Manhattan Beach Dunes Restoration Project

Final Conceptual Design

The Bay Foundation
12/18/2020

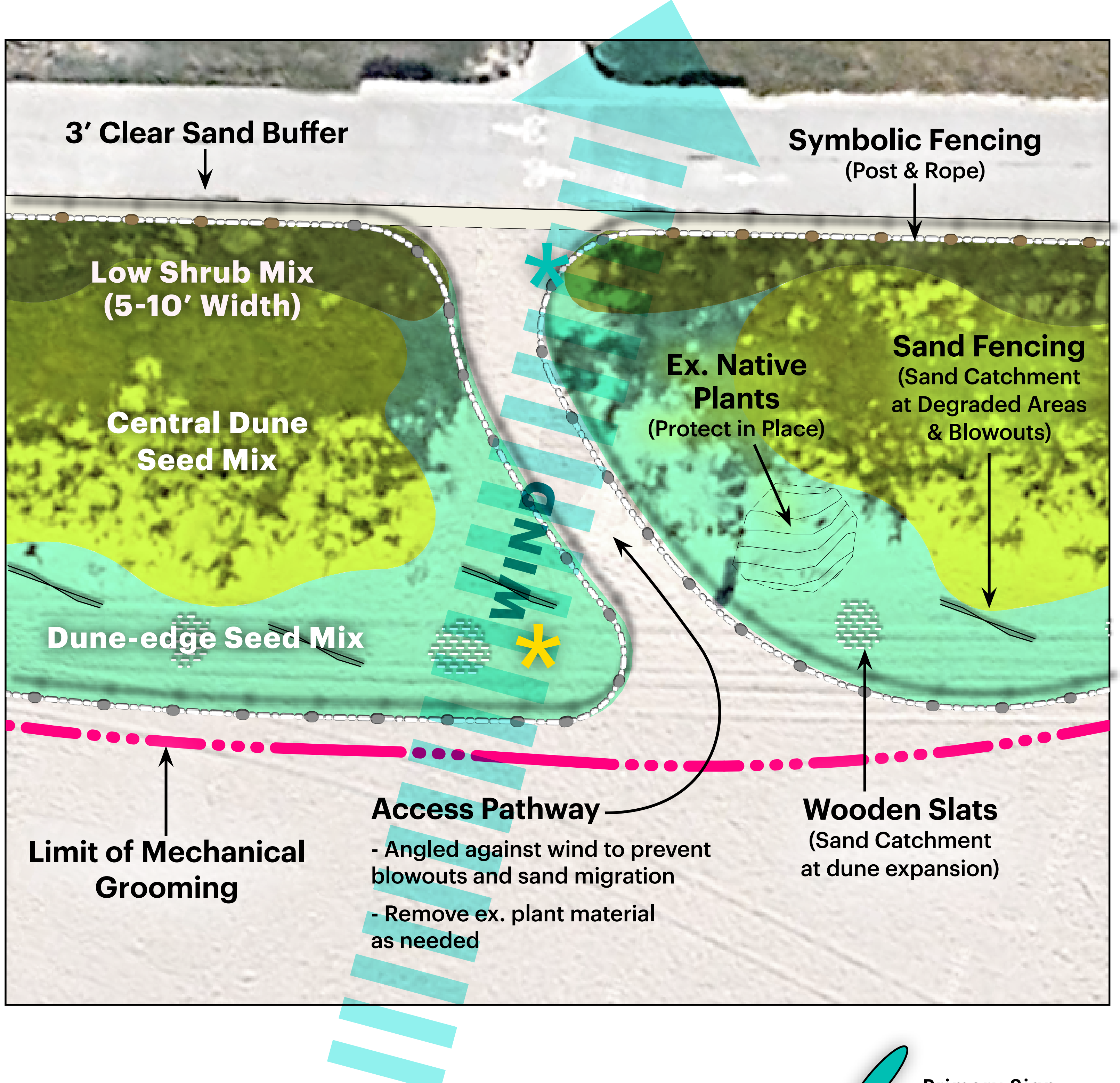
RIOS

CONCEPTUAL DESIGN

Overall Site Plan

N

1" = 250'



Primary Sign

Secondary Sign

Dune Height Marker

N

1″ = 20′

CONCEPTUAL DESIGN

GENERAL STRATEGIES

Dune Boundaries

Symbolic fencing using simple posts and rope can help keep people on access pathways and out of the dune restoration. Signage can help reinforce this boundary and provide guidance for maintenance activity such as beach grooming.

Sand Catchment & Dune Building

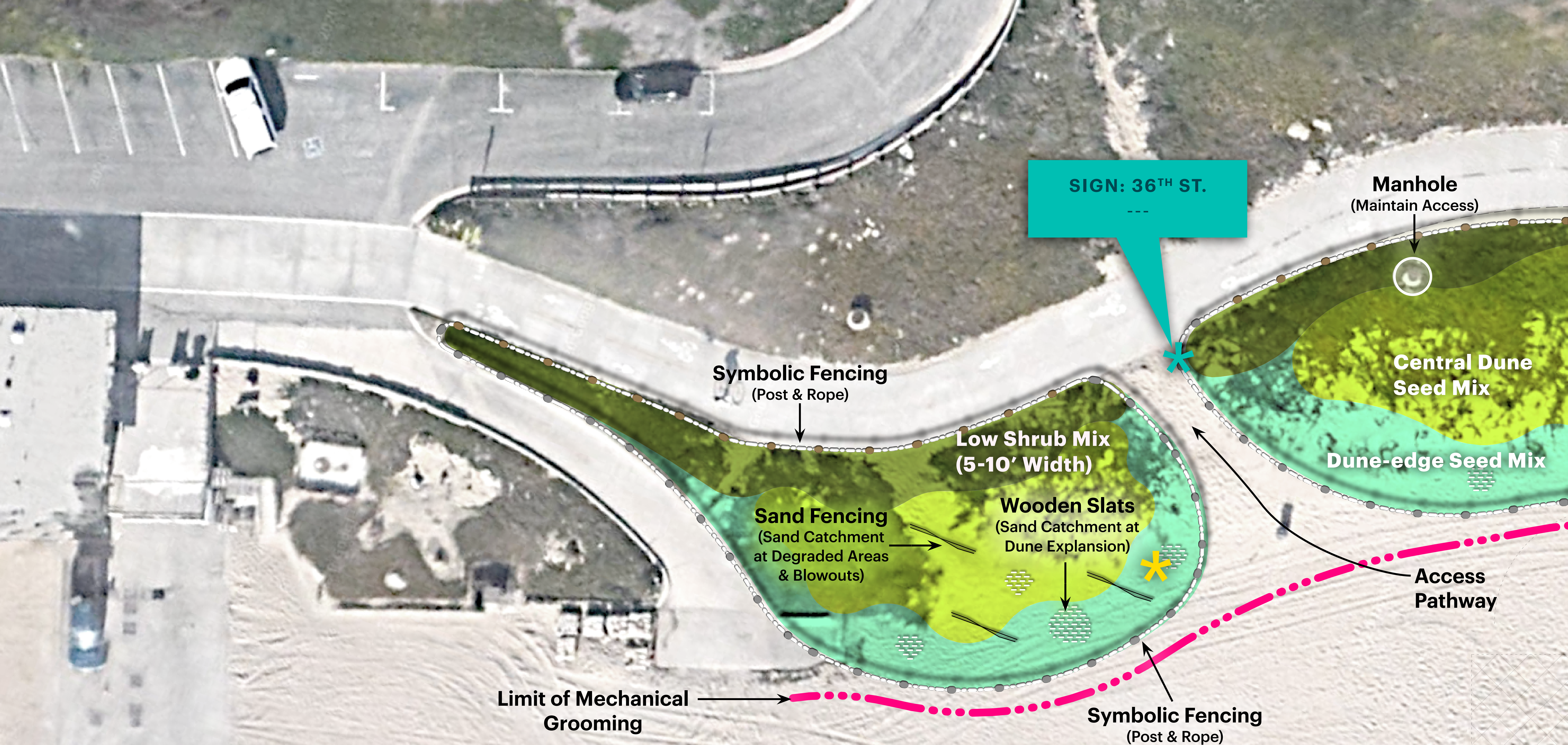
Open sand fencing & seeding traps sand in place and aggressively builds dune topography

