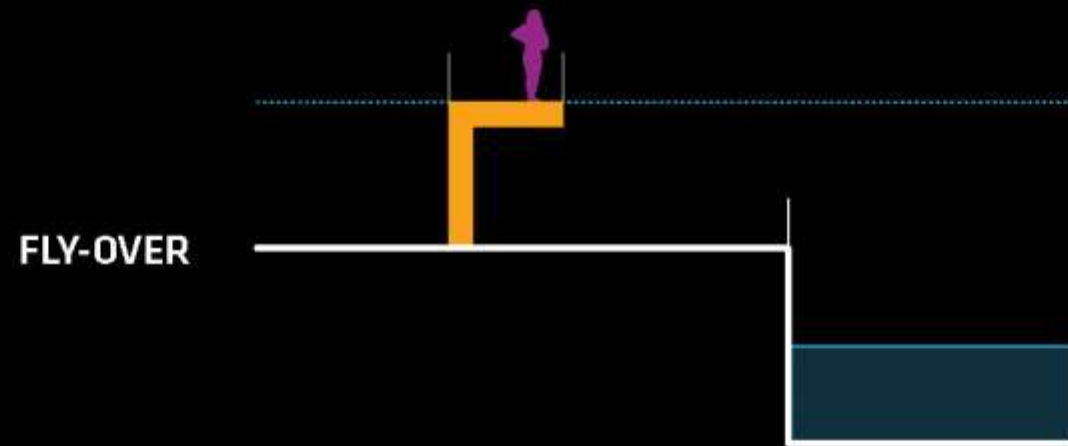


SEATING-SHELTER



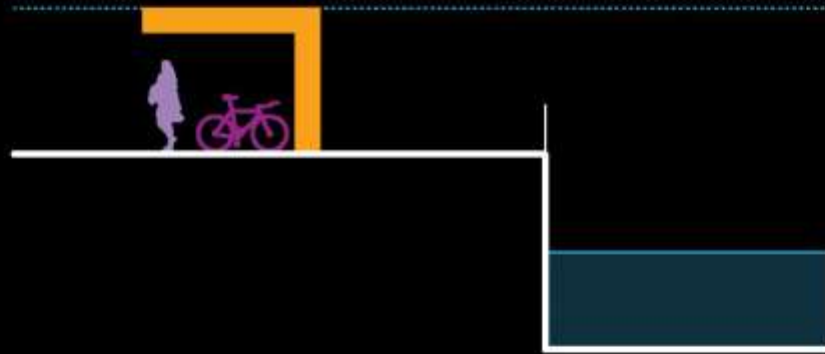
DOUBLE-BENCH



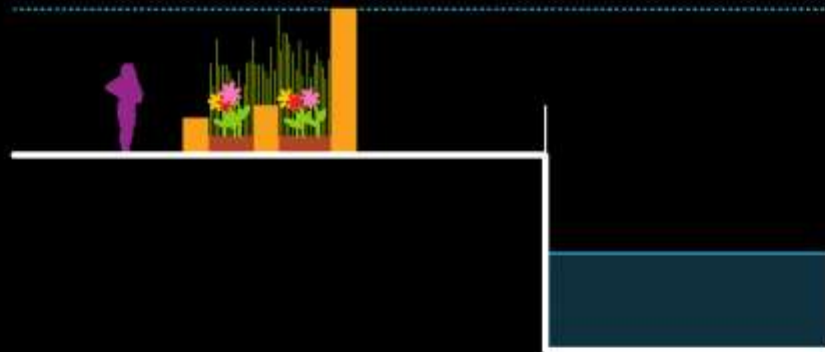


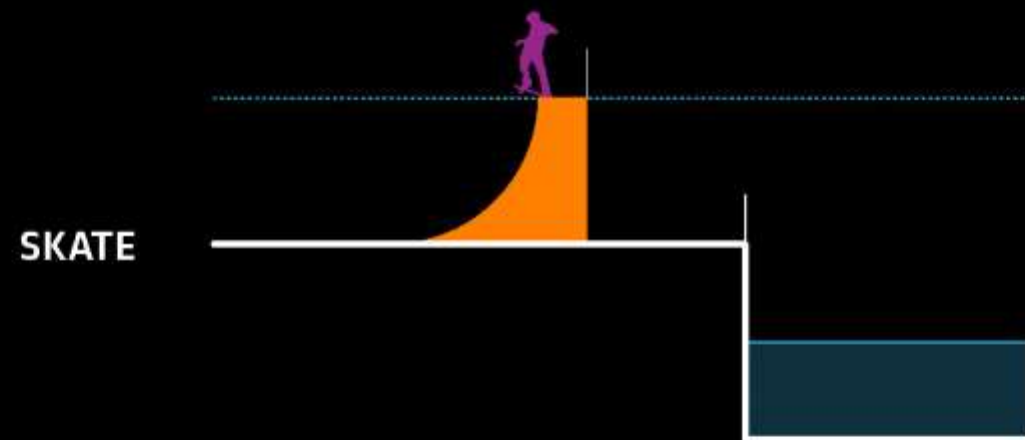
FLY-OVER

BIKE-POINT

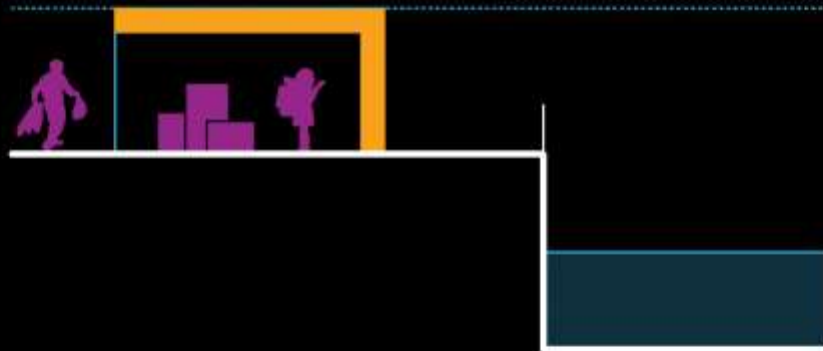


GARDEN

