



# DWELL

MUMBAI MIXED HOUSING

international open ideas competition

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# DWELL MUMBAI

*"Mumbai, allegorically speaking, is actually two cities... The 'haves and have-nots' are within the same geographical territory but occupy entirely different economic, physical, and social spaces."*

- Mumbai Human Development Report, 2009

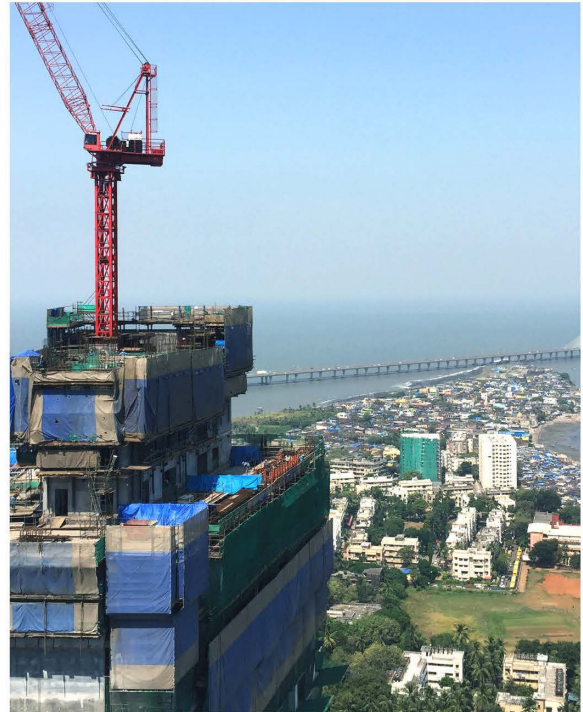
Rapid urban growth and growing inequality has created a global crisis in housing that increasingly segregates the rich from the poor. Though not fully understood, there is a clear and parallel relationship between the size of a city and its level of socio-economic disparity: the larger the city, the less equal it tends to be.<sup>1</sup>

At 21.4 million people, Mumbai is the fourth largest metropolitan region in the world, and more than half of the city population lives in slums. The price-to-income ratio, which measures the time it would take the average household to buy a home, is the second highest worldwide at 32 years<sup>2</sup> - an unattainable goal for most.

Physical and social segregation, which both reflects and perpetuates socio-economic disparity within a city, is a growing concern in cities worldwide - including Mumbai. *The long-term success of a city depends on the collective well-being of all its inhabitants. To what extent can architecture support social inclusion and break down spatial segregation within the megacity?*



"City of 'haves' and 'have-nots'"  
credit: andreas grosse, reality tours and travel



View verlooking the Worli Koliwada, an urban fishing village that houses the competition site, from a luxury high-rise currently under construction in Worli, Mumbai

## CHALLENGE

**arch out loud challenges competition entrants to design a mixed dwelling development on one of the last undeveloped sections of Mumbai's coastline.**

Entrants will design for both the indigenous fishing community that has occupied the site for hundreds of years - as well as a new demographic drawn to the affluent neighborhood that now encompasses the site. Proposals should identify architectural and planning solutions that support integration between these socio-economically distinct communities.

**Additionally, entrants are asked to confront complex realities by addressing one or more site-specific and city-wide challenges:**

1. shortage of public open space
2. threats to the historic and urban fabric
3. annual monsoon flooding and rising sea levels



## MIXED DWELLING

*"To dwell means to belong to a given place."*

- Christian Norberg-Schulz

In 2008, for the first time in human history, the urban population surpassed the rural population worldwide; an additional 3 million people make the move each week.<sup>3</sup> The need to house more people in less space is a global challenge that navigates conflicts between profit and affordability, development and displacement, and private versus public interests.

Mixed-income housing strives to address these contradictions by accommodating various combinations of spatial, financial, and social needs with integrative strategies. Earlier attempts at social housing, such as the western public housing projects of the 1950s and 60s, failed in part due to geographic and social segregation. Inclusionary zoning, central to successful mixed-income housing developments, fosters social integration in economically diverse populations at the urban scale.

