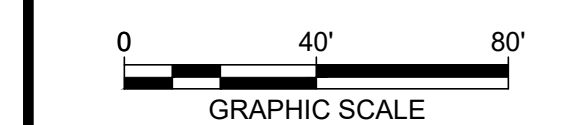


NOT ISSUED
 FOR
 CONSTRUCTION

**GRAPPONE
 MAZDA**
 134 MANCHESTER STREET
 CONCORD, NH
 OWNER/APPLICANT:
 HLF EAST, LLC
 506 ROUTE 3A
 BOW, NH

NO.	DATE	DESCRIPTION
REVISIONS		



DATE: DECEMBER 15, 2021

NOBIS PROJECT NO. 100180.000

DRAWN BY: MGD

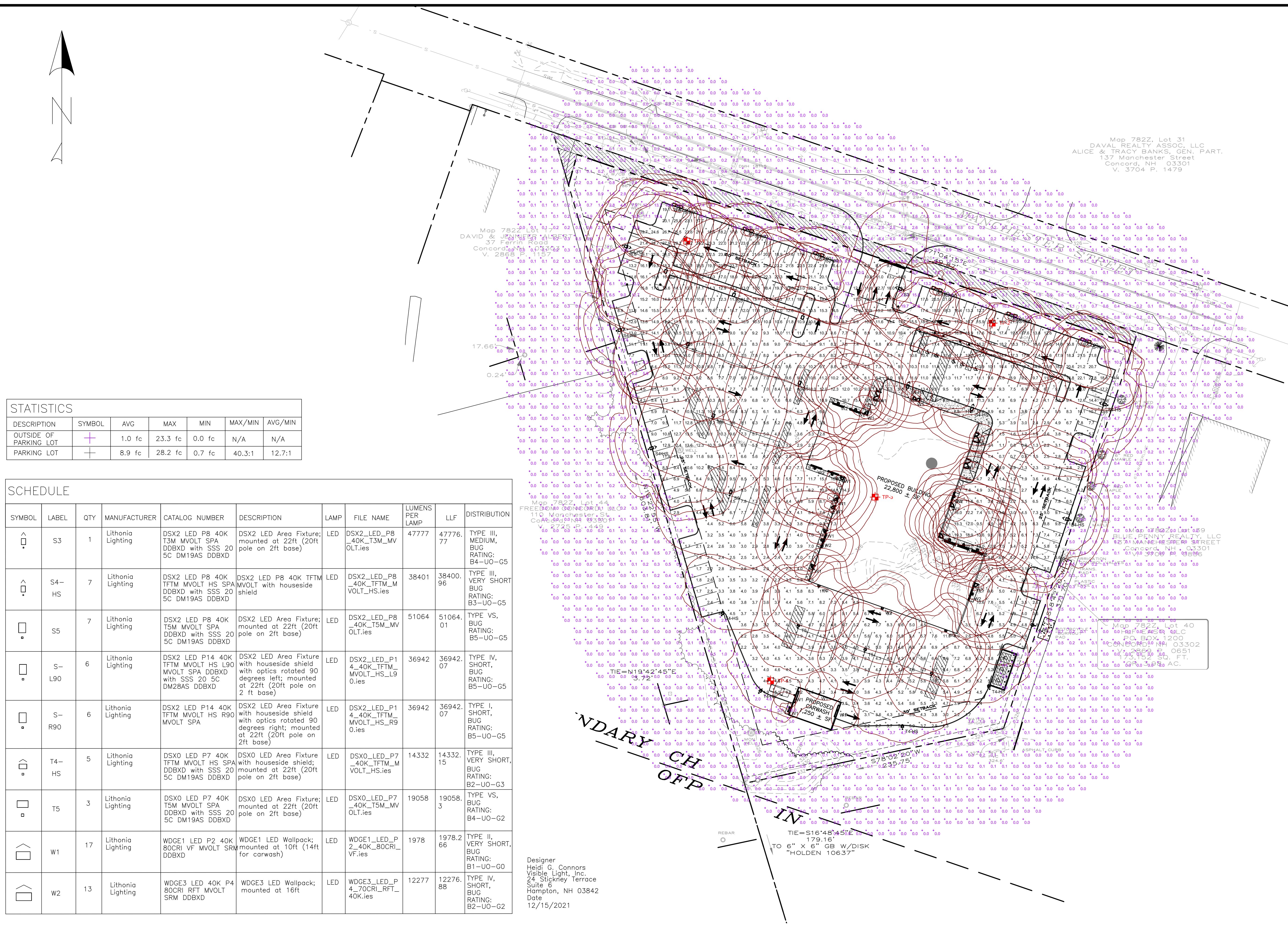
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CAD DRAWING FILE:
 100180.000-C-600-LIGHT.dwg

SHEET TITLE

LIGHT PLAN

SHEET
L-1



STATISTICS

DESCRIPTION	SYMBOL	AVG	MAX	MIN	MAX/MIN	AVG/MIN
OUTSIDE OF PARKING LOT	+	1.0 fc	23.3 fc	0.0 fc	N/A	N/A
PARKING LOT	+	8.9 fc	28.2 fc	0.7 fc	40.3:1	12.7:1