Woodens slats can be used for a subtle approach to create hummocks in open beach areas

LOW SHRUB MIX: **Sea Cliff Buckwheat** *(Eriogonum parvifolium)*, **Giant Coreopsis** *(Leptosyne gigantea)*, **Golden Yarrow** *(Eriophyllum confertiflorum)*, **Mock Heather** *(Ericameria ericoides)*, **Coastal Goldenbush** *(Isocoma menziesii)*, **California poppy** *(Eschscholzia californica)*

CENTRAL DUNE MIX: **Red Sand Verbena** *(Abronia maritima)*, **Pink Sand Verbena** *(Abronia umbellata)*, **Beach Salt Bush** *(Atriplex leucophylla)*, **Beach Bur** *(Ambrosia chamissonis)*, **Beach Evening Primrose** *(Camissoniopis cheiranthifolia)*

DUNE-EDGE FLOWERING MIX: **Red Sand Verbena** *(Abronia maritima)*, **Pink Sand Verbena** *(Abronia umbellata)*, **Beach Evening Primrose** *(Camissoniopis cheiranthifolia)*



Primary Sign

Secondary Sign

Dune Height Marker

LOW SHRUB MIX: Sea Cliff Buckwheat *(Eriogonum parvifolium)*, Giant Coreopsis *(Leptosyne gigantea)*, Golden Yarrow *(Eriophyllum confertiflorum)*, Mock Heather *(Ericameria ericoides)*, Coastal Goldenbush *(Isocoma menziesii)*, California poppy *(Eschscholzia californica)*

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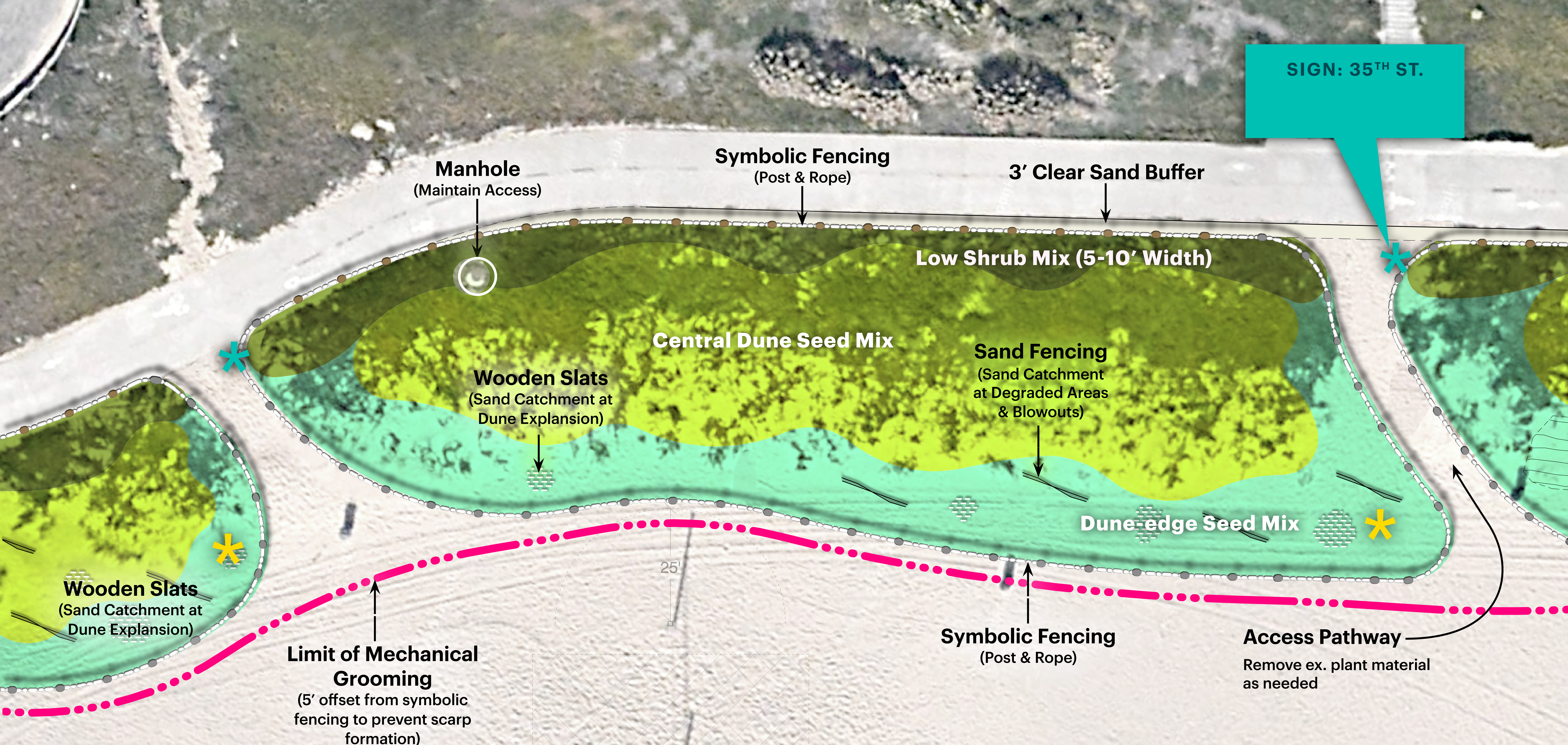
N

1″ = 20′

CONCEPTUAL SITE PLAN

36th Street



Primary Sign

Secondary Sign

Dune Height Marker

LOW SHRUB MIX: Sea Cliff Buckwheat *(Eriogonum parvifolium)*, Giant Coreopsis *(Leptosyne gigantea)*, Golden Yarrow *(Eriophyllum confertiflorum)*, Mock Heather *(Ericameria ericoides)*, Coastal Goldenbush *(Isocoma menziesii)*, California poppy *(Eschscholzia californica)*

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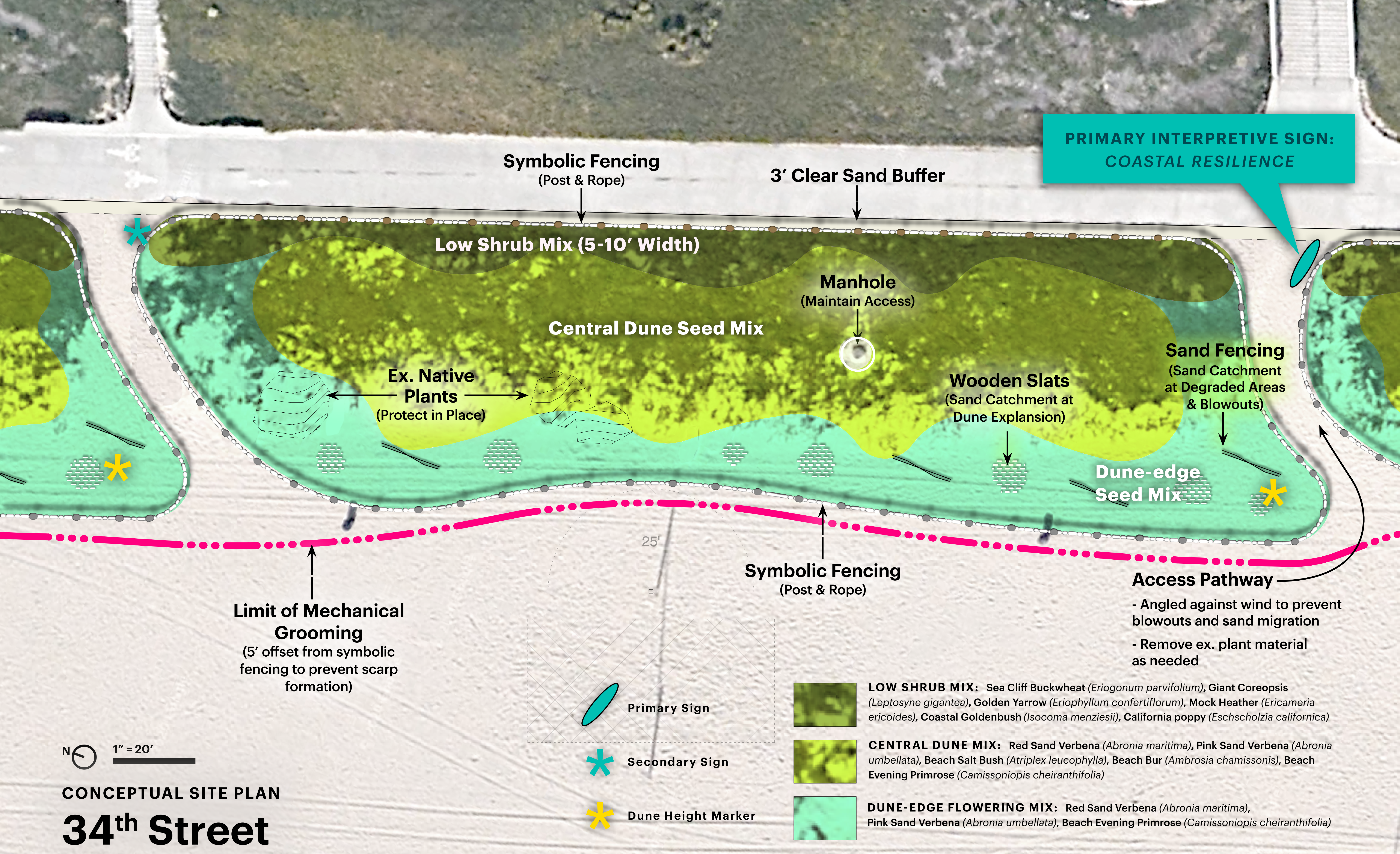
N