The housing crisis in Mumbai can be seen most clearly in the proliferation of slums, which house an estimated 62% of those in the city proper.<sup>4</sup> Currently the City of Mumbai relies on private-public partnership (PPP) models for slum rehabilitation, providing government land to developers at minimal cost in exchange for in-situ high-density towers that house the displaced. In practice, these towers are plagued with severe problems that include cramped living quarters, insufficient amenities and open space, disregard for pre-existing modes of social interaction, shoddy construction and maintenance, and reinforced segregation from adjacent luxury towers.

DWELL seeks a more inclusive approach to development in the megacity, that brings together socio-economically disparate constituents in both the private and public realms. Through what strategies can architecture create places where *all* residents have a feeling of belonging and ownership?



Copacabana Beach in Rio de Janeiro, designed by Roberto Burle Marx

## OPEN SPACE

Rapid urbanization and growing demands on limited land pose another global challenge - the loss of public open space. Along with affordable housing, open space is fundamental to a city's social, economic, civic, and environmental success - but faces increasing threat from uncontrolled development and private interests.

Urban public space includes streets, boulevards, and sidewalks, as well as public open spaces such as parks, squares, recreational areas, natural assets, playgrounds, and other open public facilities. In Mumbai, shrinking open space is of particular concern: open space per capita is just 0.88 sq-m per person, compared to New York City at 2.5, Tokyo at 6, and Delhi at 15. Part of the challenge lies in the current lack of accessibility and protection of existing open space in Mumbai: of the available 30 sq-km, only 40% is currently being used.<sup>5</sup>

In 2012, local firm PK Das & Associates proposed a plan to develop the city's open spaces, incorporating natural assets that are underutilized and under protected. *Open Mumbai* identified rivers, mangroves, lakes, salt pans, and the 35-km western coastline as valuable public land, also crucial to Mumbai's protection against mounting challenges with annual monsoon flooding.



# PROGRAM

Designers should interpret the program as they feel best addresses the particular concerns of the brief. There is no required scale for the proposal.

## Mixed Dwelling

The mixed-income housing development should address two distinct socio-economic populations:

1) **Koli** - The original settlers of Mumbai, and fishermen by trade. Traditional Koli homes include a veranda (oti) for weaving and repairing nets, a kitchen (chool), a main room (vathan), and a worship room (devghar).

2) **Worli** - A new demographic drawn to this upscale neighborhood in central Mumbai with waterfront property and expensive views. Real estate ranges from Rs.35,000/sf - Rs.60,000/sf (~\$550 - \$930). Half of the households in Mumbai earn less than 20,000 rupees/month (~\$300).<sup>6</sup>

## Open Space

The project should include public open space that serves residents of the mixed dwelling development, residents of Worli Koliwada, and visitors from Mumbai and beyond. Consideration should be given to the site's spectacular views, position along the city's western coast, land and water access, and current lack of public amenities such as toilets.

## Other Considerations

1) **Threats to the historic and urban fabric** - Worli Fort, built by the British in 1675, sits at the southern edge of the site and lends it historic significance. Urban plans of note include proposals to ease traffic congestion through ferry transportation or, more recently, the construction of a coastal highway along the city's western coast.

2) **Annual monsoon flooding and rising sea levels** - Water plays an undeniable role in the future of Mumbai. The site boundaries are intentionally inexplicit, open to new possibilities in coastal architecture and planning.