SCHEDULE

SYMBOL	LABEL	QTY	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	LAMP	FILE NAME	LUMENS PER LAMP	LLF	DISTRIBUTION
⬆	S3	1	Lithonia Lighting	DSX2 LED P8 40K T3M MVOLT SPA DBDX with SSS 20 5C DM19AS DBDX	DSX2 LED Area Fixture; mounted at 22ft (20ft pole on 2ft base)	LED	DSX2_LED_P8_40K_T3M_MV_OLT.ies	47777	47776.77	TYPE III, MEDIUM, BUG RATING: B4-UO-G5
⬆	S4-HS	7	Lithonia Lighting	DSX2 LED P8 40K T3M MVOLT HS SPA DBDX with SSS 20 5C DM19AS DBDX	DSX2 LED P8 40K T3M MVOLT with houseside shield	LED	DSX2_LED_P8_40K_T3M_MVOLT_HS.ies	38401	38400.96	TYPE III, VERY SHORT BUG RATING: B3-UO-G5
⬆	S5	7	Lithonia Lighting	DSX2 LED P8 40K T3M MVOLT SPA DBDX with SSS 20 5C DM19AS DBDX	DSX2 LED Area Fixture; mounted at 22ft (20ft pole on 2ft base)	LED	DSX2_LED_P8_40K_T3M_MV_OLT.ies	51064	51064.01	TYPE VS, BUG RATING: B5-UO-G5
⬆	S-L90	6	Lithonia Lighting	DSX2 LED P14 40K T3M MVOLT HS L90 MVOLT SPA DBDX with SSS 20 5C DM28AS DBDX	DSX2 LED Area Fixture with houseside shield with optics rotated 90 degrees left; mounted at 22ft (20ft pole on 2 ft base)	LED	DSX2_LED_P14_40K_T3M_MVOLT_HS_L90.ies	36942	36942.07	TYPE IV, SHORT, BUG RATING: B5-UO-G5
⬆	S-R90	6	Lithonia Lighting	DSX2 LED P14 40K T3M MVOLT HS R90 MVOLT SPA	DSX2 LED Area Fixture with houseside shield with optics rotated 90 degrees right; mounted at 22ft (20ft pole on 2ft base)	LED	DSX2_LED_P14_40K_T3M_MVOLT_HS_R90.ies	36942	36942.07	TYPE I, SHORT, BUG RATING: B5-UO-G5
⬆	T4-HS	5	Lithonia Lighting	DSX0 LED P7 40K T3M MVOLT HS SPA DBDX with SSS 20 5C DM19AS DBDX	DSX0 LED Area Fixture; mounted at 22ft (20ft pole on 2ft base)	LED	DSX0_LED_P7_40K_T3M_MVOLT_HS.ies	14332	14332.15	TYPE III, VERY SHORT, BUG RATING: B2-UO-G3
⬆	T5	3	Lithonia Lighting	DSX0 LED P7 40K T3M MVOLT SPA DBDX with SSS 20 5C DM19AS DBDX	DSX0 LED Area Fixture; mounted at 22ft (20ft pole on 2ft base)	LED	DSX0_LED_P7_40K_T3M_MV_OLT.ies	19058	19058.3	TYPE VS, BUG RATING: B4-UO-G2
⬆	W1	17	Lithonia Lighting	WDGE1 LED P2 40K 80CRI VF MVOLT SRM DBDX	WDGE1 LED Wallpack; mounted at 10ft (14ft for carwash)	LED	WDGE1_LED_P2_40K_80CRI_VF.ies	1978	1978.266	TYPE II, VERY SHORT, BUG RATING: B1-UO-G0
⬆	W2	13	Lithonia Lighting	WDGE3 LED 40K P4 80CRI RFT MVOLT SRM DBDX	WDGE3 LED Wallpack; mounted at 16ft	LED	WDGE3_LED_P4_40K_RFT_40K.ies	12277	12277.88	TYPE IV, SHORT, BUG RATING: B2-UO-G2

Designer
 Heidi G. Connors
 Visible Light, Inc.
 24 Stickney Terrace
 Suite 6
 Hampton, NH 03842
 Date
 12/15/2021

I, Jonathan Halle, hereby Certify that I am the designer of this Landscape Plan and that I am a Professional Landscape Architect Licensed by the State of New Hampshire.

Jonathan Halle
Jonathan Halle, AIA, PLA
Architect & Landscape Architect

WA
WARRENSTREET
ARCHITECTS

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CIVIL ENGINEER
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18 CHENELL DRIVE,
CONCORD, NH 03301

PROJECT TITLE / ADDRESS:
GRAPPONE MAZDA

134 MANCHESTER STREET,
CONCORD, NH 03301



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LANDSCAPE PLAN

LA101

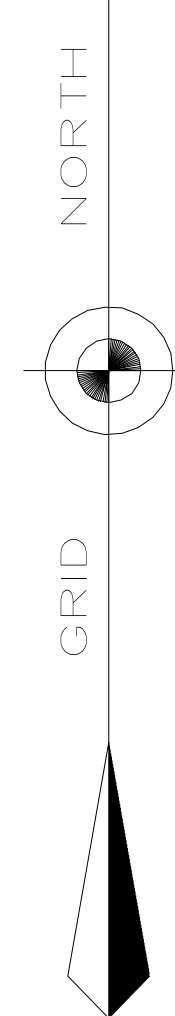
SHEET NUMBER: 1 OF 8 LANDSCAPE

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one inch = one foot
three quarter inch = one foot
one quarter inch = one foot
one eighth inch = one foot
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TEMPLATE DATE: 1/02/2019

NOTES:
110,542 IMPERVIOUS LOT COVERAGE/2000
55 TREES REQUIRED
55 TREES PROVIDED
25% DIVERSITY OR ORNAMENTAL



1 LANDSCAPE PLAN
1" = 30'-0"

Planting Schedule

Trees, Shrubs, Ground Cover, Flowers, Bedding and Seeding - See Specification, General Notes and Details on the Accompanying Drawings.