1″ = 20′

CONCEPTUAL SITE PLAN

35th Street



LOW SHRUB MIX: Sea Cliff Buckwheat *(Eriogonum parvifolium)*, Giant Coreopsis *(Leptosyne gigantea)*, Golden Yarrow *(Eriophyllum confertiflorum)*, Mock Heather *(Ericameria ericoides)*, Coastal Goldenbush *(Isocoma menziesii)*, California poppy *(Eschscholzia californica)*

CENTRAL DUNE MIX: Red Sand Verbena *(Abronia maritima)*, Pink Sand Verbena *(Abronia umbellata)*, Beach Salt Bush *(Atriplex leucophylla)*, Beach Bur *(Ambrosia chamissonis)*, Beach Evening Primrose *(Camissoniopis cheiranthifolia)*

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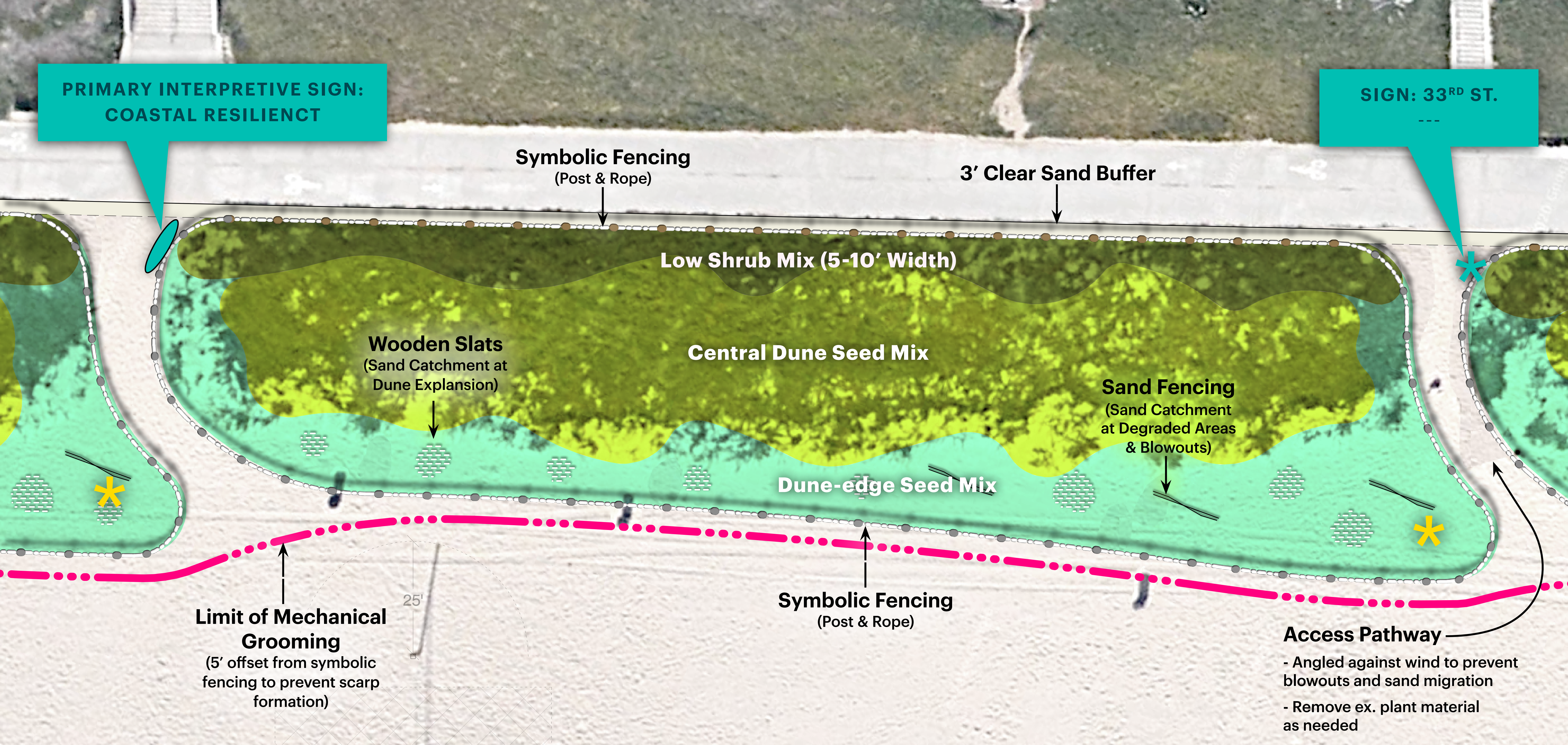
CONCEPTUAL SITE PLAN

34th Street



CONCEPTUAL SITE PLAN

33rd Street

Primary Sign

Secondary Sign

Dune Height Marker

LOW SHRUB MIX: **Sea Cliff Buckwheat** *(Eriogonum parvifolium)*, **Giant Coreopsis** *(Leptosyne gigantea)*, **Golden Yarrow** *(Eriophyllum confertiflorum)*, **Mock Heather** *(Ericameria ericoides)*, **Coastal Goldenbush** *(Isocoma menziesii)*, **California poppy** *(Eschscholzia californica)*

CENTRAL DUNE MIX: **Red Sand Verbena** *(Abronia maritima)*, **Pink Sand Verbena** *(Abronia umbellata)*, **Beach Salt Bush** *(Atriplex leucophylla)*, **Beach Bur** *(Ambrosia chamissonis)*, **Beach Evening Primrose** *(Camissoniopis cheiranthifolia)*

