

APPENDIX E. PLANT PALETTE

(ADAPTED FROM THE CITY OF SAN DIEGO LID DESIGN MANUAL)

The following Plant List was developed to aid in the selection of plant material for IMPs. Plants listed below for ‘Landscape Position 1’ are mostly documented in literature, or by vendors, as capable of withstanding brief seasonal flooding. Due to the wide range of species that thrive in San Diego, the designer may have knowledge of additional species that will function well in specific BMPs. In using this plant list as a starting point for selection of plant material, the designer should also consider the requirements of the individual site and its microclimatic conditions before making final plant selections. Only native non-invasive species will be planted in Multi-Habitat Planning Areas (MHPAs), or in areas designated as natural open space.

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Trees		San Diego Co. Native - SD California Native - CA Non-Native - X	Landscape Position: 1 - Low ¹ , 2 - Mid ² , 3 - High ³	Mature Size (height x width)	Irrigation Demands: High - H ▪ Moderate - M Low - L ▪ Rainfall Only - N	Light Requirements Sun - SU ▪ Shade - SH Part Shade - PS	Season Evergreen - E, Deciduous - D Semi-Evergreen - SE	Coastal Exposure? Yes - Y	Sunset Zones City of San Diego zones: 21, 23 and 24
<i>Acer negundo californicum</i> ^{4,5}	California Box Elder ⁵	SD	1	60'x60'	M-H	SU, PS	D		A2-3; 1-10, 12-24
<i>Alnus rhombifolia</i> ^{4,5}	White Alder ⁵	SD	1	50-90' x 40'	H	SU, PS, SH	D	Y	1b-10, 14-21
<i>Cercis occidentalis</i> ⁴	Western Redbud	SD	1	10-18' x 10-18'	M	SU, PS	D		2-24
<i>Chilopsis linearis</i> ⁴	Desert Willow	SD	1	15-30' x 10-20'	L-M	SU	D		3b, 7-14, 18-23
<i>Gleditsia triacanthos var. internis</i>	Thornless Honeylocust	X	1	35-70'x 25-35'	M-H	SU	D		1-16, 18-20
<i>Ilex vomitoria</i>	Yaupon Holly	X	1	15-20' x 10-15'	H	SU, PS	E		4-9, 11-24
<i>Juglans californica</i>	Southern California Black Walnut	SD	1	15-30' x 15-30'	N-L	SU	D		18-24
<i>Liquidambar styraciflua</i> ⁵	Sweet Gum ⁵	X	1	60' x 20-25'	M-H	SU	D		3-9, 14-24
<i>Magnolia grandiflora</i> ⁵	Southern Magnolia ⁵	X	1	80' x 60'	H	SU, PS	E	Y	4-12, 14-24, H1-2
<i>Metasequoia glyptostroboides</i> ⁵	Dawn Redwood ⁵	X	1	90' x 20'	H	SU	D		A3, 3-10, 14-24
<i>Myrica californica</i>	Pacific Wax Myrtle	CA	1	10-30 x 10-30'	M	SU	E	Y	4-9, 14-24
<i>Olneya tesota</i>	Desert Ironwood	SD	2	15-30' x 15-30'	N-M	SU	E		8,9,11-14, 18-23

Trees		San Diego Co. Native - SD California Native - CA Non-Native - X	Landscape Position: 1 - Low ¹ , 2 - Mid ² , 3 - High ³	Mature Size (height x width)	Irrigation Demands: High - H ▪ Moderate - M Low - L ▪ Rainfall Only - N	Light Requirements Sun - SU ▪ Shade - SH Part Shade - PS	Season Evergreen - E, Deciduous - D Semi-Evergreen - SE	Coastal Exposure? Yes - Y	Sunset Zones City of San Diego zones: 21, 23 and 24
<i>Platanus acerifolia</i>	London Plane Tree	X	1	40-80' x 30-40'	M-H	SU	D		2-24
<i>Platanus racemosa</i> ^{4,5}	California Sycamore ⁵	SD	1	30-80' x 20-50'	M-H	SU	D	Y	4-24
<i>Populus fremonti</i> ^{4,5}	Western Cottonwood ⁵	SD	1	40-60' x 30'	H	SU	D		1-12, 14-21
<i>Quercus agrifolia</i> ^{4,5}	Coast Live Oak ⁵	SD	1	20-70' x 20-70'	N-L	SU	E	Y	7-9, 14-24
<i>Quercus engelmannii</i> ⁵	Engelmann Oak ⁵	SD	2	40-50' x 70'	N-L	SU	E		7-9, 14-24
* Species not recommended for areas of coastal influence. Better suited to locations east of I-15 (north Hwy. 52) and areas east of Hwy 125 (south of Hwy. 52).									
<i>Salix gooddingii</i> ^{4,5}	Western Black Willow ⁵	SD	1	20-40'x20-30'	H	SU	D		-
<i>Sambucus mexicana</i> ^{4,5}	Mexican Elderberry ⁵	SD	1	10-30' x 8-20'	M-H	SU, PS	SE		2-24, H1
<i>Taxodium spp.</i> ⁵	Cypress ⁵	X	1	50-70' x 15-30'	L-H	SU	D		2-10, 12-24
<i>Umbellularia californica</i> ⁵	California Bay ⁵	CA	1	20-25' x 20-25'	L-H	SU, PS, SH	E	Y	4-9, 14-24
<i>Washingtonia filifera</i> ^{4,5}	California Fan Palm ⁵	SD	1	60' x 20'	L-M	SU	E		8,9,10,11-24,H1-2