USDA Plant Hardiness Zones - NH North of Laconia Zone 4 - Southern NH Zone 5 - Western Massachusetts Zone 5, - Eastern Massachusetts Zone 6

Photo	Type	Sym	Qty	Common Name	Botanical Name	Hardiness Zone	Habit of Growth		Sun Exposure	Drought Tolerant	Native New England	Toxicity	Installed Size	Type	Use
							Height	Spread							
	Deciduous Flowering Shrubs	AWS	12	Blue Wild Indigo	Baptisia Australis	4-9	3-5'	3-5'	Full-Partial Sun	YES	YES	1	3 Gal	CTN	NA
	Evergreen Low Ground Cover	CIH	28	Weigela	Weigela	4-8	3-5'	3-5'	Full-Partial Sun	YES	NO	NO	3 Gal	CTN	NA
	Deciduous Large Tree	CRC	18	Canada Red Choke Cherry	Prunus virginiana 'Canada Red'	2-9	20-25'	15-20'	Sun Partial Shade	YES	NO	1	3"-3 1/2" cal 10-12ft	B&B	Street Tree
	Evergreen Low Ground Cover	DJC	62	Moss Creeping Phlox	Phlox Subulata	3-9	6-12"	24"	Full Sun	YES	YES	NO	3 Gal	CTN	NA
	Grasses	FRG	36	Feather Reed Grass	Calamagrostis 'x' acutiflora 'Karl Foerster'	4-9	18-24"	4-6'	Full Sun	YES	NO	NO	3 Gal	CTN	NA
	Perennial	HCL	8	Hidecoat Lavendar	Lavandula angustifolia	5-9	18-24"	18-24"	Full Sun	YES	NO	4	1 yr. potted	1 gal.	NA
	Deciduous Large Tree	HLT	6	Yellow Imperial Thornless Honey Locust	Gleditsia triacanthos var. inermis 'Shademaster'	3-9	30-70'	30-70'	Full Sun	YES	YES	1 to horses only	3"-3 1/2" cal 10-12ft	B&B	Street Tree
	Evergreen Low Ground Cover	JAP	23	Juniper Andorra	(J. Horizontalis 'Plumosa')	5-9	18"	4'	Full-Partial Sun	YES	YES	2	5 Gal 18"-24"	CTN	NA
	Deciduous Large Tree	PEH	13	American Hornbeam	Carpinus Caroliniana	3-9	20'-35'	20'-30'	Partial Sun	NO	YES	2	3"-3 1/2" cal 10-12ft	B&B	Street Tree
	Deciduous Large Tree	RMW	6	Walter Columnar Red Maple	Acer Rubrum Walter Columnar	3-9	60'	4-8'	Full Sun	YES	YES	2	3"-3 1/2" cal 10-12ft	B&B	Accent Street Tree
	Seed Lawns	SFL	TBD	Wildflower	Northeast Wildflower Seed mix by American Meadows, Sku # AM016988 1lb/1500sf @ 26.95\$/lb	3-9	24"	NA	Full Sun	YES	YES	NO	Seed Mix	—	NA
	Deciduous Large Tree	SWT	8	Sourwood Tree	Oxydendrum arboreum	5-9	25-30'	20'	Full Sun	YES	YES	2	3"-3 1/2" cal 10-12ft	B&B	Street Tree
	Deciduous Large Tree	TPT	4	Tulip Poplar Tree	Liriodendron tulipifera	4-9	70'	30-40'	Full Sun	NO	YES	3 to pets only	3"-3 1/2" cal 10-12ft	B&B	Street Tree
	Deciduous Flowering Shrubs	WAS	15	Tick Seed	Coreopsis 'Lightning Bug'	4-10	12"	15"	Full Sun	YES	YES	NO	3 Gal	CTN	NA
	Evergreen Low Ground Cover	WBH	24	Wintergreen Boxwood Hedge	M. Wintergreen	5-9	3'-4'	4'-6'	Full-Partial Sun	YES	NO	1	2'-3' hgt+N114.	B&B	NA

General Planting Notes

- The above selection of plants is provided for design intent. It is understood that the final installation and implementation of this plan is subject to plant availability, substitutions, time of year, phasing and cost.
- It is understood, that the majority of nursery plants are to some degree toxic to humans and pets, whether the root, stock, bark, leaf, fruit or juice. The owner and installer should become acquainted to the potential toxicity of the ultimate selection of all nursery plants. Warrenstreet has provided common toxicity labels of plant materials selected and in noway warranties against the potential affects of any plants selected and installed.
- All planting beds shall be mulched with a minimum of 2" of shredded cedar "BLACK" bark mulch. All sod and/or seeded lawn areas to have minimum 6" topsoil blanket. All fall bulbs shall be planted in the fall, plan accordingly, retainage will be held until plantings occur. All mass planted shrubs beds and planters around building shall have minimum 18" deep topsoil blanket to compensate for the New England very sandy granular sub-grade material.
- All plant material to conform to current AAN, American Standard for Nursery Stock, ANSI Z60.1-2014. All plantings shall be warranted for (1) one year from planting date. The landscape Contractor shall be responsible for two (2) lawn mowings and weedings prior to final acceptance of installation.