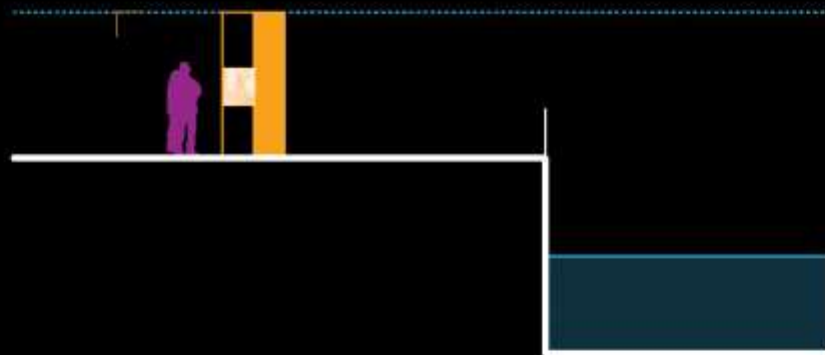




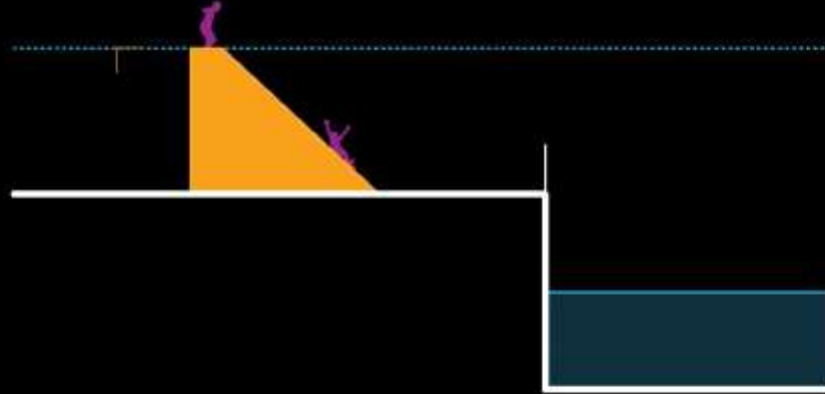
SHOP



MEDIA



SLIDE















THE BRIDGING BERM

NEW TOPOGRAPHY AND VISTAS OVER PARK



THE BRIDGING BERM
10TH STREET HARBOR BATH

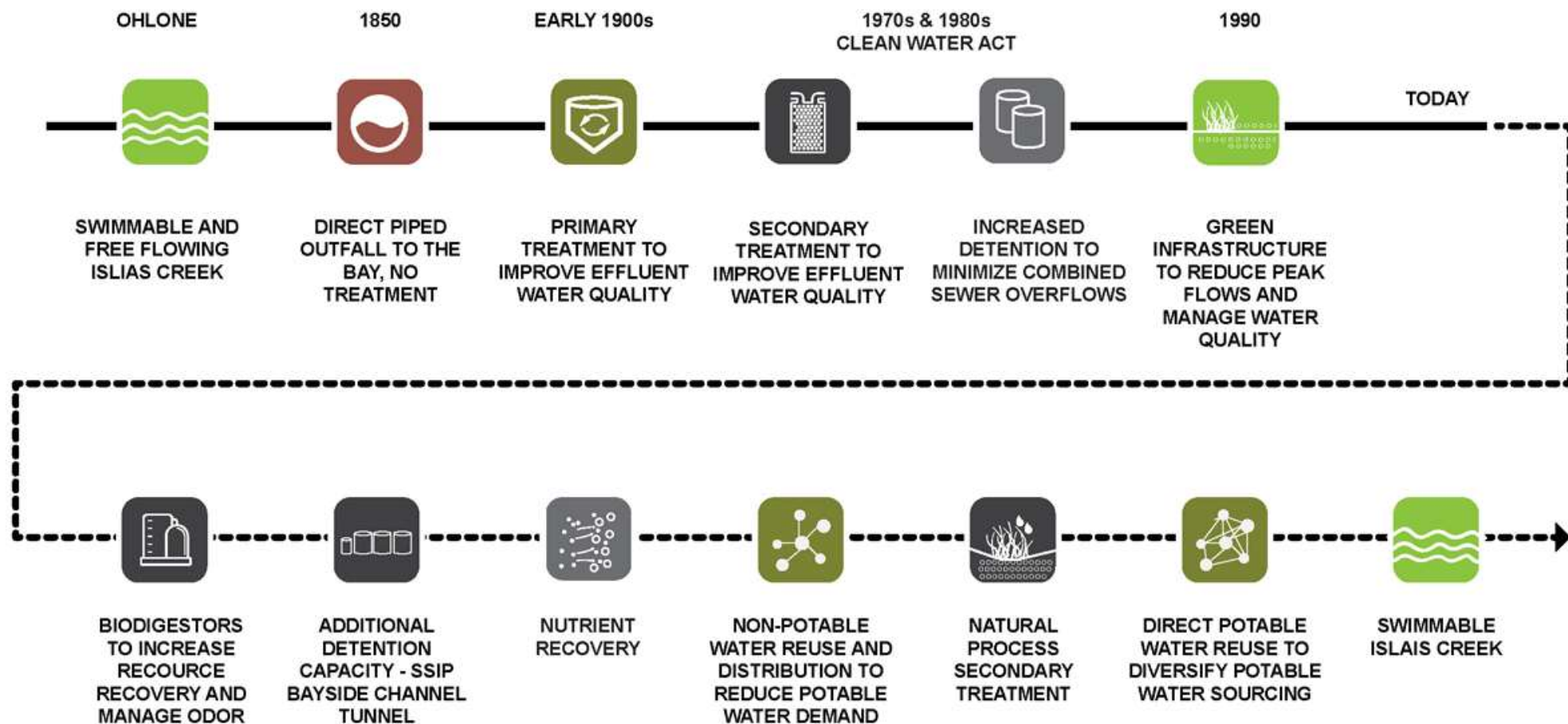
HUD - Rebuild by Design

BIG TEAM



HARBOR BERM!