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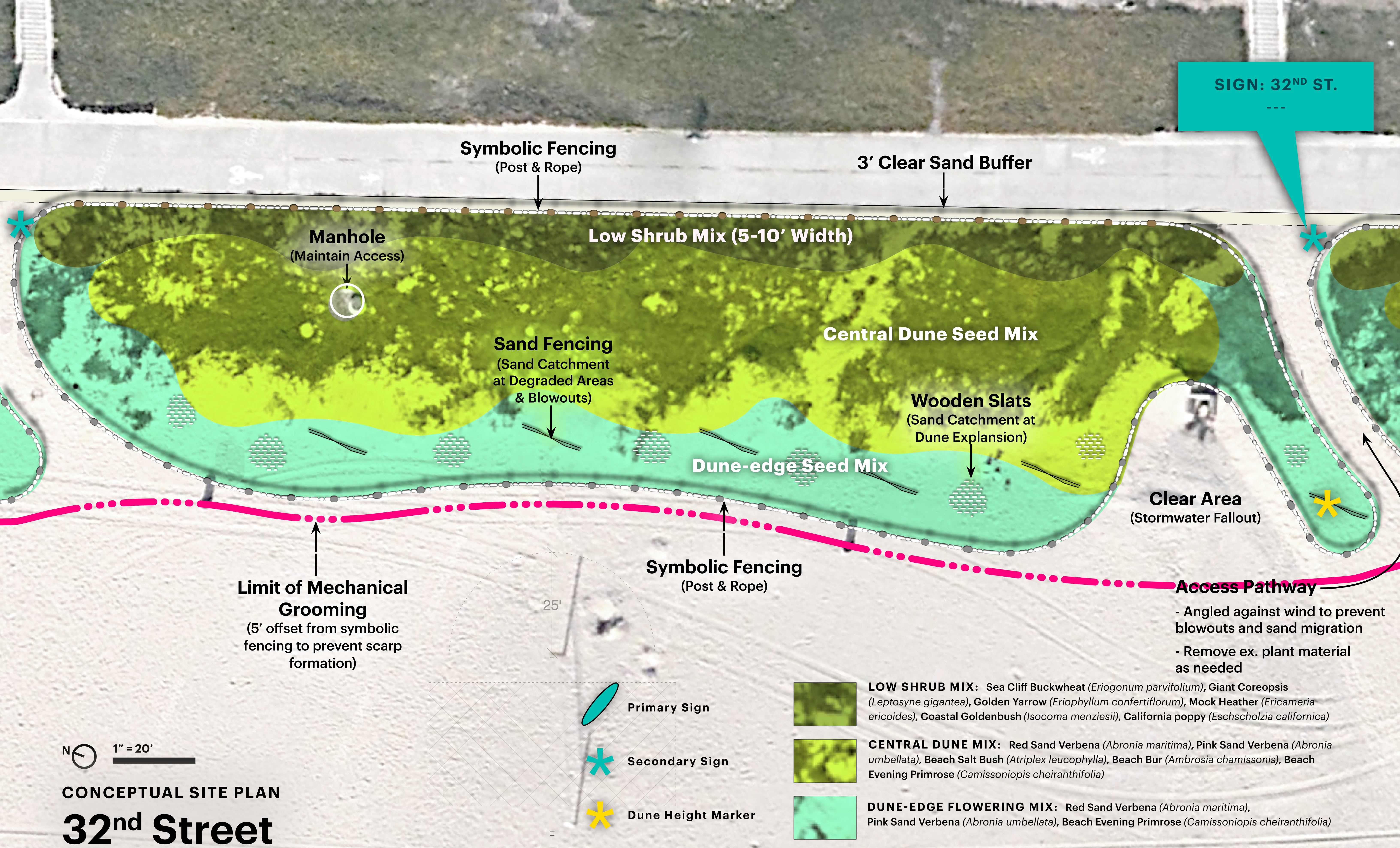
SIGN: 32ND ST.

Symbolic Fencing
(Post & Rope)
3′ Clear Sand Buffer
Manhole
(Maintain Access)
Low Shrub Mix (5-10′ Width)
Central Dune Seed Mix
Sand Fencing
(Sand Catchment at Degraded Areas & Blowouts)
Wooden Slats
(Sand Catchment at Dune Explansion)
Dune-edge Seed Mix
Clear Area
(Stormwater Fallout)
Limit of Mechanical Grooming
(5′ offset from symbolic fencing to prevent scarp formation)
Symbolic Fencing
(Post & Rope)
25′
Access Pathway
- Angled against wind to prevent blowouts and sand migration
- Remove ex. plant material as needed
Primary Sign
Secondary Sign
Dune Height Marker
LOW SHRUB MIX: Sea Cliff Buckwheat (Eriogonum parvifolium), Giant Coreopsis (Leptosyne gigantea), Golden Yarrow (Eriophyllum confertiflorum), Mock Heather (Ericameria ericoides), Coastal Goldenbush (Isocoma menziesii), California poppy (Eschscholzia californica)
CENTRAL DUNE MIX: Red Sand Verbena (Abronia maritima), Pink Sand Verbena (Abronia umbellata), Beach Salt Bush (Atriplex leucophylla), Beach Bur (Ambrosia chamissonis), Beach Evening Primrose (Camissoniopis cheiranthifolia)
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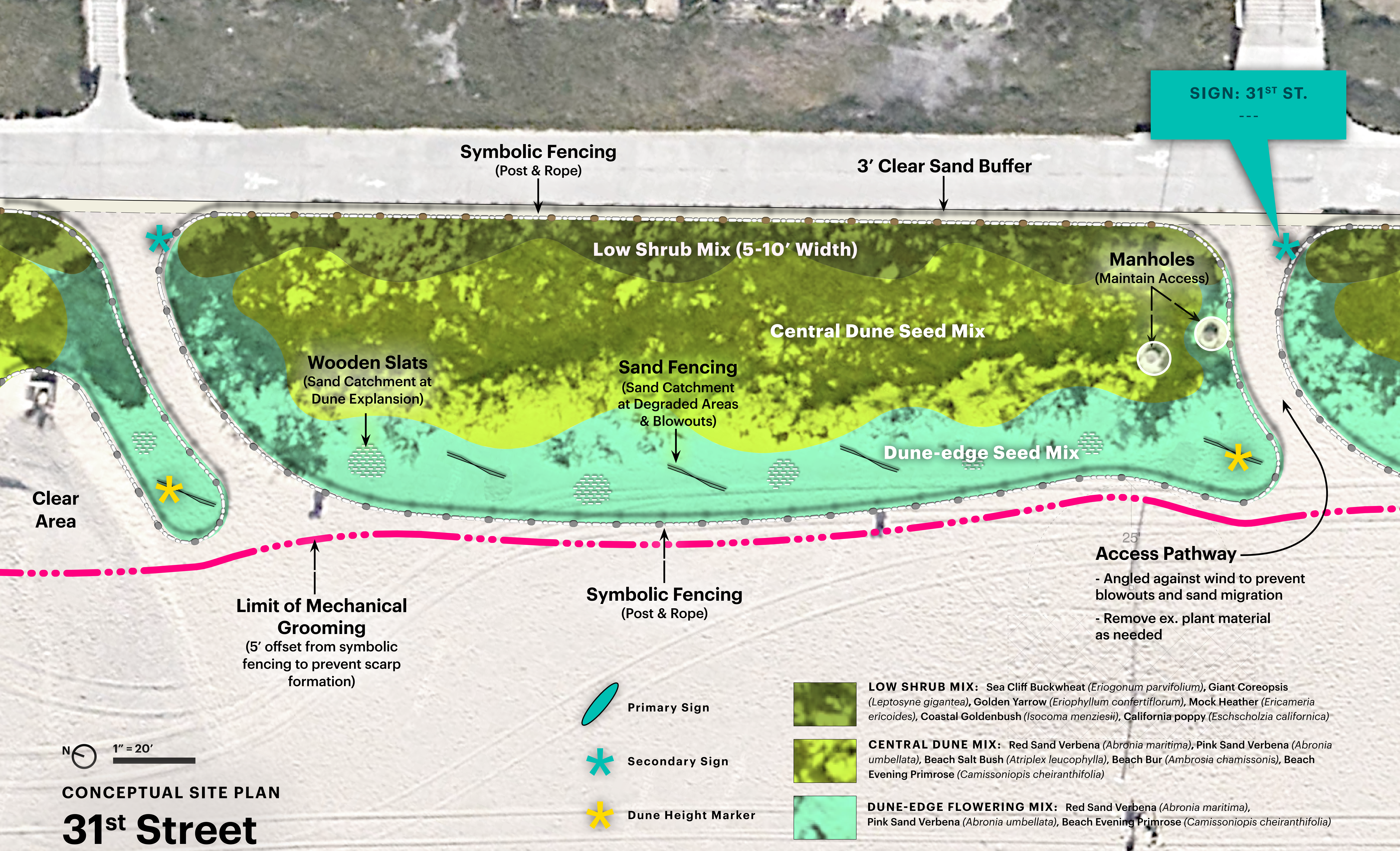
N
1″ = 20′
CONCEPTUAL SITE PLAN
32nd Street


SIGN: 31ST ST.