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NOBIS GROUP
18 CHENELL DRIVE,
CONCORD, NH 03301

PROJECT TITLE / ADDRESS:
GRAPPONE MAZDA

134 MANCHESTER STREET,
CONCORD, NH 03301



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PLANTING SCHEDULE

LA102

SHEET NUMBER: 2 OF 8 LANDSCAPE

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I, Jonathan Halle, hereby Certify that I am the designer of this Landscape Plan and that I am a Professional Landscape Architect Licensed by the State of New Hampshire.

Jonathan Halle
Jonathan Halle, AIA, PLA
Architect & Landscape Architect

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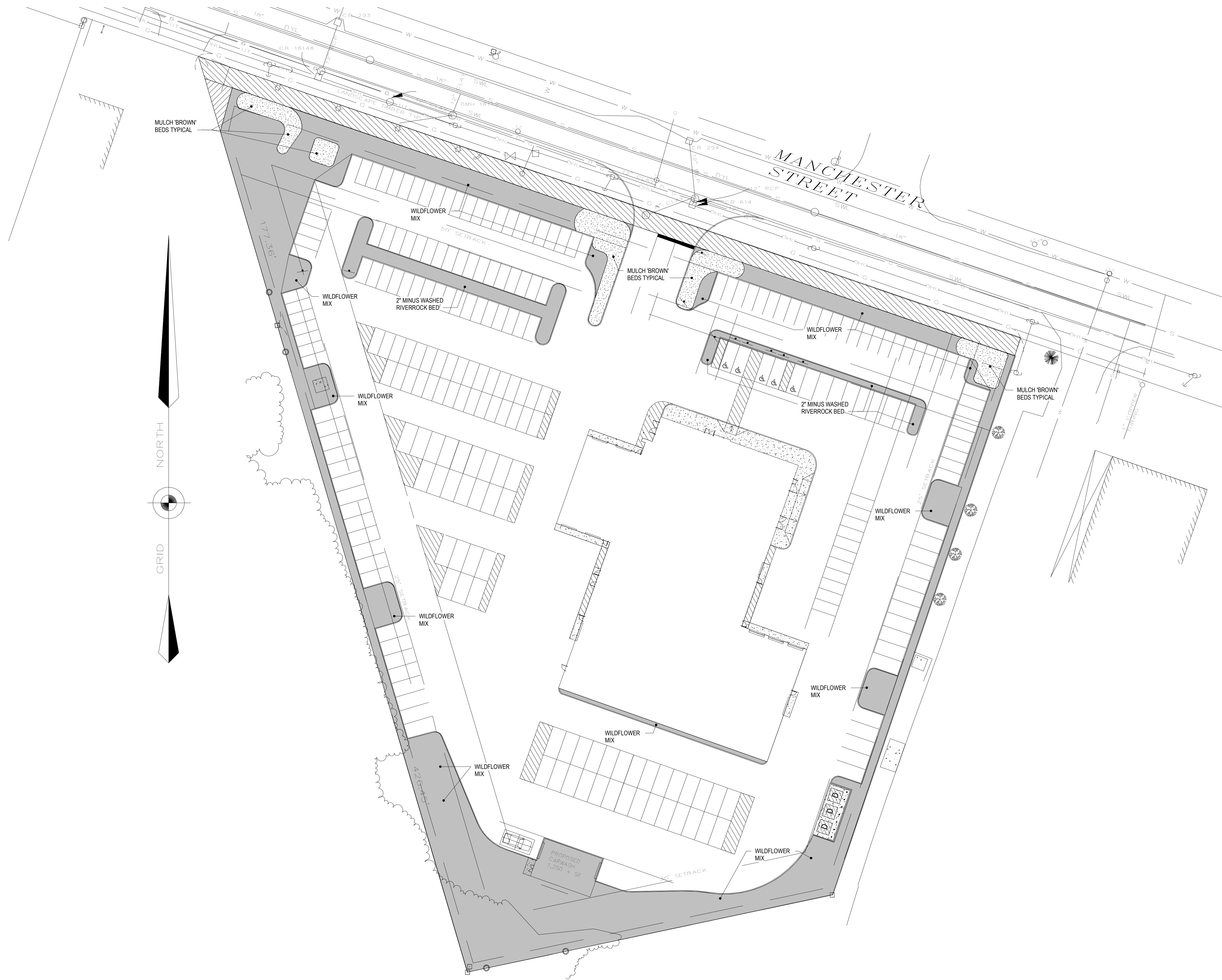
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LOAM & SEED PLAN

LA103

SHEET NUMBER: 3 OF 8 LANDSCAPE
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1 LOAM & SEED PLAN
1" = 30'-0"

TOXIC PLANTS BY COMMON NAME

SOURCE: FILMER, UNIVERSITY OF CALIFORNIA, DAVIS; OCT. 2012

IT SHOULD BE NOTED THAT MANY OF THESE PLANTS EXISTING IN THE NATURAL AND BUILT ENVIRONMENT AROUND US AS MANY OF THESE PLANTS ARE AVAILABLE IN THE MARKETPLACE TODAY. CAUTION SHOULD BE TAKEN WHEN SELECTING ANY PLANT, AND THEIR USE SHOULD BE CONSIDERED IN THE CONTEXT OF WHERE THEY ARE TO BE PLANTED.