Shrubs		San Diego Co. Native - SD California Native - CA Non-Native - X	Landscape Position: 1 - Low ¹ , 2 - Mid ² , 3 - High ³	Mature Size (height x width)	Irrigation Demands: High - H ▪ Moderate - M Low - L ▪ Rainfall Only - N	Light Requirements Sun - SU ▪ Shade - SH Part Shade - PS	Season Evergreen - E, Deciduous - D Semi-Evergreen - SE	Coastal Exposure? Yes - Y	Sunset Zones City of San Diego zones: 21, 23 and 24
<i>Baccharis pilularis</i> 'Pigeon Pt.'	Dwarf Coyote Bush	CA	3	1-2' x 6'	L-M	SU	E	Y	5-11, 14-24
<i>Baccharis salicifolia</i>⁴	Mulefat	SD	1	4-10'x8'	M-H	SU, PS, SH	SE		-
<i>Carpenteria californica</i>	Bush Anemone	CA	1	4-6' x 4-6"	L-M	SU, PS	E		5-9, 14-24
<i>Frangula californica</i> 'Little Sur'	Dwarf California Coffeeberry	SD	2	3-4' x 3'	N-M	SU, PS	E	Y	4-9, 14-24, H1, H2
<i>Heteromeles arbutifolia</i>	Toyon	SD	3	6-10' x 6-10'	M	SU, PS	E	Y	5-9, 14-24
<i>Mahonia repens</i>	Creeping Oregon Grape	CA	3	1' x 3'	N-L	SU, PS	E		2B-9, 14-24
<i>Philadelphus lewisii</i>	Wild Mock Orange	CA	2	4-10' x 4-10'	M-H	SU, PS	E		1-10, 14-24
<i>Rosa californica</i>⁴	California Rose	SD	1	3-6' x 6'	M-H	SU, PS, SH	SE	Y	-
<i>Ruellia peninsularis</i>	Desert Ruellia	X	3	4' x 6'	N-M	SU, PS	E		12-13, 21-24
<i>Russelia equisetiformis</i>	Coral Fountain	X	2	5' x 5'	M-H	SU, PS	E		14, 19-24, H1, H2
<i>Russelia x St. Elmo's Fire</i>	Red Coral Fountain	X	2	4' x 6-8'	M-H	SU, PS	E		-
<i>Styrax officinalis</i>	Snowdrop Bush	SD	2	6-8' x 5'	H	SU, PS	D		4-9, 14-21
<i>Symphoricarpos mollis</i>	Southern California Snowberry	SD	2	1-3'x3'	L-M	PS	D	Y	2-10, 14-24