Symbolic Fencing
(Post & Rope)
3′ Clear Sand Buffer
Low Shrub Mix (5-10′ Width)
Manholes
(Maintain Access)
Central Dune Seed Mix
Wooden Slats
(Sand Catchment at Dune Explansion)
Sand Fencing
(Sand Catchment at Degraded Areas & Blowouts)
Dune-edge Seed Mix
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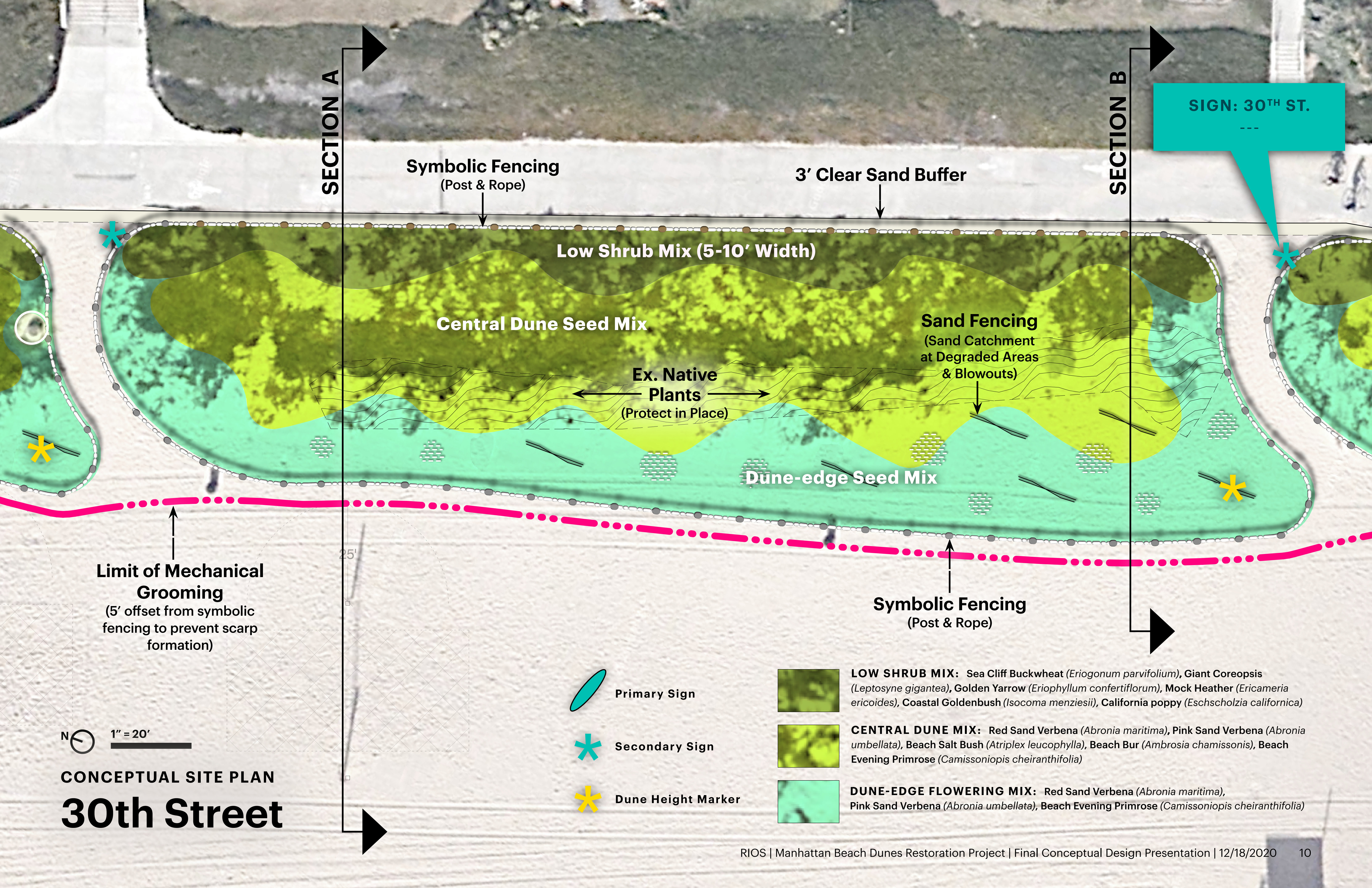
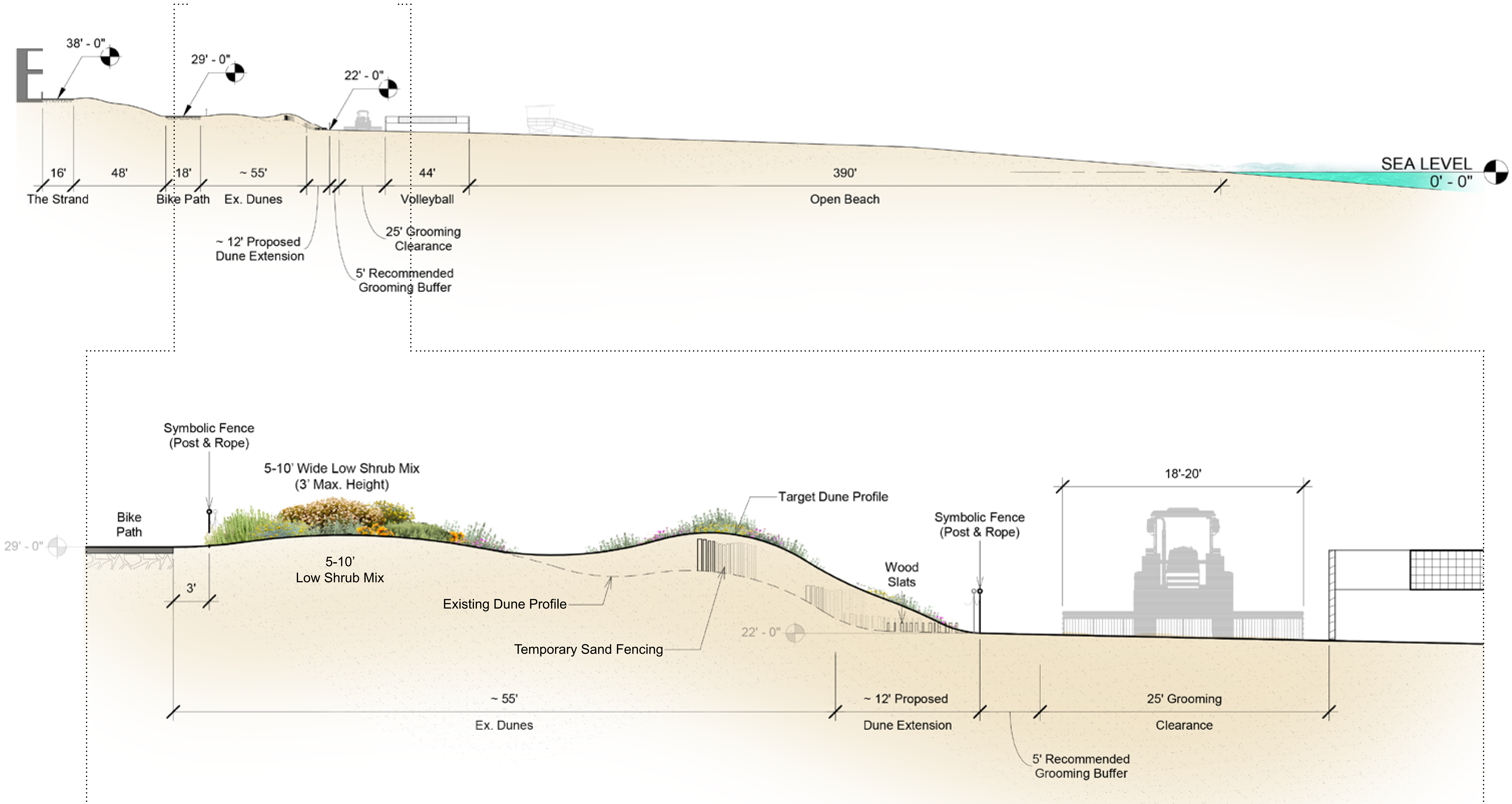
N
1″ = 20′
CONCEPTUAL SITE PLAN
31st Street