TOXICITY CLASS (THIRD COLUMN IN TABLE BELOW)

1. MAJOR TOXICITY: THESE PLANTS MAY CAUSE SERIOUS ILLNESS OR DEATH. IF INGESTED, IMMEDIATELY CALL THE POISON CONTROL CENTER (800) 222-4222 OR YOUR DOCTOR.
2. MINOR TOXICITY: INGESTION OF THESE PLANTS MAY CAUSE MINOR ILLNESSES SUCH AS VOMITING OR DIARRHEA. IF INGESTED, CALL THE POISON CONTROL CENTER OR YOUR DOCTOR.
3. OXALATES: THE JUICE OR SAP OF THESE PLANTS CONTAINS OXALATE CRYSTALS. THESE NEEDLE-SHAPED CRYSTALS CAN IRRITATE THE SKIN, MOUTH, TONGUE, AND THROAT, RESULTING IN THROAT SWELLING, BREATHING DIFFICULTIES, BURNING PAIN, AND STOMACH UPSET. CALL THE POISON CONTROL CENTER OR YOUR DOCTOR IF ANY OF THESE SYMPTOMS APPEAR FOLLOWING INGESTION OF PLANTS.
4. DERMATITIS: THE JUICE, SAP, OR THORNS OF THESE PLANTS MAY CAUSE A SKIN RASH OR IRRITATION. WASH THE AFFECTED AREA OF SKIN WITH SOAP AND WATER AS SOON AS POSSIBLE AFTER CONTACT. THE RASHES MAY BE VERY SERIOUS AND PAINFUL. CALL THE POISON CONTROL CENTER OR YOUR DOCTOR IF SYMPTOMS APPEAR FOLLOWING CONTACT WITH THE PLANTS.

COMMON NAME	SCIENTIFIC NAME	TOXICITY CLASS
ACHILLEA	ACHILLEA MILLEFOLIUM	2.4
ACONITE	ACONITUM SPP.	1
AFRICAN BOXWOOD	MYRSINE AFRICANA	2
AFRICAN LILY	AGAPANTHUS SPP.	2.4
AGAPANTHUS	AGAPANTHUS SPP.	2.4
AGAVE	AGAVE SPP.	2.4
AGLAONEMA	AGLAONEMA SPP.	3.4
AILANTHUS	AILANTHUS ALTISSIMA	2.4
ALDER	ALNUS SPP.	4
ALLIUM	ALLIUM SPP.	2
ALMOND (SEEDS)	PRUNUS SPP.	1
ALOCASIA	ALOCASIA SPP.	3.4
ALSTROEMERIA	ALSTROEMERIA SPP.	2.4
AMARYLLIS	AMARYLLIS BELLADONNA	2.4
AMARYLLIS	AMARYLLIS SPP.	2.4
ANEMONE	ANEMONE SPP.	2
ANGEL'S TRUMPET	BRUGMANIA SPP.	2.4
ANTHURUM	ANTHURUM SPP.	3.4
APPLE (SEEDS)	MALUS SPP.	1
APRICOT (SEEDS)	PRUNUS SPP.	1
ARALIA, MING	POLYSCIAS SPP.	2.4
ARBORVITAE	THUJA SPP.	2.4
ARROWHEAD PLANT	SYNGONIUM PODOPHYLLUM	3
ARUM	ARUM SPP.	3.4
ASH	FRAXINUS SPP.	4
ASPARAGUS, GARDEN	ASPARAGUS OFFICINALIS	4
ASPARAGUS, SPRENGER	ASPARAGUS DENISFLORUS	4
ASTER	ASTER SPP.	4
AUCUBA, JAPANESE	AUCUBA JAPONICA	2
AUTUMN CROCUS	COLCHICUM AUTUMNALE	1.4
AZALEA	RHODODENDRON SPP.	1
BABY'S BREATH	GYPHOPHILA PANICULATA	4
BALMSM FIR	ABIES BALSAMEA	4
BARBERRY	BERBERIS SPP.	2.4
BEGONIA	BEGONIA SPP. (SOME SPP.)	2.3
BELLADONNA	ATROPA BELLADONNA	1
BELLADONNA LILY	AMARYLLIS BELLADONNA	2.4
BERMUDAGRASS	CYNODON DACTYLON	4
BIRCH TREE	BETULA SPP.	2.4
BIRD-OF-PARADISE SHRUB	CAESALPINA GILLIESII	2
BISHOP'S WEED	AMMI MAJUS	4
BITTERSWEET	CELASTRUS SCANDENS	2
BLACK CALLA	ARUM SPP.	3.4
BLACK CHERRY (SEEDS)	PRUNUS SPP.	1
BLACK HENBANE	HYOSCYAMUS NIGER	1
BLACK LOCUST (SEEDS)	ROBINIA PSEUDOACACIA	1
BLACK NIGHTSHADE	SOLANUM SPP.	1
BLANKET FLOWER	GAILLARDIA SPP.	4
BLEEDING HEART	DICENTRA SPP.	4
BLOOD LILY	HAEMANTHUS SPP.	2.4
BLUE GUM	EUCALYPTUS SPP.	2.4
BOSTON IVY	PARTHENOCISSUS SPP.	3.4
BOTTLE TREE	BRACHYCHITON POPULNEUS	4
BOUGAINVILLEA (THORNS)	BOUGAINVILLEA SPP.	2.4
BOXWOOD	BUXUS SEMPERVIRENS	4
BRAZILIAN PEPPER TREE	SCHINUS TEREBINTHIFOLIUS	2.4
BROOM	CYTISUS SPP.	2
BUCKEYE	AESCULUS SPP.	2
BUCKTHORN	RHAMNUS SPP.	2.4
BURNING BUSH	EUONYMUS SPP.	2.4
BURNING POISON	ACOKANTHERA SPP.	1
BUTTERCUP	RANUNCULUS SPP.	2.4
BUTTERFLY WEED	ASCLEPIAS SPP.	2.4
CACTUS (THORNS AND SAP)	CACTUS SPP.	4
CAJERPUT TREE	MELALEUCA QUINQUENERVIA	4
CALADIUM	CALADIUM BICOLOR	3.4
CALIFORNIA BAY	UMBELLULARIA CALIFORNICA	4
CALIFORNIA BUCKEYE	AESCULUS SPP.	2
CALIFORNIA LAUREL	UMBELLULARIA CALIFORNICA	4
CALIFORNIA PEPPER TREE	SCHINUS MOLLE	4
CALLA, BLACK	ARUM SPP.	3.4
CALLA LILY	ZANTHEDISCHIA AETHIOPICA	3.4
CAMPHOR TREE	CINNAMOMUM CAMPHORA	2
CANDYTUFF, EVERGREEN	IBERIS SEMPERVIRENS	2
CAPE PLUMBAGO	PLUMBAGO AURICULATA	4
CARDINAL FLOWER	LOBELIA SPP.	1.4
CARNATION	DIANTHUS CARYOPHYLLUS	2.4
CAROLINA, JESSAMINE	GESEMIUM SEMPERVIRENS	1.4
CAROLINA LAUREL CHERRY	PRUNUS CAROLINIANA	1
CASTOR BEAN	RICINUS COMMUNIS	1
CENTURY PLANT	AGAVE SPP.	2.3,4
CESTRUM	CESTRUM SPP.	1
CHAMOMILE	CHAMAEMELUM NOBILE	1
CHEEKERED LILY	FRITILLARIA MELEGARIS	1
CHENILLE PLANT	ACALYPHA SPP.	2.4
CHERRY (SEEDS)	PRUNUS SPP.	1
CHINABERRY	MELIA AZEDARACH	1
CHINESE EVERGREEN	AGLAONEMA SPP.	3.4
CHINESE LANTERN	PHYSALIS SPP.	2.4
CHINESE TALLOW TREE	SAPILUM SEBIFERUM	4
CHOKECHERRY	PRUNUS VIRGINIANA	1
CHRISTMAS ROSE	HELLEBORUS SPP.	1.4
CHRYSANTHEMUM	CHRYSANTHEMUM SPP.	2.4
CINERARIA	SENECIO HYBRIDUS	2.4
CLEMATIS	CLEMATIS SPP.	2.4
CLIMBING LILY	GLORIOSA SPP.	1
CLIVIA	CLIVIA SPP.	2.4
COAST REDWOOD	SEQUOIA SEMPERVIRENS	2.4
COFFEE PLANT	COFFEA ARABICA	2
COFFEEBERRY	RHAMNUS SPP.	2.4
COLUMBINE	AQUILEGIA SPP.	2
COPPERLEAF	ACALYPHA SPP.	2.4
CORAL PLANT	JATROPHA SPP.	2.4
CORAL TREE	ERYTHRINA SPP.	2.4
CORALBERRY	SYMPHORICARPOS SPP.	2
COTONEASTER	COTONEASTER SPP.	2
CRABAPPLE (SEEDS)	MALUS SPP.	1
CREeping CHARLIE	GLECHOMIA HEDERACEA	2
CRINUM LILY	CRINUM SPP.	2.4
CROCUS, AUTUMN	COLCHICUM AUTUMNALE	1.4
CROTON	COJAEUM VARIEGATUM	2.4
CROWN OF THORNS	EUPHORBIA SPP.	2.4
CYCLAMEN	CYCLAMEN SPP.	2.4
DAFFODIL (BULB)	NARCISSUS SPP.	2.4
DAISY	CHRYSANTHEMUM SPP.	2.4