Perennials		San Diego Co. Native - SD California Native - CA Non-Native - X	Landscape Position: 1 - Low ¹ , 2 - Mid ² , 3 - High ³	Mature Size (height x width)	Irrigation Demands: High - H ▪ Moderate - M Low - L ▪ Rainfall Only - N	Light Requirements Sun - SU ▪ Shade - SH Part Shade - PS	Season Evergreen - E, Deciduous - D Semi-Evergreen - SE	Coastal Exposure? Yes - Y	Sunset Zones City of San Diego zones: 21, 23 and 24
<i>Achillea millefolium</i> ⁴	Common Yarrow	SD	1	3' x 2'	L-M	SU	SE	Y	A1-A3, 1-24
<i>Anemopsis californica</i> ⁴	Yerba Mansa	SD	1	1'x2-4'	H	SU, PS, SH	D		-
<i>Aquilegia formosa</i>	Western Columbine	SD	2	1-3' x 1.5'	H	SU, PS	SE		A1-3, 1-11, 14-24
<i>Artemisia palmeri</i> ⁴	San Diego Sagewort	SD	2	2-3'x3'	H	SU, PS	SE	Y	-
<i>Asarum caudatum</i>	Wild Ginger	CA	2	1' x 3'	H	SH	E		4-6, 14-24
<i>Epilobium californica</i> ⁴	California Fuchsia	CA	1	1-2'x3-5'	L-M	SU	SE		2-11, 14-24
<i>Fragaria chiloensis</i> ⁴	Beach Strawberry	CA	1	4-8" x spreading	H	SU, PS	E	Y	4-24
<i>Iris douglasiana</i>	Pacific Coast Iris	CA	1	2' x 2'	M	SU, PS	E	Y	4-9, 14-24
<i>Iris missouriensis</i>	Western Blue Flag Iris	SD	1	2' x 2'	M-H	SU, PS	D		1-10, 14-24
<i>Iva hayesiana</i> ⁴	San Diego Marsh Elder	SD	2	1' x 5'	N	SU, PS	SE	Y	17, 23-24
<i>Jaumea carnosa</i>	Jaumea	SD	1	<1' x spreading	H	SU	E		-
<i>Limonium californicum</i>	California Sea Lavender	SD	1	1-1.5' x < 3' spreading	M-H	SU, PS	SE	Y	-
<i>Lobelia cardinalis</i>	Cardinal Flower	SD	1	2-4' x 1'	M-H	SU, PS, SH	E		1-7, 14-17
<i>Lobelia dunnii</i>	Dunn's Lobelia	SD	2	1-1.5' x 1.5-3'	M-H	SU, PS	E	Y	-

Perennials		San Diego Co. Native - SD California Native - CA Non-Native - X	Landscape Position: 1 - Low¹, 2 - Mid², 3 - High³	Mature Size (height x width)	Irrigation Demands: High - H ▪ Moderate - M Low - L ▪ Rainfall Only - N	Light Requirements Sun - SU ▪ Shade - SH Part Shade - PS	Season Evergreen - E, Deciduous - D Semi-Evergreen - SE	Coastal Exposure? Yes - Y	Sunset Zones City of San Diego zones: 21, 23 and 24
<i>Mimulus cardinalis</i>	Scarlet Monkey Flower	SD	1	2.5' x 2.5'	M-H	SU, PS, SH	D		2-24
<i>Polystichum munitum</i>	Western Sword Fern	CA	2	2-4' x 2-4'	H	SH	E	Y	A3, 2-9, 14-24
<i>Potentilla glandulosa</i>	Sticky Cinquefoil	SD	1	2' x 3'	M-H	SU, PS, SH	E	Y	-
<i>Ribes viburnifolium</i>	Evergreen Currant	SD	3	3-6' x 12'	N-M	SU, PS	E	Y	5,7-9,14-17, 19-24
<i>Salicornia pacifica (or virginica)⁴</i>	Pickleweed	SD	1	1-2' x spreading	H	SU	SE	Y	-
<i>Salvia uliginosa</i>	Bog Sage	X	2	4-6' x 3-4'	M-H	SU	E		6-9, 14-24
<i>Satureja douglasii</i>	Yerba Buena	CA	2	<1' x 3'	H	PS	E		4-9, 14-24
<i>Satureja mimuloides</i>	Monkeyflower Savory	CA	1	1-3' x 1-3'	M-H	SU, PS	D		-
<i>Sisyrinchium bellum⁴</i>	Blue-eyed Grass	SD	2	6-18" x 6-18"	M-H	SU, PS	E	Y	2-9, 14-24
<i>Trifolium wormskioldii</i>	Coast Clover	SD	1	2' x spreading	H	SU	D		-