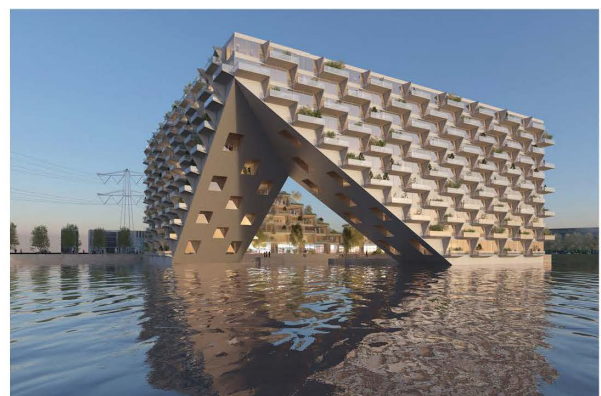
3) **City of Mumbai guidelines** - The following links are provided for context and are not requirements:

- Floor Space Index maximum for koliwadass
- Heritage I site limitations
- Coastal Regulation Zone III protections

# OBJECTIVES

- 1 To develop a mixed dwelling solution that defies economic segregation in the megacity
- 2 To propose public open space that employs inclusive strategies and capitalizes upon the site's central location and spectacular views
- 3 To consider the cultural heritage of the indigenous Koli while orchestrating their transition into the urban and social fabric of India's financial and entertainment capital
- 4 To consider opportunities and challenges of the site's complex relationship to the coast, including the environmental risk posed by annual monsoon flooding and rising sea levels, and the economic value of coastal properties
- 5 To consider the site's significance to the urban fabric of Mumbai. How might it serve as a precursor or precedent for city-wide efforts and/or infrastructure?
- 6 To take into account the city's planning measures to inform development on the site, which has historical and environmental significance

Project submissions are not required to meet each of the above objectives, though meeting some or all objectives is strongly encouraged.



Sluishuis, a mixed-used building proposal in Amsterdam by BIG and Barcode Architects

## ISLAND CITY

Originally a cluster of small islands inhabited by fisherfolk, the megacity of Mumbai is now built on top of more reclaimed land than any other city in the world.<sup>7</sup> Its remarkable transformation in form, scale, and population has been achieved in just 300 years, and continues to rapidly change.

Drastic infill commenced in the 18th century with active reclamation and deforestation-induced siltation. Anthropogenic influence continues to shape the land, as seen in narrowing creeks and infilled tidal inlets due to regional development and mangrove destruction, and steady sea-level rise due to global climate change.<sup>8</sup> These changes have put the city's future in a perilous position, as demonstrated so clearly in the 2005 flood that claimed the lives of more than 1,000 people.

Worli Koliwada sits on the northern tip of Worli, one of the seven original islands of Mumbai. Some of the village's current inhabitants are direct descendants of the Koli that pre-date the Portuguese, who took control of the islands in 1534. The colony was handed over to the British in 1661, who built a fortlet in 1675 to surveil their coastal position. The fort was renovated in 2007 and retains its original footprint, and now houses an unofficial gym and temple. There are nearly 40 koliwadras (fishing villages) in Mumbai, many of which are under threat due to steady declines in annual catch and competing development interests.<sup>9</sup> On record, the 65-acre Worli Koliwada counts 457 dwellings, but over time residents have constructed additions and new structures for supplementary income.<sup>10</sup> Population estimates range from 60,000 to 100,000, with a mix of Koli and migrants from around the country.



Flooded street in Mumbai | credit: asianews



Traditional fishing boats bob in the Mahim Bay near the Bandra-Worli Sea Link  
credit: bombay.jules

## MEGACITY

In 2009, the City of Mumbai opened the Bandra-Worli Sea Link (BWSL), a \$250-million, 8-lane bridge that connects the western suburbs of Mumbai to its business center. The passage of more than 37,000 vehicles per day on the BWSL, which skirts the Worli Koliwada, has brought new attention to the previously hidden village.