HARBOR MIDDLE SCHOOL AND REVERSE AQUARIUM



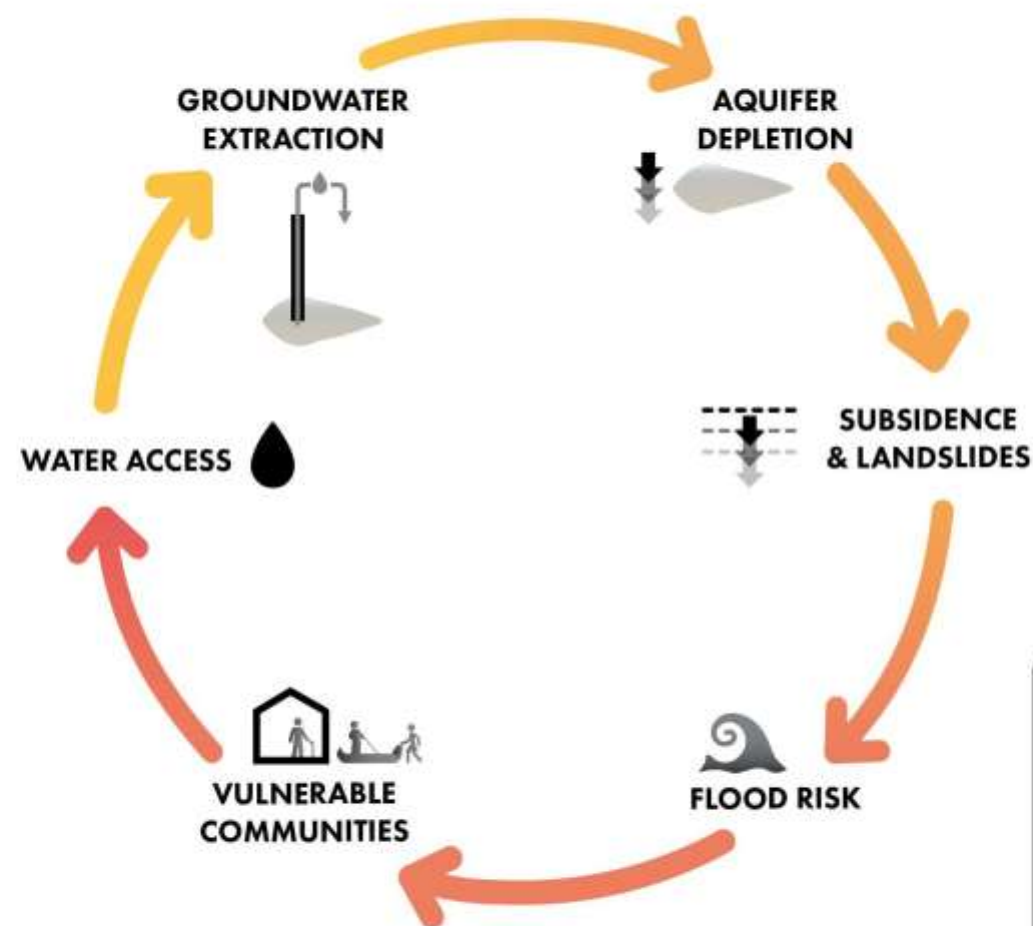
Design helps build an understanding, a conversation, support and stewardship

Design helps to develop multiple benefits

Design helps to link projects in an integrated program (while maintaining projects with independent utility and, as a consequence, independent funding streams)

CURRENT CYCLE OF VULNERABILITY

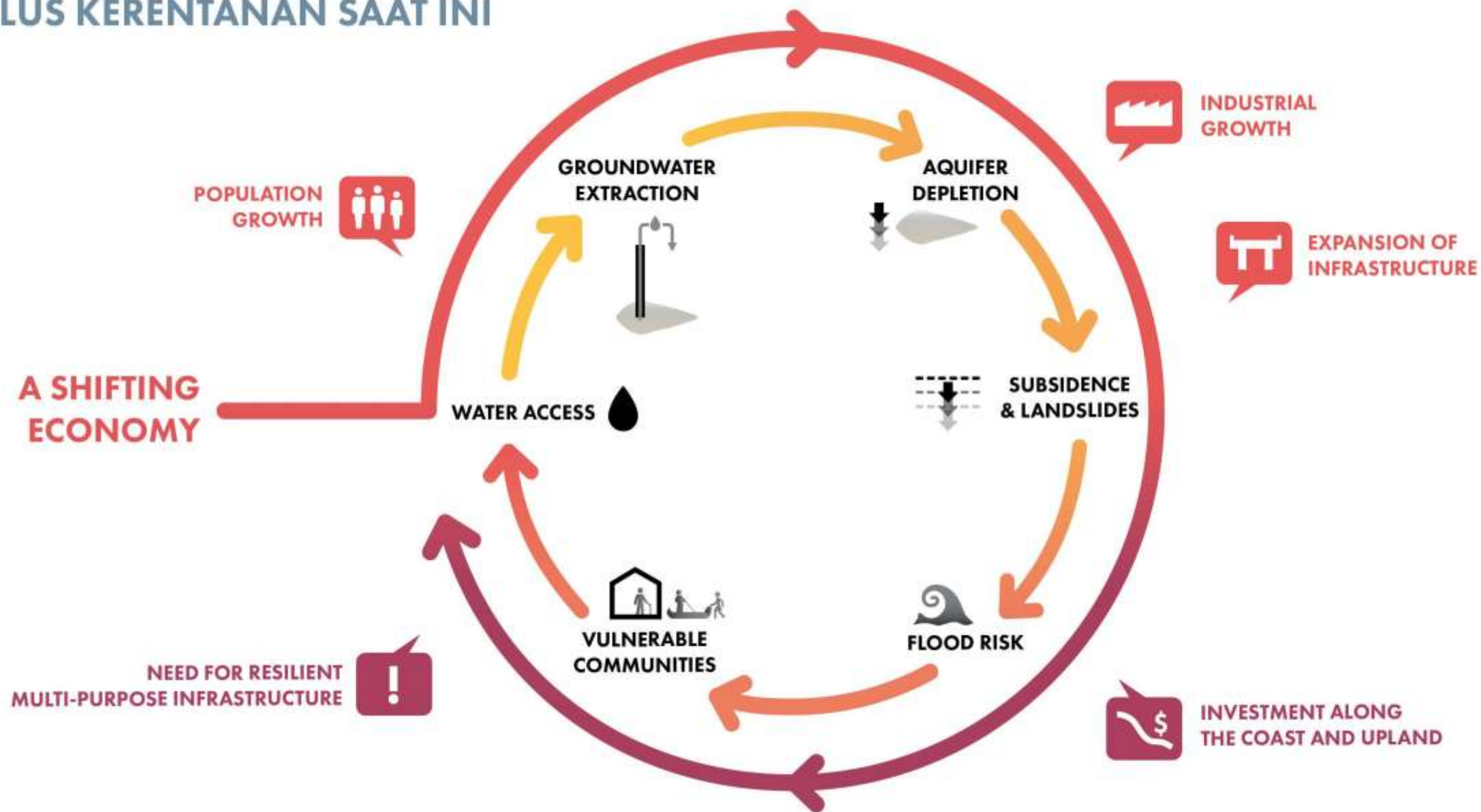
SIKLUS KERENTANAN SAAT INI



This cycle is exacerbated by the economic shifts in Central Java and the accelerated growth of industry and population, and therefore the expansion of urban infrastructure. Siklus kerentanan ini diperparah dengan adanya pergeseran ekonomi di Jawa Tengah, percepatan pertumbuhan industri dan penduduk, serta perluasan infrastruktur perkotaan.