COMMON NAME	SCIENTIFIC NAME	TOXICITY CLASS
DAPHNE	DAPHNE SPP.	1
DEADLY NIGHTSHADE	ATROPA BELLADONNA	1
DEADLY NIGHTSHADE	HYOSCYAMUS NIGER	1
DEADLY NIGHTSHADE	SOLANUM SPP.	1
DEATH CAMAS	ZIGADENUS SPP.	1
DELPHINIUM	DELPHINIUM SPP.	1
DESERT BLUEBELLS	PHACELIA SPP.	4
DICHONDRA	DICHONDRA MICRANTHA	4
DIFFENBACHIA	DIFFENBACHIA SPP.	3
DOGWOOD	CORNUS SPP.	4
DUMB CANE	DIFFENBACHIA SPP.	3
DUSTY MILLER	SENECIO SPP. (SOME SPP.)	2.4
DUTCH IRIS	IRIS SPP.	2.4
ECHINUM	ECHINUM VULGARE	1.4
ELDERBERRY	SAMBUCUS SPP.	1
(RIPE FRUIT IS NONTOXIC)	ALOCASIA SPP.	3.4
ELEPHANT'S EAR	COLOCASIA SPP.	3.4
ELEPHANT'S EAR	ELAPHANT'S EAR	3.4
ELEPHANT'S EAR	XANTHOSOMA SPP.	3.4
ELM TREE	ULMUS SPP.	4
ENGLISH DAISY	BELLIS PERENNIS	4
HERERA SPP.	HERERA SPP.	2.4
ENGLISH LAUREL	PRUNUS LAUROCERASUS	1
ENGLISH YEW (SEEDS)	FICUS LYRATA	4
EUCALYPTUS	EUCALYPTUS SPP.	2.4
EUONYMUS	EUONYMUS SPP.	2
EUPHORBIA	EUPHORBIA SPP.	2.4
EUROPEAN MISTLETOE	VISCUM ALBUM	1
EVERGREEN CANDYTUFF	IBERIS SEMPERVIRENS	4
FALSE HEATHER	CUPHEA HYSSOPIFOLIA	4
FALSE QUEEN ANNE'S LACE	AMMI MAJUS	4
FESCUE (GRASS)	FESTUCA SPP.	4
FIG	FICUS CARICA AND FICUS SPP.	4
FIG, WEEPING	FICUS SPP.	4
FIG, FIDDLE-LEAF	FICUS LYRATA	4
FIDDLE-LEAF FIG	FICUS LYRATA	4
FIR, BALSAM	ABIES BALSAMEA	4
FIRETAIL	ACALYPHA SPP.	2.4
FIRETHORN	PYRACANTHA SPP.	2.4
FISHTAIL PALM	CARYOTA SPP.	3.4
FLAX	LINUM USITATISSIMUM	4
FLEABANE	ERIGERON SPP.	4
FLOWERING TOBACCO	NICOTIANA GLAUCA	2.4
FOUR-O'CLOCK	MIRABILIS JALAPA	2.4
FOXGLOVE	DIGITALIS PURPUREA	1
FRANCOFANI	FRANCOFANI	4
GARDEN ASPARAGUS	ASPARAGUS OFFICINALIS	4
GINKGO	GINKGO BILOBA	4
GLADIOLUS	GLADIOLUS SPP.	2.4
GLORY LILY	GLORIOSA SPP.	1
GOLDEN-CHAIN TREE	LABURNUM ANAGYROIDES	2
GOPHER PLANT	EUPHORBIA SPP.	2.4
GRAPE IVY	CISSUS RHOMBIFOLIA	4
GREVILLEA	GREVILLEA SPP.	4
GROUNDCHERRY	PHYSALIS SPP.	1
GROUND IVY	GLECHOMIA HEDERACEA	2
GUERNEY LILY	NERINE SPP.	2.4
GUM, BLUE	EUCALYPTUS SPP.	2.4
HEART LEAF	PHILODENDRON SPP.	3.4
HEATHER	CALLUNA VULGARIS	1
HELIOTROPE	HELIOTROPUM ARBORESCENS	1
HELLEBORE	HELLEBORUS SPP.	1.4
HEMLOCK, POISON	CONIUM MACULATUM	1
HEMLOCK, WATER	CICUTA SPP.	1
HENBANE, BLACK	HYOSCYAMUS NIGER	1
HOLLY (BERRIES)	ILEX SPP.	2
HOLLYHOCK	ALCEA ROSEA	4
HONEY BUSH	ARTEMISA SPP.	4
HORSEHESTNUT	AESCULUS SPP.	2
HYACINTH	HYACINTHUS ORIENTALIS	2.4
HYDRANGEA	HYDRANGEA SPP.	1.4
ICELAND POPPY	PAPAVER NUDICAULE	3.4
INDIAN CURRANT	SYMPHORICARPOS SPP.	2