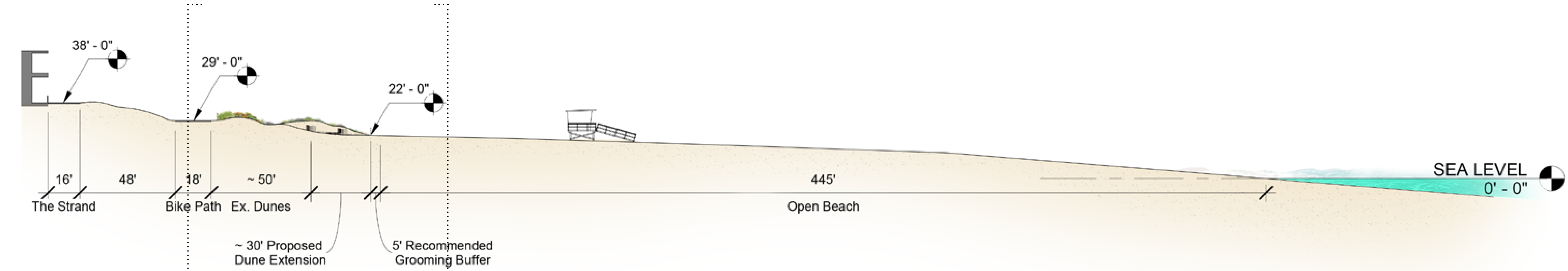
CONCEPTUAL SITE PLAN

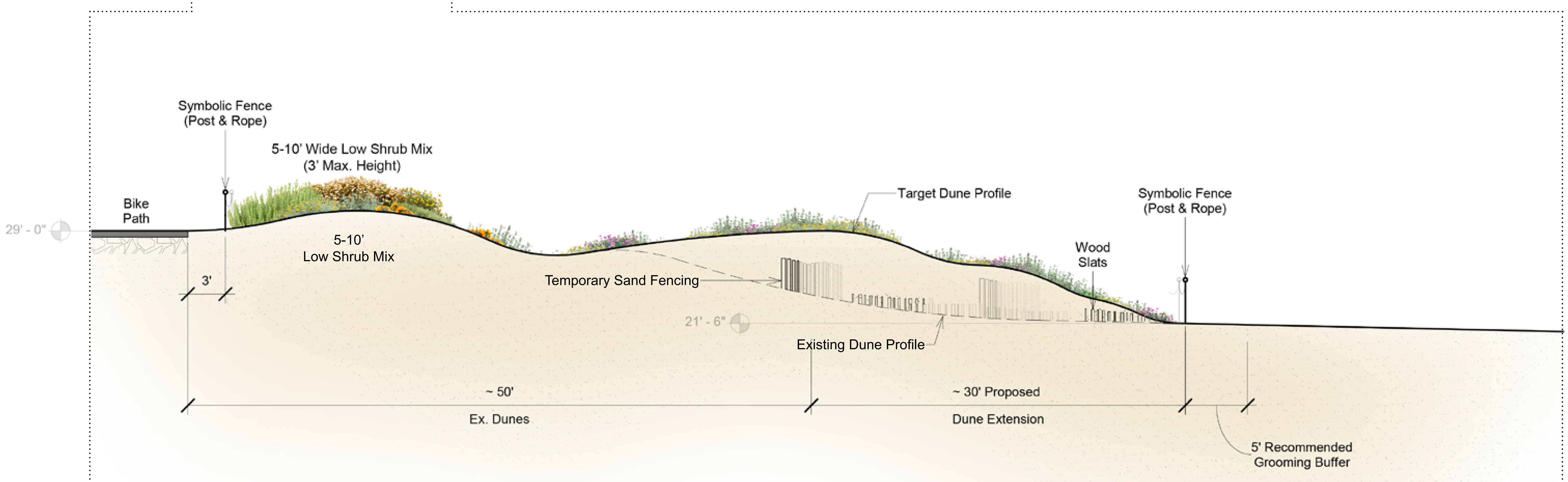
30th Street



CONCEPTUAL DESIGN

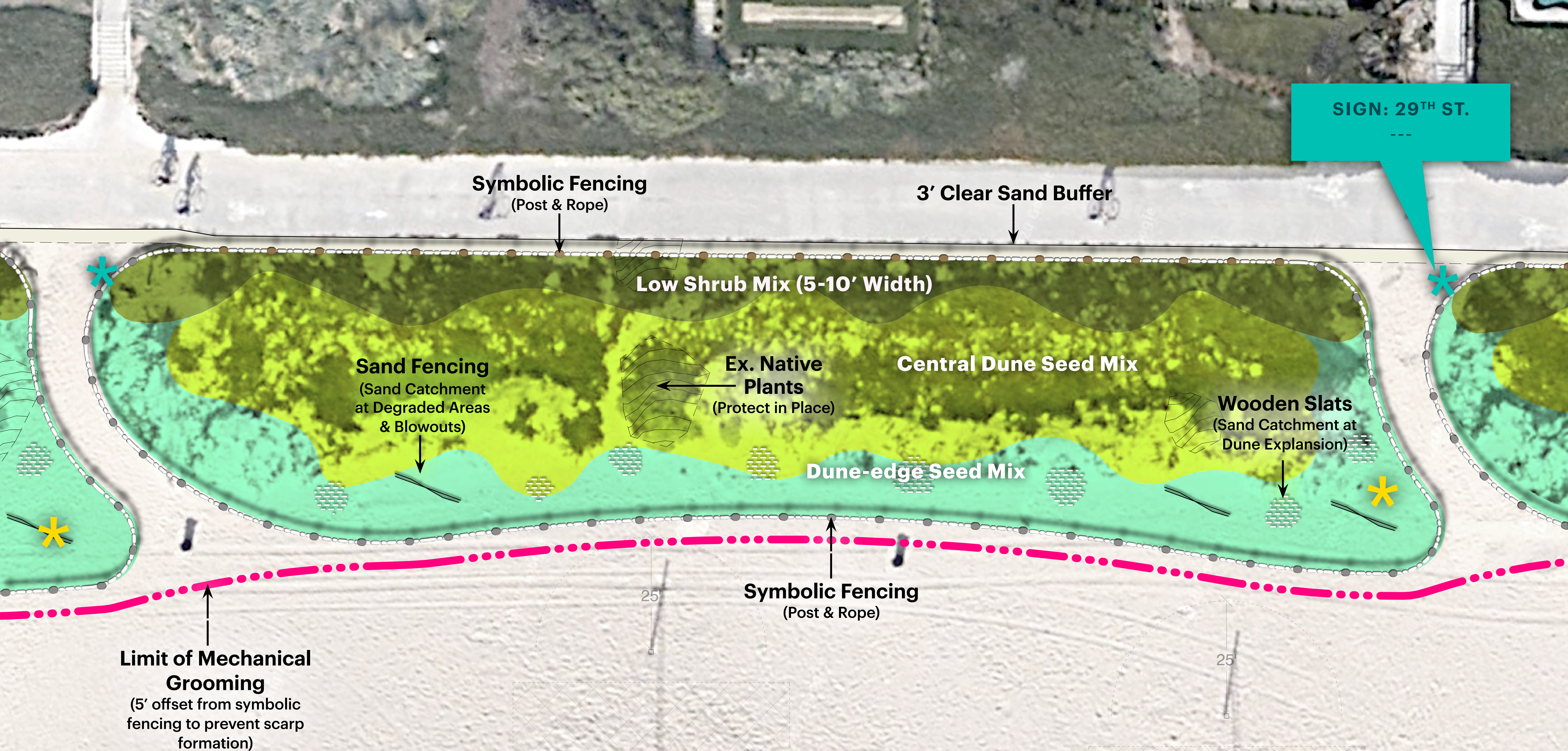
Section A





CONCEPTUAL DESIGN

Section B



Primary Sign

Secondary Sign

Dune Height Marker

LOW SHRUB MIX: **Sea Cliff Buckwheat** *(Eriogonum parvifolium)*, **Giant Coreopsis** *(Leptosyne gigantea)*, **Golden Yarrow** *(Eriophyllum confertiflorum)*, **Mock Heather** *(Ericameria ericoides)*, **Coastal Goldenbush** *(Isocoma menziesii)*, **California poppy** *(Eschscholzia californica)*