CURRENT CYCLE OF VULNERABILITY

SIKLUS KERENTANAN SAAT INI



A CHANGING CLIMATE

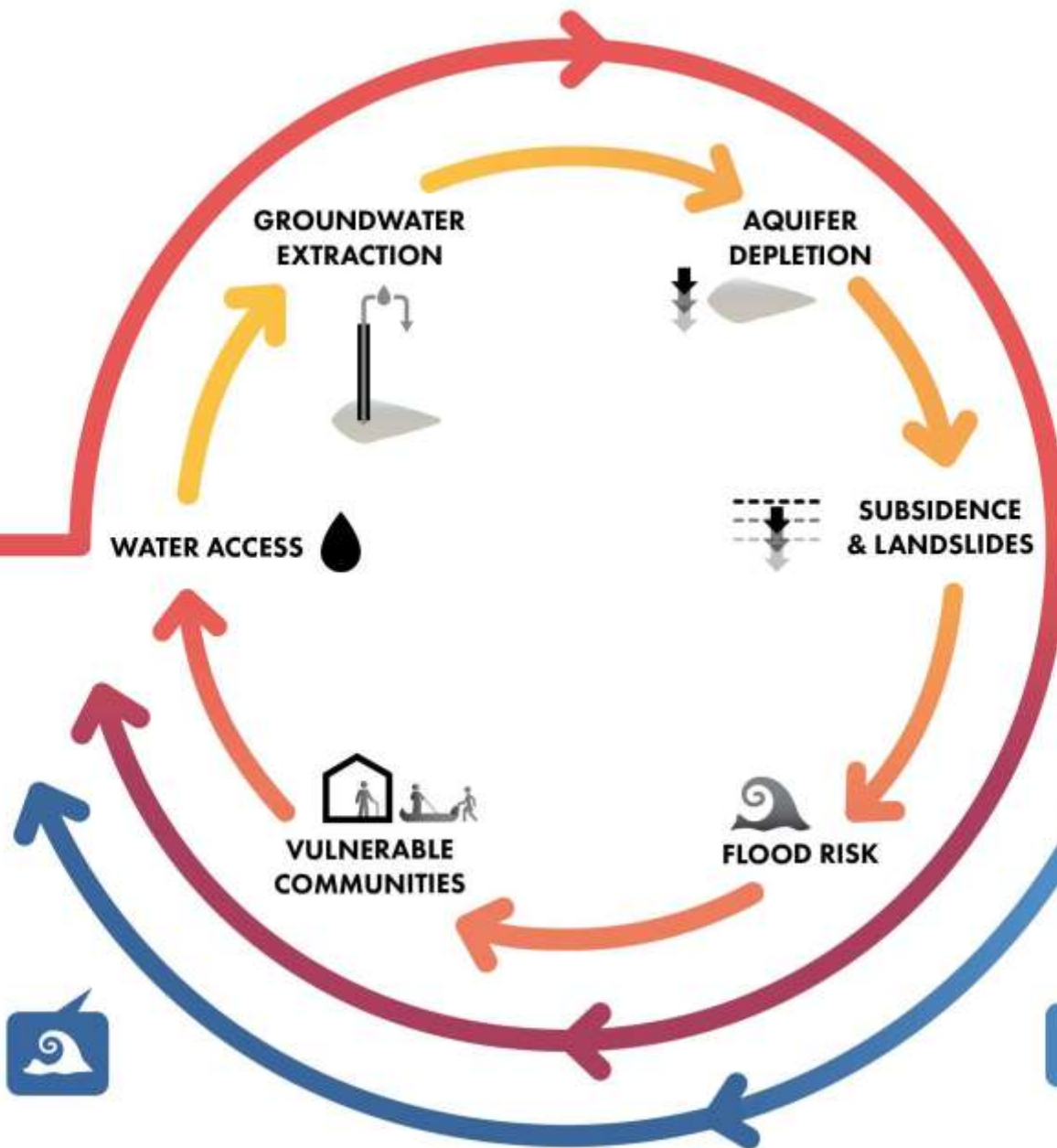
PERUBAHAN IKLIM

A SHIFTING
ECONOMY

A CHANGING
CLIMATE

The effects of current practices and the shifting economy are magnified by the changing climate, further increasing its impact to the most vulnerable communities and the city's biggest economic assets. Dampak dari praktik-praktik yang ada saat ini diperbesar oleh fenomena perubahan iklim, meningkatkan dampaknya bagi masyarakat yang paling rentan dan aset ekonomi kota.

NEED FOR UNIFIED VISION
FOR CENTRAL JAVA COAST



SEA LEVEL
RISING

MORE INTENSE AND
FREQUENT STORMS

EXISTING INITIATIVES INISIATIF YANG ADA

- 1 Mangrove Tugu
- 2 Flood Early Warning System (FEWS)
- 3 Tanggul Rob/ Toll road dan seawall - Semarang Timur
- 4 Integrated Coastal Management Zone
- 5 Kampung Bahari
- 6 Zurich Flood Resilience Program
- 7 Drinking Water Supply System Masterplan / Penyusunan Rencana Induk Sistem Penyediaan Air Minum (RISPAM)
- 8 Drainage Masterplan of Semarang / Penyusunan Masterplan Drainase Kota Semarang
- 9 Pola Rencana Sumber Daya Air
- 10 Vetiver planting and rainwater harvesting / Penanaman rumput vetiver dan rain harvesting
- 11 Land arrangement models Sukorejo
- 12 Sanitation credit Kemijen / Kredit sanitasi Kemijen
- 13 Transform
- 14 Integrated Water Resources And Flood Management Project For Semarang
- 15 Banjir Kanal Timur - Normalisasi
- 16 Banjir Kanal Barat - Normalisasi
- 17 Plered Banjir Kanal Barat
- 18 Jatibarang Dam
- 19 West Semarang Drinking Water Supply System
- 20 Paguyuban Penanggulangan dan Penanggulangan Air Pasang Panggung Lor (PSL)
- 21 Polder Kali Semarang
- 22 Polder Tanjung Emas
- 23 Polder Kaligawe
- 24 Polder Banger
- 25 Polder Bulakan
- 26 Polder Jembatan Berok
- 27 Waduk UNDIP
- 28 Program Penyediaan Air Minum dan Sanitasi berbasis Masyarakat (PAMSIMAS) / Community-based water provision and sanitation program
- 29 Building with Nature
- 30 Susuk Wangan Ritual Nongkosawit