INDIAN TURNIP	ARISAEMA TRIPHYLLUM	2.4
IRIS	IRIS SPP.	2.4
ITALIAN ARUM	ARUM SPP.	3.4
IVY	HEDERA SPP.	2.4
IVY, BOSTON	PARTHENOCISSUS SPP.	3.4
IVY, ENGLISH	HEDERA SPP.	2.4
IVY, GRAPE	CISSUS RHOMBIFOLIA	4
IVY, GROUND	GLECHOMIA HEDERACEA	2
JACK-IN-THE-PULPIT	ARISAEMA TRIPHYLLUM	3.4
JADE PLANT	CRASSULA ARGENTEA	2.4
JAPANESE ALOE	AUCUBA JAPONICA	2
JAPANESE PIERIS	PIERIS JAPONICA	1
JAPANESE YEW (SEEDS)	TAXUS SPP.	1
JATROPHA	JATROPHA SPP.	2.4
JEQUIRITY BEAN	ABRUS PRECATORIUS	1
JERUSALEM CHERRY	SOLANUM PSEUDOCAPSICUM	1
JESSAMINE	CESTRUM SPP.	1
JESSAMINE, CAROLINA	CESTRUM SEMPERVIRENS	1.4
JIMSON WEED	BRUGMANIA SPP.	2.4
JONQUIL (BULB)	NARCISSUS SPP.	2.4
JUNIPER	JUNIPERUS SPP.	2
KAFFIR LILY	CLIVIA SPP.	2.4
LABURNUM	LABURNUM ANAGYROIDES	2
LADY SLIPPER ORCHID	CYPRIPEDIUM SPP.	3.4
LANTANA	LANTANA CAMARA	1
LARKSPUR	DELPHINIUM SPP.	1
LAUREL, CALIFORNIA	UMBELLULARIA CALIFORNICA	4
LAUREL, CHERRY	PRUNUS CAROLINIANA	1
LAUREL, ENGLISH	PRUNUS LAUROCERASUS	1
LAUREL, MOUNTAIN	KALMA LATIFOLIA	2
LAUREL, NEW ZEALAND	CORYNOCARPUS LAEVIATA	2
LENTEN ROSE	HELLEBORUS SPP.	1.4
LIGUSTRUM	LIGUSTRUM SPP.	2.4
LILY	LILIUM SPP. (SOME SPP.)	2.4
LILY, AFRICAN	AGAPANTHUS SPP.	2.4
LILY, BELLADONNA	AMARYLLIS BELLADONNA	2.4
LILY, BLOOD	HAEMANTHUS SPP.	2.4
LILY, CALLA	ZANTHEDISCHIA AETHIOPICA	3.4
LILY, CHEEKERED	FRITILLARIA MELEGARIS	1
LILY, CLIMBING	GLORIOSA SPP.	1
LILY, CRINUM	CRINUM SPP.	2.4
LILY, GLORY	GLORIOSA SPP.	1
LILY, GUERNEY	NERINE SPP.	2.4
LILY, KAFFIR	CLIVIA SPP.	2.4
LILY, PERUVIAN	ALSTROEMERIA SPP.	2.4
LILY, SPIDER	LYCORIS SPP.	2
LILY, SPIDER	HYMENOCALLIS SPP.	2.4
LILY-OF-THE-VALLEY	CONVALLARIA MAJALIS	2.4
LOBELIA	LOBELIA SPP.	1.4
LOCUST, BLACK (SEEDS)	ROBINIA PSEUDOACACIA	1
LOQUAT (SEEDS)	ERIOBOTRYA JAPONICA	1
LOVE-IN-A-MIST	NIGELLA DAMASCENA	2
LOVE-LIES-BLEEDING	AMARANTHUS CAUDATUS	1
LUPINE	LUPINUS SPP.	1
MADEIRA HAIR TREE	GINKGO BILOBA	4
MAPLE	ACER SPP.	4
MARGUERITE DAISY	CHRYSANTHEMUM SPP.	2.4
MARIGOLD	TAGETES SPP.	2
MARSH MARIGOLD	CALTHA PALUSTRIS	4
MAY APPLE	POLYTHALLUM PELTATUM	1
MEADOW SAFFRON	COLCHICUM AUTUMNALE	1.4
MILKWEED	ASCLEPIAS SPP.	2.4
MING ARLIA	POLYSCIAS SPP.	2.4
MISTLETOE	PHORADENDRON SPP.	2.4
MISTLETOE, EUROPEAN	VISCUM ALBUM	1
MONKSHOOD	ACONITUM SPP.	1
MORNING GLORY (SEEDS)	IPOMOEA SPP.	1
MOSES-IN-THE-CRADLE	RHOEO SPATHACEA	4
MOUNTAIN LAUREL	KALMA LATIFOLIA	2
MYOPORUM	MYOPORUM LAETUM	1