CENTRAL DUNE MIX: **Red Sand Verbena** *(Abronia maritima)*, **Pink Sand Verbena** *(Abronia umbellata)*, **Beach Salt Bush** *(Atriplex leucophylla)*, **Beach Bur** *(Ambrosia chamissonis)*, **Beach Evening Primrose** *(Camissoniopsis cheiranthifolia)*

DUNE-EDGE FLOWERING MIX: **Red Sand Verbena** *(Abronia maritima)*, **Pink Sand Verbena** *(Abronia umbellata)*, **Beach Evening Primrose** *(Camissoniopsis cheiranthifolia)*

N

1″ = 20′

CONCEPTUAL SITE PLAN

29th Street

Primary Sign

Secondary Sign

Dune Height Marker

LOW SHRUB MIX: **Sea Cliff Buckwheat** *(Eriogonum parvifolium)*, **Giant Coreopsis** *(Leptosyne gigantea)*, **Golden Yarrow** *(Eriophyllum confertiflorum)*, **Mock Heather** *(Ericameria ericoides)*, **Coastal Goldenbush** *(Isocoma menziesii)*, **California poppy** *(Eschscholzia californica)*

CENTRAL DUNE MIX: **Red Sand Verbena** *(Abronia maritima)*, **Pink Sand Verbena** *(Abronia umbellata)*, **Beach Salt Bush** *(Atriplex leucophylla)*, **Beach Bur** *(Ambrosia chamissonis)*, **Beach Evening Primrose** *(Camissoniopis cheiranthifolia)*

DUNE-EDGE FLOWERING MIX: **Red Sand Verbena** *(Abronia maritima)*, **Pink Sand Verbena** *(Abronia umbellata)*, **Beach Evening Primrose** *(Camissoniopis cheiranthifolia)*