water(shed) as leverage

one resilient semarang



	COASTAL EROSION	TIDAL INUNDATION	FLUVIAL FLOOD	PLUVIAL FLOOD	WATER SUPPLY	LAND SUBSIDENCE	LANDSLIDE	DROUGHT
1 Mangrove Tugu	●	●	●	●	●	●	●	●
2 Flood Early Warning System (FEWS)	●	●	●	●	●	●	●	●
3 Tanggul Rob/Tollroad dan seawall	●	●	●	●	●	●	●	●
4 Integrated Coastal Management Plan (ICZM)	●	●	●	●	●	●	●	●
5 Kampung Bahari	●	●	●	●	●	●	●	●
6 Zurich Flood Resilience Program	●	●	●	●	●	●	●	●
7 Drinking Water Supply System Masterplan / Penyusunan Rencana Induk Sistem Penyediaan Air Minum (RISPAM)	●	●	●	●	●	●	●	●
8 Drainage Masterplan of Semarang / Penyusunan Masterplan Drainase Kota Semarang	●	●	●	●	●	●	●	●
9 Pola Rencana Sumber Daya Air	●	●	●	●	●	●	●	●
10 Vetiver planting and rainwater harvesting / Penanaman rumput vertiver dan rain harvesting	●	●	●	●	●	●	●	●
11 Land arrangement models Sukorejo	●	●	●	●	●	●	●	●
12 Sanitation credit Kemijen / Kredit sanitasi Kemijen	●	●	●	●	●	●	●	●
13 Transform	●	●	●	●	●	●	●	●
14 Integrated Water Resources And Flood Management Project For Semarang	●	●	●	●	●	●	●	●
15 Banjir Kanal Timur - Normalisasi	●	●	●	●	●	●	●	●
16 Banjir Kanal Barat - Normalisasi	●	●	●	●	●	●	●	●
17 Plered Banjir Kanal Barat	●	●	●	●	●	●	●	●
18 Jatibarang Dam	●	●	●	●	●	●	●	●
19 West Semarang Drinking Water Supply System	●	●	●	●	●	●	●	●
20 Paguyuban Penanggulangan dan Penanggulangan Air Pasang Panggung Lor (PSL)	●	●	●	●	●	●	●	●
21 Polder Kali Semarang	●	●	●	●	●	●	●	●
22 Polder Tanjung Emas	●	●	●	●	●	●	●	●
23 Polder Kaligawe	●	●	●	●	●	●	●	●
24 Polder Banger	●	●	●	●	●	●	●	●
25 Polder Bubakan	●	●	●	●	●	●	●	●
26 Polder Jembatan Berok	●	●	●	●	●	●	●	●
27 Waduk UNDIP	●	●	●	●	●	●	●	●
28 PAMSIMAS / Community-based water provision and sanitation program	●	●	●	●	●	●	●	●
29 Building with Nature	●	●	●	●	●	●	●	●
30 Susuk Wangan Ritual Nongkosawit	●	●	●	●	●	●	●	●

We studied, mapped and analyzed the city's goals and aspirations to understand what is the current vision for the city of Semarang. Kami mempelajari, memetakan, dan menganalisis visi dan aspirasi kota untuk memahami apa arah pembangunan Kota Semarang.

MISSION

STRATEGY

PROGRAM

VISION

MISSION 1

Mewujudkan kehidupan masyarakat yang berbudaya dan berkualitas.

- Peningkatan mutu dan kualitas pendidikan
- Peningkatan kualitas pelayanan kesehatan
- Pengembangan budaya lokal
- Perluasan kesempatan kerja
- Pemenuhan kebutuhan dasar bagi warga miskin
- Peningkatan perlindungan sosial
- Peningkatan peran serta masyarakat dalam pembangunan

- Program Pendidikan Anak Usia Dini
- Program Wajib Belajar Pendidikan Dasar Sembilan Tahun
- Program Peningkatan Mutu Pendidik dan Tenaga Kependidikan
- Program Manajemen Pelayanan Pendidikan
- Program Pendidikan Non Formal
- Program Promosi Kesehatan dan Pemberdayaan Masyarakat
- Program Perlakuan Gizi Masyarakat
- Program Peningkatan Keterampilan Ilmiah Melahirkan dan Anak
- Program Keluarga Berencana
- Program Upaya Kesehatan Masyarakat
- Program pengabdian, peningkatan dan perbaikan sarana dan prasarana kesehatan
- Program standarisasi pelayanan kesehatan
- Program Obat dan Farmakologi Kesehatan
- Program pencegahan dan penanggulangan penyakit menular / tidak menular

- Program Pengembangan Nilai Budaya
- Program Pengelolaan Kearifan Cagar Budaya
- Program Peningkatan Kemampuan Kerja
- Program Peningkatan Kualitas dan Produktivitas Tenaga Kerja
- Program Pelayanan Kesehatan Masyarakat Miskin
- Program Pemberdayaan Tindak Miskin, dan Penyandang Masalah Kesejahteraan sosial (PMKS) Lainnya
- Program Pemberdayaan Kemandirian Kesejahteraan Sosial (PSKS)
- Program Peningkatan Kualitas Hidup dan Perlindungan Perempuan
- Program Peningkatan peran serta dan kesadaran gender dalam pembangunan
- Program peningkatan peran serta masyarakat
- Program Peningkatan Partisipasi Masyarakat dalam pembangunan

WATER

PENYEDIAAN AIR MINUM

PENGENDALIAN BANJIR

PEMELIHARAAN SUMBER DAYA AIR

PENINGKATAN PENGELOLAAN AIR LIMBAH

PENGELOLAAN LINGKUNGAN HIDUP

PENINGKATAN DRAINASE

MITIGASI DAN ADAPTASI PERUBAHAN IKLIM

CITY

PERTUMBUHAN EKONOMI

KEMISKINAN & LAPANGAN PEKERJAAN

RUANG TERBUKA HIJAU

PENINGKATAN KUALITAS PENDIDIKAN & KESEHATAN

PENINGKATAN PRASARANA PERMUKIMAN

KETANGGUHAN BENCANA

PEMERINTAHAN / SISTEM BIROKRASI

TRANSPORTASI YANG TERINTEGRASI

MISSION 2

Mewujudkan pemerintahan yang semakin handal untuk meningkatkan pelayanan publik.

- Reformasi birokrasi
- Peningkatan kualitas dan manajemen pelayanan publik
- Peningkatan peran masyarakat dalam menjaga ketenteraman dan ketertiban

- Program Peningkatan dan pengembangan pengelolaan keuangan daerah
- Program Pengelolaan Aset Daerah
- Program Peningkatan Sistem Pengawasan Internal dan Pengendalian Kebijakan Kepala Daerah
- Program Peningkatan Profesionalisme Tenaga Penerima dan aparatur pemerintahan
- Program Peningkatan Pembangunan Daerah
- Program Peningkatan Pelayanan Perundang-undangan
- Program Peningkatan dan Peningkatan Organisasi Perangkat Daerah
- Program Peningkatan Akuntabilitas Kinerja Penyelenggaraan Pemerintahan Daerah

- Program Pembiayaan dan pengembangan Aparatur
- Program Peningkatan dan Pengendalian Penyelenggaraan Pemerintahan Umum
- Program Peningkatan Pelayanan Informasi
- Program Pengembangan Komunikasi, Informasi dan media massa
- Program Pengendalian & Peningkatan Ketertarikan dan Keterlibatan Umum
- Program Pengawasan Perundang-undangan Daerah
- Program Peningkatan Keterlibatan Dan Keterlibatan Lingkungan
- Program Pengembangan Wawasan kebangsaan

MISSION 3

Mewujudkan Kota Metropolitan yang Dinamis dan Berwawasan Lingkungan.