Perennials		San Diego Co. Native - SD California Native - CA Non-Native - X	Landscape Position: 1 - Low ¹ , 2 - Mid ² , 3 - High ³	Mature Size (height x width)	Irrigation Demands: High - H ▪ Moderate - M Low - L ▪ Rainfall Only - N	Light Requirements Sun - SU ▪ Shade - SH Part Shade - PS	Season Evergreen - E, Deciduous - D Semi-Evergreen - SE	Coastal Exposure? Yes - Y	Sunset Zones City of San Diego zones: 21, 23 and 24
<i>Salicornia pacifica</i> (or <i>virginica</i>) ⁴	Pickleweed	SD	1	1-2' x spreading	H	SU	SE	Y	-
<i>Salvia uliginosa</i>	Bog Sage	X	2	4-6' x 3-4'	M-H	SU	E		6-9, 14-24
<i>Satureja douglasii</i>	Yerba Buena	CA	2	<1' x 3'	H	PS	E		4-9, 14-24
<i>Satureja mimuloides</i>	Monkeyflower Savory	CA	1	1-3' x 1-3'	M-H	SU, PS	D		-
<i>Sisyrinchium bellum</i> ⁴	Blue-eyed Grass	SD	2	6-18" x 6-18"	M-H	SU, PS	E	Y	2-9, 14-24
<i>Trifolium wormskioldii</i>	Coast Clover	SD	1	2' x spreading	H	SU	D		-

Grasses & Grass-Like Plants		San Diego Co. Native - SD California Native - CA Non-Native - X	Landscape Position: 1 - Low ¹ , 2 - Mid ² , 3 - High ³	Mature Size (height x width)	Irrigation Demands: High - H ▪ Moderate - M Low - L ▪ Rainfall Only - N	Light Requirements Sun - SU ▪ Shade - SH Part Shade - PS	Season Evergreen - E, Deciduous - D Semi-Evergreen - SE	Coastal Exposure? Yes - Y	Sunset Zones City of San Diego zones: 21, 23 and 24
<i>Bouteloua gracilis</i>	Blue Grama	CA	2	1-2' x 1'	L	SU	D		1-3, 7-11,14,18-21
<i>Buchloe dactyloides</i> 'UC Verde'	'UC Verde' Buffalograss	X	1	6-8" x spreading	L-H	SU	D		-
<i>Carex praegracilis</i>	California Field Sedge	SD	1	1'-2' x spreading	M-H	SU, PS	E	Y	-
<i>Carex pansa</i>	California Meadow Sedge	CA	1	6-8" x spreading	M-H	SU, PS	SE	Y	7-9, 11-24
<i>Carex spissa</i>⁴	San Diego Sedge	SD	1	5' x 5'	H	SU, PS	SE	Y	7-9, 14-17, 19-24
<i>Carex subfusca</i>	Rusty Sedge	SD	1	6-8" x spreading	M	SU, PS, SH	SE		7-9, 11-24
<i>Chondropetalum tectorum</i>	Small Cape Rush	X	1	3-4' x 3-4'	M-H	SU, PS	E	Y	8-9, 14-24
<i>Distichlis spicata</i>⁴	Salt Grass	SD	1	1' x 3'	M-H	SU, PS	D	Y	-
<i>Eleocharis macrostachya</i>⁴	Common Spike Rush	SD	1	1-3' x 2'	H	SU, PS	E	Y	-
<i>Equisetum hyemale</i> ssp. affine	Horsetail Reed	SD	1	4' x spreading	H	SU, PS	E		1-24
<i>Festuca californica</i>	California Fescue	CA	1	2-3' x 1-2'	M-H	SU, PS	E	Y	4-9, 14-24
<i>Festuca rubra</i> 'Molate'	Molate Red Fescue	CA	1	1-2' x spreading	H	SU, PS	E		A2-3, 1-10, 14-24
<i>Juncus effusus</i>	Soft Rush	SD	1	2.5' x 2.5	M-H	SU, PS	E		1-24, H1
<i>Juncus mexicanus</i>⁴	Mexican Rush	SD	1	2' x 2'	M-H	SU, PS	E		-
<i>Juncus patens</i>⁴	California Gray Rush	CA	1	2' x 2'	L-H	SU, PS	E		4-9, 14-24