CONCEPTUAL SITE PLAN

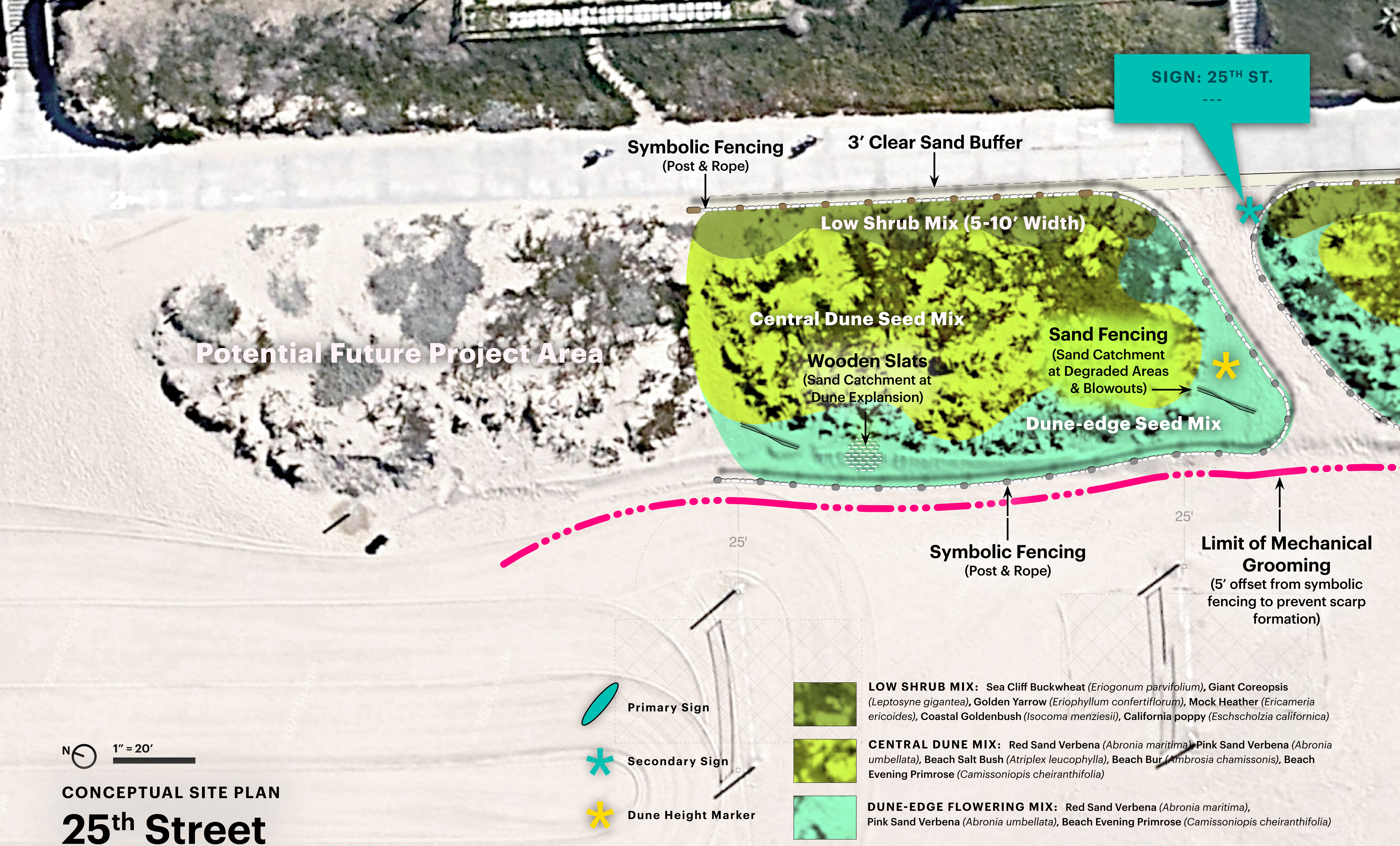
28th Street

FUTURE PROJECT - POTENTIAL AREA

BLOCK 2700

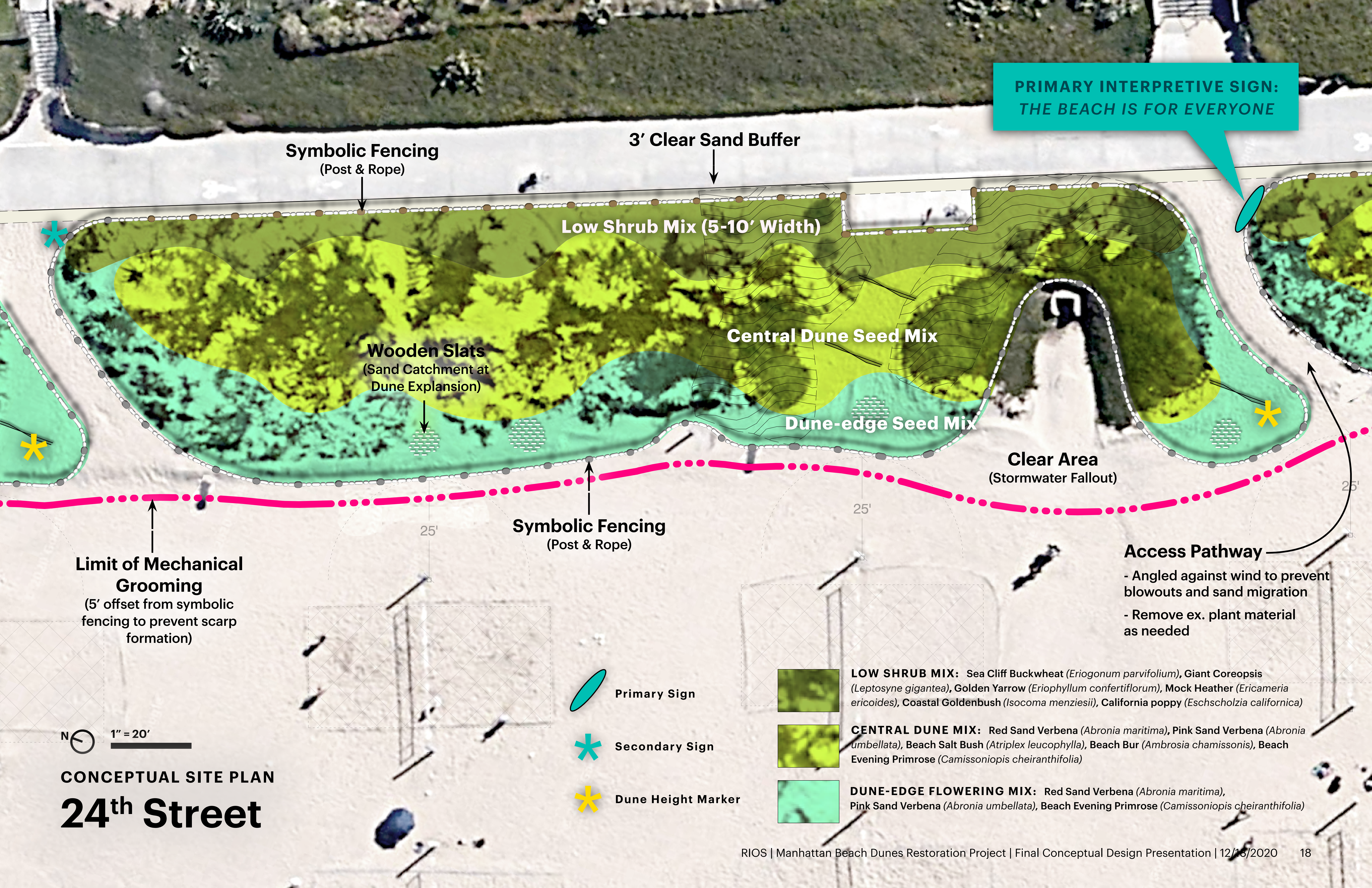
FUTURE PROJECT - POTENTIAL AREA

BLOCK 2600



CONCEPTUAL SITE PLAN

25th Street


PRIMARY INTERPRETIVE SIGN:
THE BEACH IS FOR EVERYONE
Symbolic Fencing
(Post & Rope)
3′ Clear Sand Buffer
Low Shrub Mix (5-10′ Width)
Central Dune Seed Mix
Wooden Slats
(Sand Catchment at
Dune Explansion)
Dune-edge Seed Mix
Clear Area
(Stormwater Fallout)
25'
25'
25'
Symbolic Fencing
(Post & Rope)
Limit of Mechanical Grooming
(5′ offset from symbolic fencing to prevent scarp formation)
Access Pathway
- Angled against wind to prevent blowouts and sand migration
- Remove ex. plant material as needed
Primary Sign
Secondary Sign
Dune Height Marker
N
1″ = 20′
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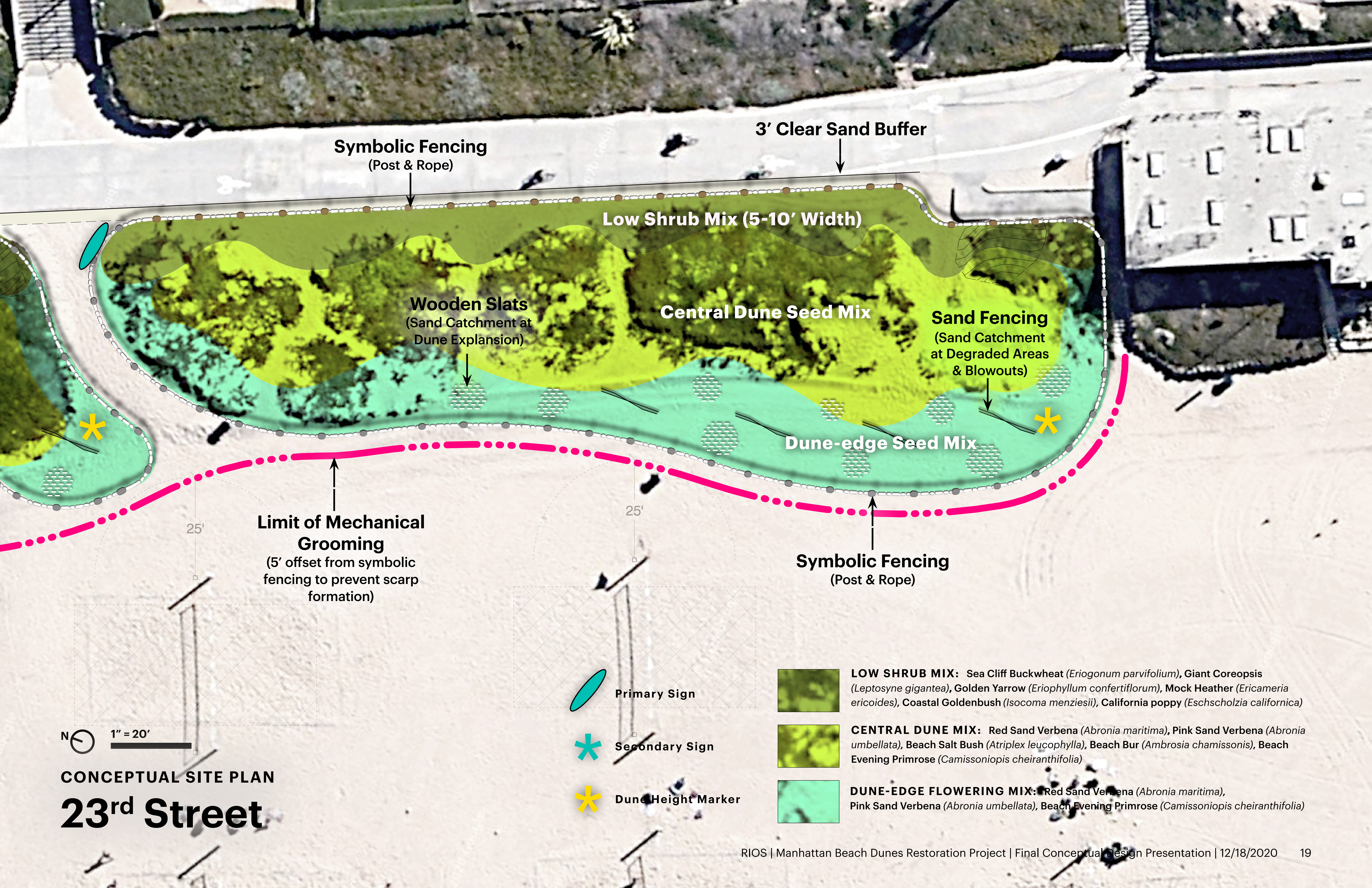
DUNE-EDGE FLOWERING MIX: Red Sand Verbena (Abronia maritima), Pink Sand Verbena (Abronia umbellata), Beach Evening Primrose (Camissoniopis cheiranthifolia)
CONCEPTUAL SITE PLAN
24th Street


Symbolic Fencing
(Post & Rope)
3′ Clear Sand Buffer
Low Shrub Mix (5-10′ Width)
Wooden Slats
(Sand Catchment at
Dune Explansion)
Central Dune Seed Mix
Sand Fencing
(Sand Catchment
at Degraded Areas
& Blowouts)
Dune-edge Seed Mix
25'
25'
Limit of Mechanical
Grooming
(5′ offset from symbolic
fencing to prevent scarp
formation)
Symbolic Fencing
(Post & Rope)
N
1″ = 20′
Primary Sign
Secondary Sign
Dune Height Marker
LOW SHRUB MIX: Sea Cliff Buckwheat (Eriogonum parvifolium), Giant Coreopsis (Leptosyne gigantea), Golden Yarrow (Eriophyllum confertiflorum), Mock Heather (Ericameria ericoides), Coastal Goldenbush (Isocoma menziesii), California poppy (Eschscholzia californica)
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DUNE-EDGE FLOWERING MIX: Red Sand Verbena (Abronia maritima), Pink Sand Verbena (Abronia umbellata), Beach Evening Primrose (Camissoniopsis cheiranthifolia)
CONCEPTUAL SITE PLAN
23rd Street