- Peningkatan pengelolaan tata ruang
- Peningkatan kualitas infrastruktur kota
- Peningkatan kualitas lingkungan hidup
- Peningkatan kualitas sarana prasarana permukiman
- Peningkatan ketangguhan bencana

- Program Pengendalian Perencanaan Ruang
- Program Pengendalian Sampah Dasar Perkotaan
- Program Peningkatan dan Peningkatan Sumber Daya Air
- Program Pengembangan dan Peningkatan Jalan dan Jembatan
- Program Pengendalian Banjir
- Program Pengendalian dan Pengendalian Lingkungan
- Program Peningkatan Pelayanan Angkutan
- Program Peningkatan Kualitas dan Akurasi Informasi SDA dan LH

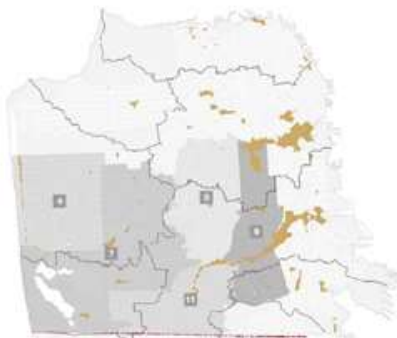
- Program Pengembangan Kinerja Pengelolaan Persampahan
- Program Pengendalian Kualitas lingkungan dan adaptasi perubahan iklim
- Program Sarana Prasarana Lingkungan Berdasarkan
- Program Lingkungan Sekitar Perumahan
- Program Pengelolaan RTH
- Program Peningkatan Kualitas dan Jangkauan Air Bersih
- Program Pengendalian dan Pengelolaan Air Miskin
- Program Pengendalian dan Kesiapsiagaan Bencana

MISSION 4

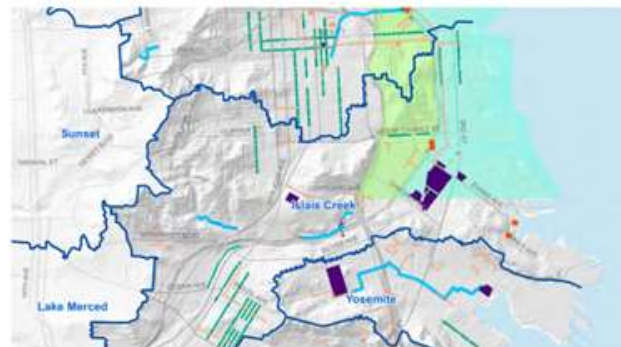
Memperkuat ekonomi kerakyatan berbasis keunggulan lokal dan membangun iklim usaha yang kondusif.

- Peningkatan kemudahan berinvestasi
- Peningkatan jaringan distribusi produk
- Peningkatan pengelolaan daya saing pariwisata
- Peningkatan ketahanan pangan
- Pengembangan ekonomi lokal
- Penguatan dan pengembangan Industri Kecil Menengah (IKM) dan Usaha Mikro

- Program Peningkatan Promosi dan Kewirausahaan Inovasi
- Program Peningkatan Riset Inovasi dan realisasi inovasi
- Program peningkatan efisiensi pelayanan dalam negeri
- Program Pengembangan Destinasi Pariwisata
- Program Pengembangan Pemasaran Pariwisata
- Program Ketahanan Pangan
- Program Pengembangan Berdaya Paksa
- Program Pengembangan Pertanian Perkotaan
- Program Pengembangan Kewirausahaan dan Kewirausahaan Kompetitif Usaha Kecil Menengah
- Program pengembangan Industri Kecil dan menengah