Its existence comes as a surprise to some, given the affluent character of the rest of Worli - known for its luxury high-rises and celebrity residents. In a city where land is regarded as the most precious resource, it may only be a matter of time before Worli Koliwada is replaced by more profitable ventures. In 2015, the village was sent a notice from the Slum Rehabilitation Authority to declare 22 plots as slums - the first step in claiming the land for future development. In December 2017, the SRA re-opened this contentious case against the opposition of most locals.<sup>11</sup>

Worli Koliwada's unique combination of historical, social, and environmental significance have protected it from the brazen development happening elsewhere in the city. *What might a successful mixed dwelling development look like in Mumbai? Is there a way to capitalize on the city's rich traditions and history without destroying them?*



## EXPERT OPINION

Mumbai-based architect-activist PK Das, awarded the first-ever Jane Jacobs Medal from The Rockefeller Foundation in 2016, weighs in on the importance and redefinition of open space in *Open Mumbai*:

*"As towns expand, their open spaces are shrinking. The democratic 'space' that ensures accountability and enables dissent is also shrinking. Over the years, open spaces become 'leftovers' or residual spaces after construction potential has been exploited. Hence we need plans that redefine the 'notion' of open spaces to go beyond gardens and recreational grounds – to include the vast, diverse natural assets of our cities, including rivers, creeks, lakes, ponds, exhausted quarries, mangroves, wetlands, beaches and the seafronts.*

*Plans that aim to create non-barricaded, non-exclusive, non-elitist spaces that provide access to all citizens. Plans that ensure open spaces are not only available but are geographically and culturally integral to neighbourhoods and a participatory community life. Plans that redefine land use and development, placing people and community life at the centre of planning – not merely real estate and construction potential.*

*Waterfronts cannot be sustained as isolated or segregated edges from rest of the city. They have to be considered as a thread of a larger ecological structure interwoven with other natural conditions, along with addressing various human needs in the city. It is therefore important to not only rebuild with nature along coastal edges, but also develop streams of natural corridors across neighborhoods and cities in order to re-establish the symbiotic relationship between nature, people and habitation."*

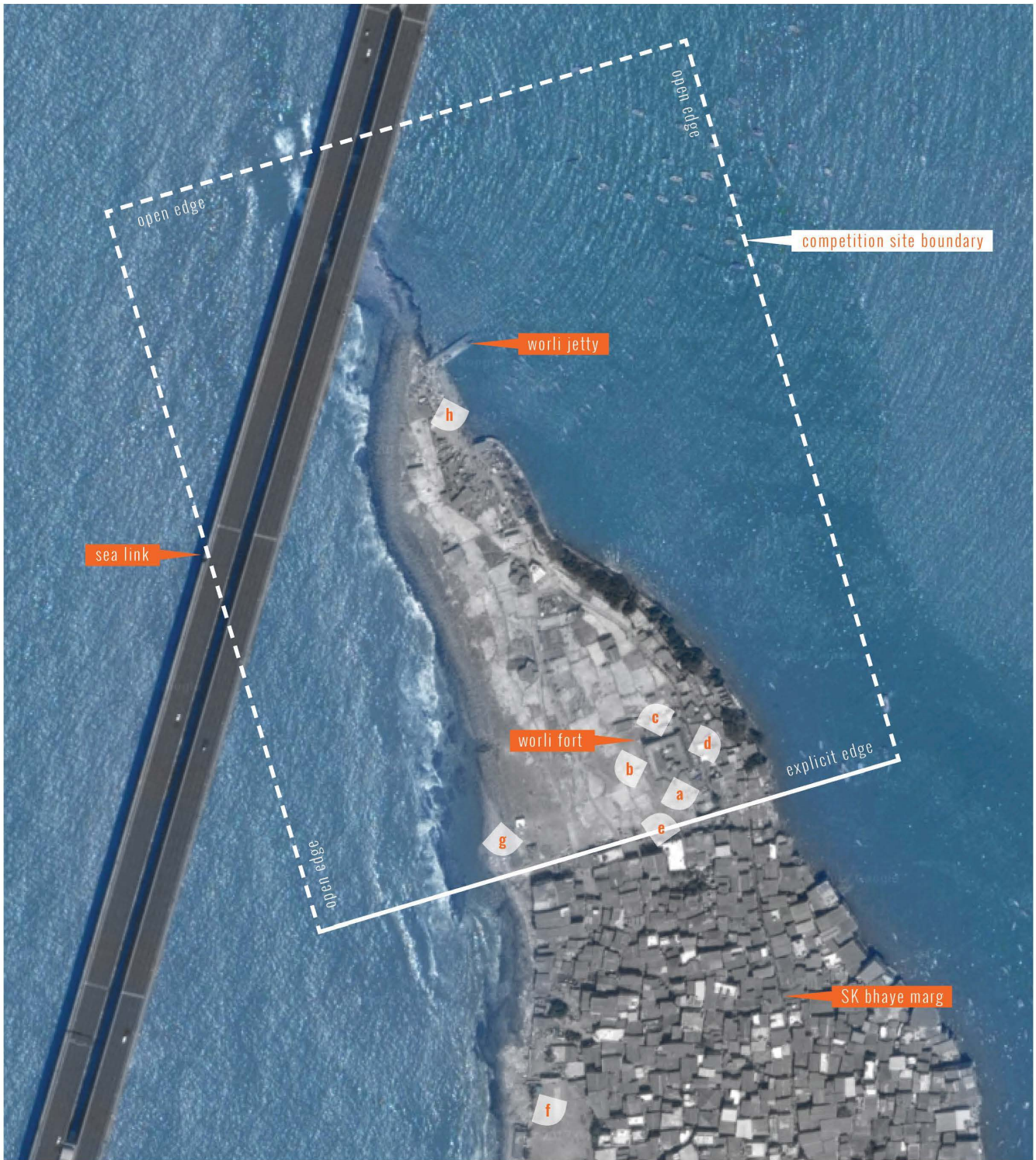
Architect and educator Mustansir Dalvi, professor at the JJ School of Architecture in Mumbai, weighs in on mixed income housing and development:

*"How does one define mixed income? Historically the whole of Bombay was a mixed income city, with the very wealthy living cheek by jowl with the lesser well off. This was normally in a network of dependencies and gave the city its cosmopolitan and egalitarian character. Even the so-called tony areas had a mix of housing and inhabitants from all classes.*

*The cost of land is so high that mixed income is just not possible. It cannot be addressed by eliminating slums and reclaiming land, as that leads to swift gentrification and the exclusion of those in the lowest rung. Mixed housing may be addressed, perhaps only by the government, subsidising the cost of land and charging exclusively for the cost of construction. This would have to be seen as a quasi-welfare scheme. Although currently the state has washed its hand of all such schemes, in the city handing over what originally was their charge, to private players who use the opportunity for speculative pricing.*

*One model which may succeed in this vitiated environment is rental housing. If new projects with good amenities in locations accessible to public transport are made not for sale but for rent, this could ease the housing situation and allow for both newcomers to the city as well as those in need of affordable housing to find a place of their own. Historically too, that was the model of the erstwhile Bombay- everyone lived in rented accommodation except for the landlords and the very wealthy. This model worked quite well despite the Rent Control Act. It is only in the late 1980s, with the rise of the builder investor, that all this changed. This model could successfully return in this land strapped city."*





Competition site boundary on the northern tip of Worli Koliwada  
coordinates: 19.024n, 72.816e

Designers are given a large site, but are not required to address all of the area within the competition boundary.  
The solid boundary is explicit: open edges acknowledge the temporal nature of the coastline and allow for water-based proposals.