Grasses & Grass-Like Plants		San Diego Co. Native - SD California Native - CA Non-Native - X	Landscape Position: 1 - Low ¹ , 2 - Mid ² , 3 - High ³	Mature Size (height x width)	Irrigation Demands: High - H ▪ Moderate - M Low - L ▪ Rainfall Only - N	Light Requirements Sun - SU ▪ Shade - SH Part Shade - PS	Season Evergreen - E, Deciduous - D Semi-Evergreen - SE	Coastal Exposure? Yes - Y	Sunset Zones City of San Diego zones: 21, 23 and 24
<i>Leymus triticoides</i>	Creeping Wildrye	CA	1	1.5'-4.5'	L-M	SU, PS	E	Y	-
<i>Muhlenbergia rigens</i> ⁴	Deer Grass	SD	1	2-4' x 3-4'	L	SU	E		4-24
<i>Nassella pulchra</i>	Purple Needlegrass	CA	2	3' x 2'	N-L	SU	D		5-9, 11, 14-24
<i>Schoenoplectus californicus</i> ⁴	California Bulrush	SD	1	10' x spreading	H	SU, PS, SH	E		-
<i>Sporobolus airoides</i>	Alkali Dropseed	CA	1	3' x 3'	L-M	SU	D		1-24
<i>Zephyranthes candida</i>	Rain Lily	X	1	12"x12"	H	SU, PS	E		4-9, 12-24, H1, H2

Annuals and Short-Lived Perennials		San Diego Co. Native - SD California Native - CA Non-Native - X	Landscape Position: 1 - Low¹, 2 - Mid², 3 - High³	Mature Size (height x width)	Irrigation Demands: High - H ▪ Moderate - M Low - L ▪ Rainfall Only - N	Light Requirements Sun - SU ▪ Shade - SH Part Shade - PS	Season Evergreen - E, Deciduous - D Semi-Evergreen - SE	Coastal Exposure? Yes - Y	Sunset Zones City of San Diego zones: 21, 23 and 24
<i>Limnanthes douglasii</i>	Meadowfoam	CA	1	6-12" x 6-12"	H	SU	-		1-9, 14-24
<i>Limnanthes gracilis ssp. Parishii</i>	Parish Meadowfoam	SD	2	6-12" x 6-12"	H	SU	-		-
<i>Lupinus succulentus</i> ⁴	Arroyo Lupine	SD	2	3'x3'	M-H	SU	-		7-24
<i>Oenothera elata</i> ⁴	Yellow Evening Primrose	SD	1	2-3' x 2-3'	L-H	SU, PS	E		5-7, 14-24
<i>Pluchea odorata</i> ⁴	Salt Marsh Fleabane	SD	1	2-3' x 1-2'	H	SU, PS	SE		-
Vines									
<i>Vitis californica</i>	California Grape	SD	1	30'	N-L	SU, PS	D		4-24

E.1 FOOTNOTES

1. Landscape Position 1 (Low): These areas are the base or lowest point of the BMP and experience seasonal flooding. Seasonal flooding for bioretention areas is typically 9" deep, for up to 24 hours (the design infiltration period for a bioretention area). If parts of the bioretention area are to be inundated for longer durations or greater depth the designer should develop a plant palette with longer term flooding in mind. Several of the species listed as tolerant of seasonal flooding may be appropriate, but the acceptability of each species considered should be researched and evaluated on a case-by-case basis.
2. Landscape Position 2 (Mid): These areas are typically along the side slopes of the BMP and may be low but are not expected to flood. However, they are likely to have saturated soils for extended periods of time.
3. Landscape Position 3 (High): These areas are generally on well-drained slopes adjacent to stormwater BMPs. These areas will not be inundated and will typically dry out quickly after the storm event.
4. **Bolded species have been observed within the City of San Diego staff and are known to be suitable for the recommended landscape position.**
5. Species not acceptable in the public right-of-way. These species have been observed not to be well-suited for street trees or right-of-way due to reasons such as; large size, high pruning requirements, root damage to sidewalk, etc.

E.2 GENERAL NOTES

1. The Landscape Position is the lowest area recommended for each species. Plants in areas 1 and 2 may also be appropriate for higher locations.
2. When specifying plants, availability should be confirmed by local nurseries. Some species may need to be contract-grown and it may be necessary for the contractor to contact the nursery well in advance of planting as some species may not be available on short notice.
3. Sunset zones are zones designed to indicate ideal climates for growing plant species dependent on each climate's timing and duration of precipitation, length of growing season, temperature minimums and maximums, wind speed, and humidity. The City of San Diego includes sunset zones 21, 23, and 24. Zone 21 is defined as "thermal belts in Southern California's areas of occasional ocean influence", Zone 23 is defined as "thermal belts of Southern California's coastal climate", and Zone 24 is defined as "Marine influence along the Southern California coast." (Sunset Publishing Corporation 2013)

E.3 REFERENCES

Appendix 3 'Bioretention Plant List'. Kingcounty.gov.

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