SAN FRANCISCO FLOOD RESILIENCE STUDY



URBAN WATERSHED ASSESSMENT



ISLAIS CREEK LID BASIN ANALYSIS



URBAN WATERSHED ASSESSMENT CHARETTE



CAYUGA STORMWATER IMPROVEMENT PROJECT



ALEMANY AUXILIARY SEWER



SEWER SYSTEM IMPROVEMENT PROJECT



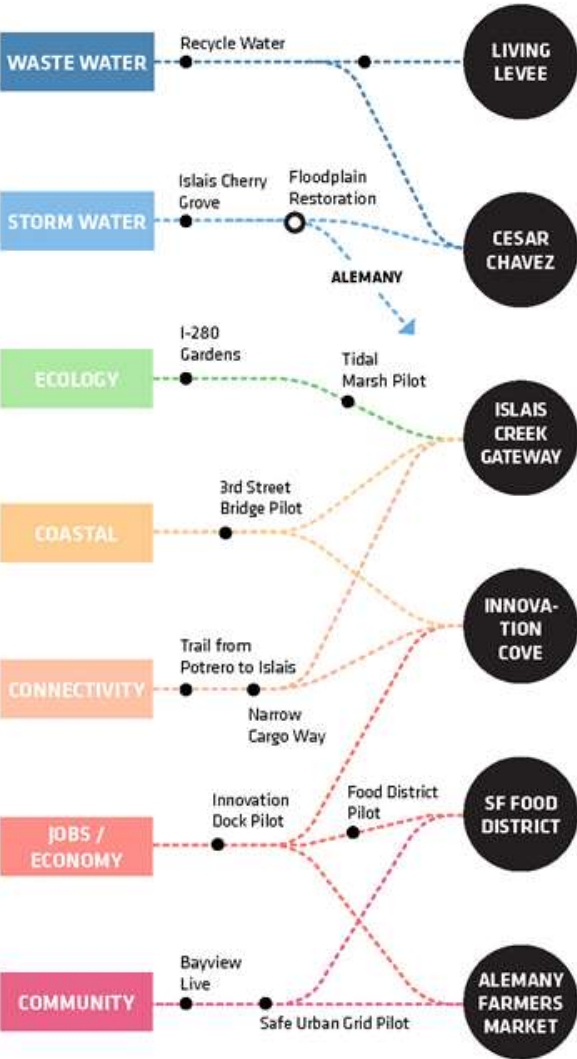
LOWER ALEMANY BOULEVARD DETENTION STUDY

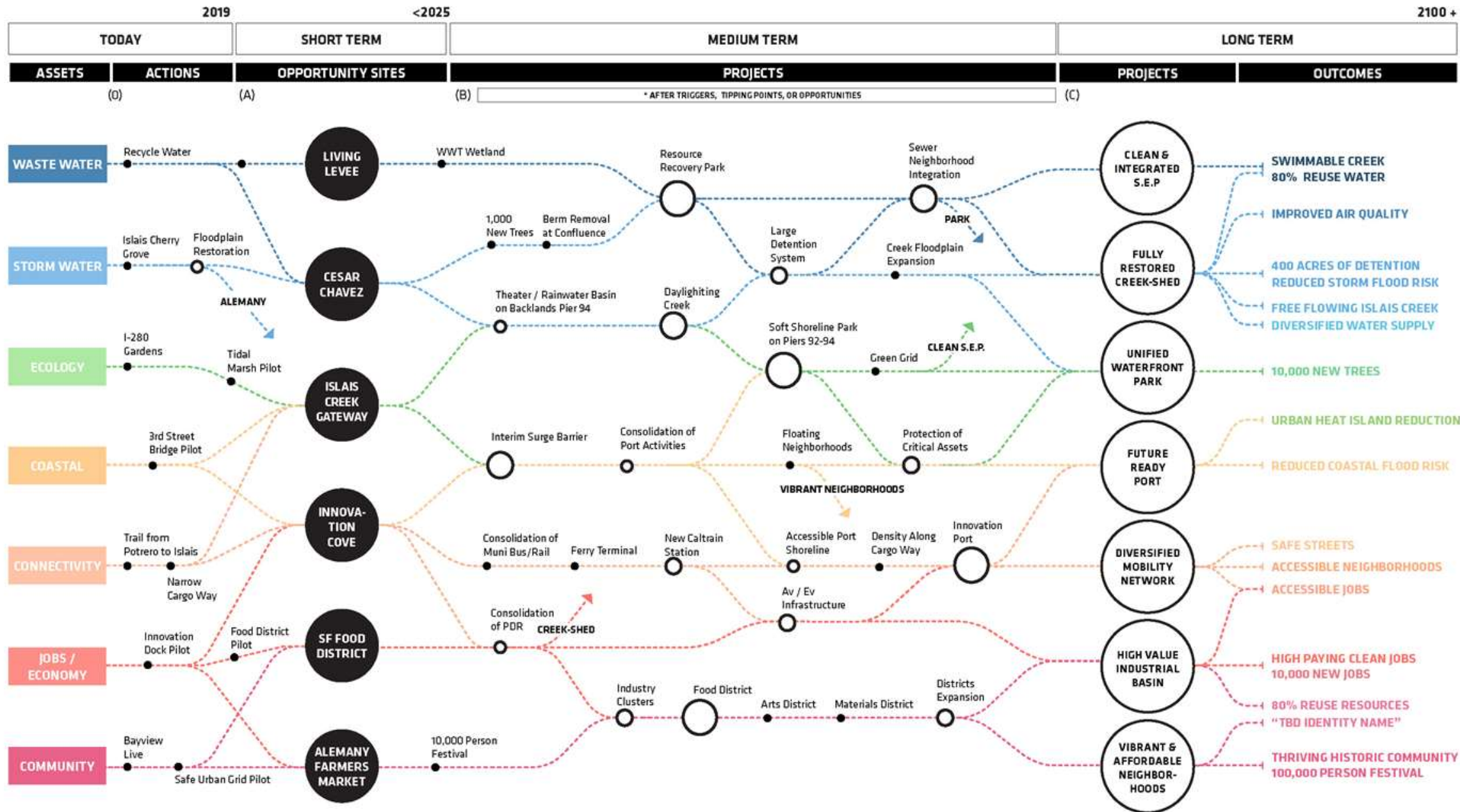


SOUTH EAST TREATMENT PLANT CAMPUS PLAN

ONGOING ENGINEERING

2019		<2025		2100 +	
TODAY		SHORT TERM	MEDIUM TERM	LONG TERM	
ASSETS	ACTIONS	OPPORTUNITY SITES	PROJECTS	PROJECTS	OUTCOMES
(0)		(A)			





IMPLEMENTATION PATHWAYS

STATE AND FEDERAL SOURCES AND STRATEGIES

PROGRAM / POLICY NAME	ELIGIBLE USES	NOTES	APPLICABILITY
Proposition 1	Projects should focus on ecosystems and watershed protection and restoration, water supply infrastructure projects including surface and groundwater storage, and drinking water protection.	6.6 billion has already been committed to projects. \$930 million is still available, with largest amounts of funding designated for "protecting rivers, lakes, streams, coastal waters and watersheds (\$333 million), "Regional water security, climate, and drought preparedness" (\$290 million), and flood management (\$285 million) Grant amounts vary between agencies. The Storm Water Grant Program requires implementation proposals to request between \$250,000 to \$10,000,000, for example.	Strong Match
CA State Coastal Conservancy Grants	Funds are available for property acquisition, project planning, design, and construction. Project proposals should meet goals of Conservancy Strategic Plan. Proposals must meet required criteria, some of which include "greater-than-local interest, it must benefit coastal, ocean resources or the SF Bay region, consider sea level rise vulnerability in program, show need (that desired result would not occur without Conservancy participation), with additional criteria including consideration of other climate change impacts, and greenhouse gas emissions (and others)	Grants typically range from \$100,000 to \$1,000,000, though larger grants could be available for property acquisitions and habitat restoration. Strong preference is given to projects with matching funds. Bay Area Conservancy funds typically are matched 3:1 by other contributions. Proposals accepted on rolling basis, (though Prop 1 rounds occur three times a year).	Strong Match
Climate Ready Program	Projects should have multiple benefits that use natural systems to assist communities in adapting to impacts of climate change. Funds are available for projects with goals to safeguard coastal communities from climate change, use nature-based solutions that provide co-benefits for people, the economy, and wildlife, promote collaboration among multiple stakeholders, reduce GHG emissions, address needs of low-income coastal populations that will be impacted by climate change, promote innovative approaches toward understanding effective coastal management strategies.	\$3.8 million is available in current funding round. Five to ten projects will likely be funded. (Applications due July 2018)	Strong Match
Hazard Mitigation Grant Program	Following a Disaster Declaration, funds strategies to help communities eliminate long-term risk to people and property from future disasters. Examples of projects include: wildfire, flood, drought mitigation, acquisition and demolition/ relocation of structures	FEMA provides 75% of funds for mitigation projects, with the applicant responsible for 25%. Entity must provide Letter of Intent within 30 days after a disaster declaration.	Partial Match
Pre-Disaster Mitigation Grant Program	Projects should either engage with hazard mitigation planning, or be used for implementation of hazard mitigation strategies, with the goal of protecting communities from future hazard.	"Highly competitive." In FY 2017, there was \$90 million in funds. Maximum amount requestable is \$4 million for mitigation projects.	Partial Match
Land and Water Conservation Fund	Funds for acquisition or development of land to create new outdoor recreational opportunities (funds cannot be used for both acquisition AND development)	\$3 million is maximum grant amount. Amount cannot exceed 50% of the total project cost, and matched funds must be 50% or greater of project cost.	Partial Match
Climate Adaptation and Resiliency Program	Projects should aim to protect and restore ecosystems to provide climate change adaptation/ resilience for wildlife, assist lands managers in implementing climate adaptation/ resilience practices, facilitate reduction of GHG emissions, increase carbon sequestration.	In 2018 round, 60% funds are being made available to projects that acquire perpetual conservation easements and contain long-term agreements to provide climate adaptation/ resilience benefits for 50 years or more. Funding also available for planning, implementation, and technical assistance projects. Competitive scoring process. "Rule of thumb" maximum to request is \$250,000.	Strong Match
Proposition 68, the Parks, Environment, and Water Bond (Senate Bill 5)	Projects should prioritize park creation/ rehabilitation, drinking water safety, natural resource conservation, and flood prevention. Projects that prioritize water efficiency, stormwater capture, or carbon sequestration will be given preference.	Requires voter approval on June 2018 ballot. Approximately \$2.8 billion for parks, \$1.3 billion for water resources and flood protection.	Strong Match
New Market Tax Credits	Investment capital for qualifying projects serving low-income neighborhoods/communities. Investors receive a tax credit equal to 39 percent of the total Qualified Equity Investment realized over a seven-year period, amounting to 5 percent annually for the first three years and 6 percent in years four through seven.	Federal tax credit program designed to stimulate investment and economic growth in low income urban neighborhoods and rural communities.	Strong Match