## site info



view a: From Worli Fort looking south over the koliwada to Worli neighborhood



view b: From Worli Fort looking west over the Bandra-Worli Sea Link bridge

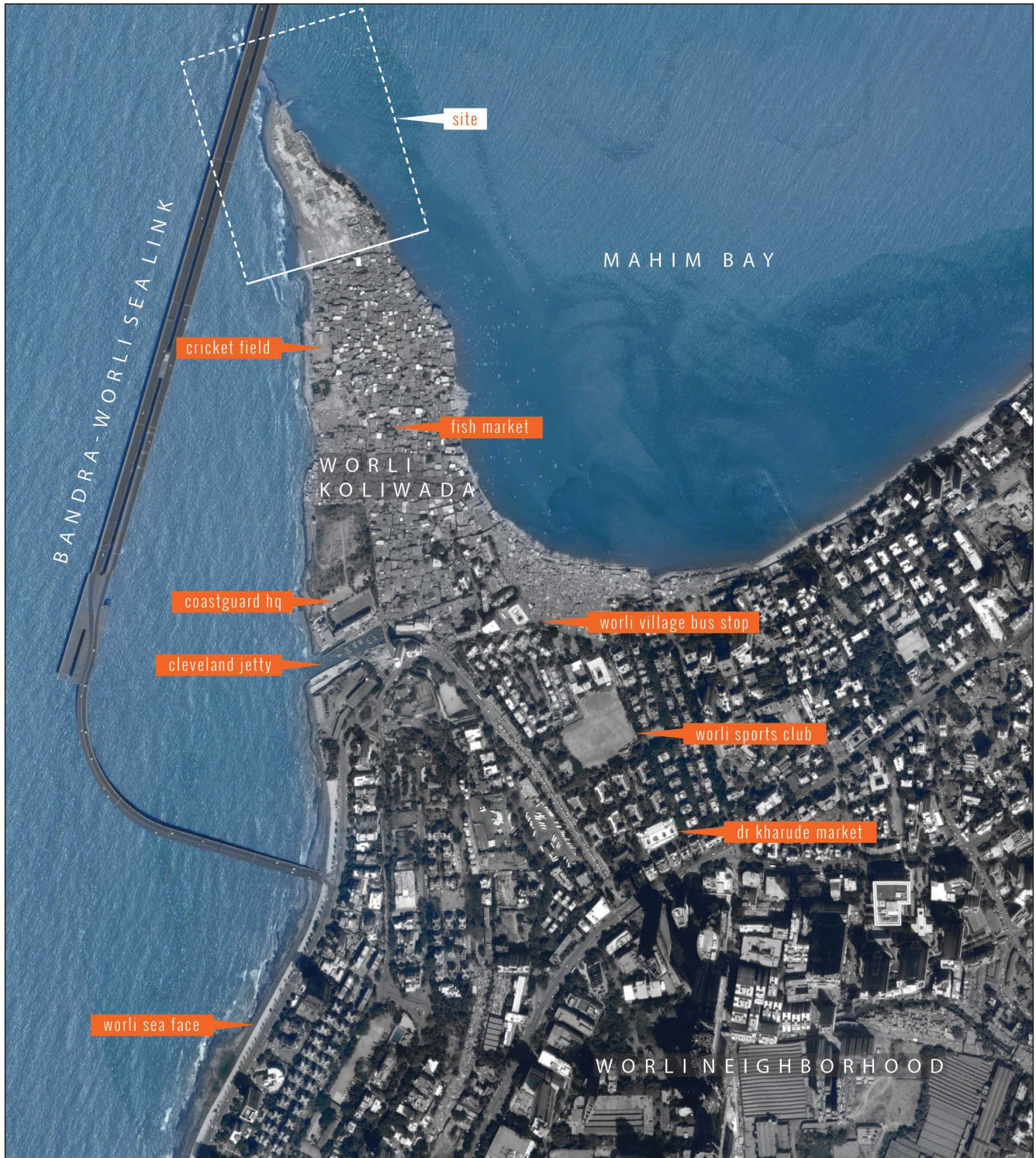


view c: From Worli Fort looking north across the competition site



view d: From Worli Fort looking east over Mahim Bay





Worli Koliwada in context



# site info



view e: Worli Fort, built by the British in 1675



view f: Worli Koliwada open space and informal cricket field



view g: Looking south along the west coast of Worli Koliwada



view h: Looking south along the east coast of the competition site



Cleveland Jetty



Worli Koliwada street life



Dr Kharude Market



Worli Koliwada street life

Additional photographs available in registration package





The seven original islands of Mumbai, including Worli Island, outlined in white;  
current boundaries of the city proper, outlined in orange

## JURY



**DANIEL LIBESKIND**

STUDIO LIBESKIND  
FOUNDER, PRINCIPAL



**DEBORAH BERKE**

DEBORAH BERKE PARTNERS  
FOUNDER, PARTNER  
YALE SCHOOL OF ARCH.  
DEAN



**DOMINIQUE PERRAULT**

DOMINIQUE PERRAULT  
ARCHITECTURE  
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**ERIC BUNGE**

nARCHITECTS  
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**GEETA MEHTA**

ASIA INITIATIVES  
FOUNDER, PRESIDENT  
COLUMBIA GSAPP



**GRACE KIM**

SCHEMATA WORKSHOP  
FOUNDER, PRINCIPAL



**JOSHUA PRINCE-RAMUS**

REX  
FOUNDEING PRINCIPAL, PRESIDENT



**NORMAN FOSTER**

FOSTER + PARTNERS  
FOUNDER, EXECUTIVE CHAIRMAN



## JURY



**ROMI KHOSLA**

ROMI KHOSLA DESIGN STUDIOS  
FOUNDER, PRINCIPAL



**SAMEEP PADORA**

SP-A  
FOUNDER, PRINCIPAL



**SANJAY PURI**

SANJAY PURI ARCHITECTS  
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FOUNDER, PRINCIPAL  
COLUMBIA GSAPP



**YOSUKE HAYANO**

MAD ARCHITECTS  
PARTNER, PRINCIPAL

## EVALUATION CRITERIA

The jury will evaluate projects based on the participants' interpretation of the program and ability to meet the competition objectives.

*arch out loud* encourages creativity, innovation, and risk-taking. Winning projects should inspire with great ideas and compel with memorable visuals.

The jury reserves the right to add additional criteria that they deem critical to the topic and site. Additionally, the jury reserves the right to select projects that do not meet all of the brief's criteria as long as they justify their selection.

## JUDGING PROCESS

All proposals will be considered in order to determine 50 submissions that will advance to the final round. Projects will advance based on the outlined competition objectives and evaluation criteria. The jury will select winners after review of each finalist's proposal. The jury's decision is final and sovereign in determining the overall winner, three runner-ups and 10 honorable mentions. The jury has the right to add additional honorable mentions as it feels necessary.

The Directors' Choice Award will be determined by the *arch out loud* competition organizers. The award will be given following the announcement of winners.

## AWARDS

FIRST PLACE	\$5,000
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RUNNER-UP	\$1,000
RUNNER-UP	\$1,000
RUNNER-UP	\$1,000

DIRECTORS CHOICE AWARD

HONORABLE MENTIONS

TOTAL PRIZE PACKAGE	\$8,000
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Depending on the country in which a team lives and pays taxes in some prizes may be subject to withholding in order to meet corresponding legal regulations.

## GENERAL PUBLISHING

Winning projects will be published across international platforms including websites, blogs and magazines as available. Some of the projects from the competition will be featured at various times on *arch out loud*'s social media. Following the competition, all winning projects will be published on the *arch out loud* website. Each project feature will list authors. Links to the author's personal website will be included upon request.