REGIONAL SOURCES AND STRATEGY

PROGRAM / POLICY NAME	ELIGIBLE USES	NOTES	APPLICABILITY
Measure AA	Projects should aim to protect and restore the San Francisco Bay for future generations by improving water quality through pollution reduction, restore and maintain wildlife habitats, use natural habitats to protect communities from flooding, and increase shoreline public access	Quantitative and qualitative review process. 5-10 projects will likely be funded each year, and projects costing at least several hundred thousand - multi million dollars are encouraged. Pilot/ demonstration projects are eligible.	Strong Match
One Bay Area Grant (OBAG) Program	Transit expansion and improvements, safety and streetscape improvements, and Priority Development Area (PDA) planning and implementation	The current cycle for fiscal years 2017-18 through 2021-22 is known as OBAG 2. The call for projects for the SFCTA program is now closed, however, more OBAG funds may become available in the future.	Strong Match

LOCAL SOURCES AND STRATEGIES

PROGRAM / POLICY NAME	ELIGIBLE USES	NOTES	APPLICABILITY
Mello-Roos Community Facilities District (CFD)	Construction or acquisition of public facilities (e.g., transit, parks, schools, libraries). May also fund specified ongoing services (e.g., fire, police, lighting).	May be approved by a two-thirds majority of property owners in the proposed district, so long as there are no more than 12 registered voters living within the proposed boundary. If there are more than 12 registered voters living within the boundary, two-thirds approval by voters living within the district is required.	Partial Match
Enhanced Infrastructure Finance District (EIFD)	Construction or acquisition of public facilities and infrastructure. May not fund routine operations or maintenance.	No vote required for formation; however, 55 percent of property owners or registered voters must approve issuance of tax increment bonds.	Partial Match
Special Benefit Assessment District	Uses are specified in various assessment acts; typically includes local street, sidewalk, lighting and landscaping improvements and maintenance.	Requires approval by 50% plus one of property owners (weighted by financial obligation of each property under proposed assessment).	Partial Match
Parcel Taxes	Flexible; typically pay for local government services that benefit the community at large. Most commonly used for schools but have been used to fund local infrastructure maintenance.	Requires approval by 2/3 of voters.	Partial Match
Capacity Charges and Development Impact Fees	Funds may only be used to mitigate impacts caused by new development.	Requires reasonable relationship ("nexus") between the development paying the fee, the size of the fee, and the use of fee revenues.	Partial Match
User Rates	Operating and capital expenses, which can include debt service for improvements to the system.		Strong Match

PILOT PROJECTS

PILOT PROJECT	LEAD AGENCY	OTHER STAKEHOLDER AGENCIES	POTENTIAL FUNDING SOURCES AND STRATEGIES
Bayview Gate Park and 3rd Street Bridge	ICA/SF Port	SF MTA, SF Public Works, SF Planning, SF Recreation and Parks	Measure AA, CA Dept of Parks and Rec and Water Conservation Fund, Other State and Federal Parks Grants and Programs
Warm Water Cove	ICA/SF Port	SF MTA, SF Public Works, SF Planning, SF Recreation and Parks	Measure AA, CA Dept of Parks and Rec and Water Conservation Fund, Proposition 68
Cesar Chavez	ICA/SF Planning	SF MTA, SFPUC, SF Public Works	Measure AA, CA Dept of Parks and Rec and Water Conservation Fund, Proposition 1
WWTP Living Levee	ICA/SFPUC	SF Planning, SF Recreation and Parks	Measure AA, CA Dept of Parks and Rec and Water Conservation Fund, Proposition 1, CA State Coastal Conservancy, Hazard Mitigation Grant Program, CA Wildlife Conservation Board Climate Adaptation Program, Proposition 68
SF Produce Market	ICA/SFPUC	SF Planning	Private funding. New Market Tax Credits consider a special use district overlay as used by PlaceMade, Priority Production Area designation, value capture mechanism through special assessment or tax district
Alemany Maze + Farmer's Market	ICA/SFPUC	Caltrans, SF Planning	CA Dept of Housing and Community Development Affordable Housing and Sustainable Communities Program, Low-Income Housing Tax Credits, CA Wildlife Cons. Board Climate Adaptation Program, Proposition 68, Measure AA, Prop 1

Design helps build an understanding, a conversation, support and stewardship

Design helps to develop multiple benefits

Design helps to link projects in an integrated program (while maintaining projects with independent utility and, as a consequence, independent funding streams)

Design helps to ground-truth strategies and de-risk project implementation



①
RE-WATER

②
**INDUSTRIAL
GREENBELT**

③
**FUTURE-READY
PORT**

④
**RESILIENT
KAMPUNG**

⑤
**URBAN / RURAL
SHORELINE**

water(shed) as leverage

one resilient semarang