# COMPETITION DETAILS

## CALENDAR

<b>Dec 11th, 2017</b>	Competition opens and Advance registration begins
<b>Feb 1st, 2018</b>	Advance registration closes
<b>Feb 2nd, 2018</b>	Early registration begins
<b>Mar 29th, 2018</b>	Early registration closes
<b>Mar 30th, 2018</b>	Regular registration begins
<b>Apr 30th, 2018</b>	Registration deadline
<b>May 1st, 2018</b>	Submission deadline
<b>May 28th, 2018</b>	Winners announced

## SUBMISSION MATERIALS

Each team is required to submit one (1) ARCH D size board (24in x 36in or 610mm x 914mm) oriented landscape or portrait. Teams must place their given order number in a corner of their board in Arial 18 pt font.

The content of the board is left open to each team to decide what best communicates its concepts and solutions to the jury. Designers will also be asked to include a 100-word max explanation of the project, for publishing purposes, in a text field on the submission page.

Possible board content may include - but is not limited to - plans, sections, elevations, rendered perspectives, diagrams and images of physical models.

[www.archoutloud.com/-submit](http://www.archoutloud.com/-submit)

### PLEASE NOTE:

All text on submission boards **MUST** be in English. Text written in a different language will not be considered during judging. For publishing purposes winners will be asked to submit individual images within one week of the announcement.

## PAYMENT

advance registration:	\$55
early registration:	\$75
regular registration:	\$95

Payments for registering teams in the competition are made through the arch out loud web page portal. A team is not officially registered until they complete the payment process.

### Credit or Debit Cards

The following major credit cards may be used and will be handled by Weebly checkout to ensure web security: VISA, MasterCard, American Express, & Discover. Please provide the cardholder's name and cardholder information exactly as shown on the card. arch out loud will not have access to any credit card or personal information. No extra fees will be charged for using this method

## REGISTRATION

Following registration **each team will receive a confirmation email with an order number located in the top right corner.** This number is the only means of identifying teams during jury selection. The number will be necessary for project submission. Once the registration process is complete there are no refunds of fees.

[www.archoutloud.com/-register](http://www.archoutloud.com/-register)



# RULES AND REGULATIONS

## ELIGIBILITY

Teams may be formed by one (1) individual or up to four (4) members. Team members can come from different universities and countries. Additionally, interdisciplinary teams are allowed, although it is recommended that at least one member have an architectural background.

Under no circumstances will members of the jury, members of the organization, or persons with a direct personal or professional relationship with members of the jury be allowed to participate in this competition.

## FAQ

During the competition participants are allowed to send, through email, questions to **arch out loud** in order to help them better understand certain aspects of the project or any unspecified details.

Questions will then be posted and answered on the competition FAQ webpage in order to ensure that all participants have access to the same information.

[www.archoutloud.com/dwell-faq](http://www.archoutloud.com/dwell-faq)

## OWNERSHIP AND COPYRIGHT

All material submitted to the competition will become property of **arch out loud** and therefore give arch out loud all rights to publishing the material for promotion of the competition. Any materials that are published will be given appropriate attributes to authors. **arch out loud** maintains the right to modify any information in its files in order to better adapt it to any publishing platforms.

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## ADDITIONAL NOTES

**arch out loud** reserves the right to make any changes to this document. All modifications will be emailed to each registered team at the time of the change and posted on the **arch out loud** facebook page. It is the responsibility of the team to check provided email addresses and the **arch out loud** website.

There is currently existing infrastructure located on the competition site. It is assumed, for this competition, that the land would be acquired and participants have an empty site to design as they please.

This competition is an ideas competition and at the time of release will not result in any realization of an actual building. **arch out loud** does not own the area used for the competition site nor will the site be altered in any way as a result of this competition.

**arch out loud** is not responsible for any in-person research done on or around the competition site. Please abide by local private property laws.

**arch out loud** was not hired or contracted to organize this competition. Every aspect of this competition was fully developed by arch out loud.

Breaking of rules and regulations set in this competition brief or on the **arch out loud** website will result in the disqualification of the given team without any refund of registration fees.

[www.archoutloud.com/terms-and-conditions](http://www.archoutloud.com/terms-and-conditions)

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