COMMON NAME	SCIENTIFIC NAME	TOXICITY CLASS
MYRTLE	MYRTUS COMMUNIS	2
MYRTLE	VINCA SPP.	1
NAKED LADY	AMARYLLIS BELLADONNA	2.4
NARCISSUS (BULB)	NARCISSUS SPP.	2.4
NATAL PLUM	CARISSA MACROCARPA	2
NECTARINE (SEEDS)	PRUNUS SPP.	1
NEPHTHYS	SYNGONIUM PODOPHYLLUM	3
NERINE	NERINE SPP.	2.4
NETTLES, STINGING	URTICA SPP.	4
NEW ZEALAND LAUREL	CORYNOCARPUS LAEVIATA	2
NIGHT-BLOOMING JESSAMINE	CESTRUM SPP.	1
NIGHTSHADE, DEADLY	ATROPA BELLADONNA	1
NIGHTSHADE, DEADLY	HYOSCYAMUS NIGER	1
NIGHTSHADE, BLACK OR DEADLY	SOLANUM SPP.	1
OAK TREE (ACORNS)	QUERCUS SPP.	2.4
OLEANDER	NERIUM OLEANDER	1.4
OLEANDER, YELLOW	PIEVEITIA PERUVIANA	1.4
ONION, WILD	ALLIUM SPP.	1
ORNITHOGALUM	ORNITHOGALUM SPP.	1
PAMPAS GRASS	CORTADERIA SELLOANA	1
PANSY (SEEDS)	VIOLA SPP.	2
PASQUE FLOWER	ANEMONE SPP.	2.4
PEACH (SEEDS)	PRUNUS SPP.	1
PEAR (SEEDS)	PYRUS SPP.	1
PENCIL TREE	EUPHORBIA SPP.	2.4
PEPPER TREE, BRAZILIAN	SCHINUS TEREBINTHIFOLIUS	2.4
PEPPER TREE, CALIFORNIA	SCHINUS MOLLE	4
PERIWINKLE	VINCA SPP.	1
PERUVIAN LILY	ALSTROEMERIA SPP.	2.4
PERUVIAN SCILLA	SCILLA SPP.	1
PHILODENDRON	PHILODENDRON SPP.	3.4
PHILODENDRON, SPLIT-LEAF	MONSTERA DELICIOSA	3.4
PIERIS, JAPANESE	PIERIS JAPONICA	1
PINEAPPLE	ANANAS COMOSUS	4
PINK	DIANTHUS SPP.	2.4
PITTIOSPORUM	PITTIOSPORUM SPP.	1
PLUM (SEEDS)	PRUNUS SPP.	1
PLUMBAGO, CAPE	PLUMBAGO AURICULATA	4
PLUMERIA	PLUMERIA RUBRA	1
POINCIANA	CAESALPINA GILLIESII	2
POINSETTIA	EUPHORBIA SPP.	2.4
POISON HEMLOCK	CONIUM MACULATUM	1
POISON OAK	TOXICODENDRON	4
POPPY	DIVERSIBOLUS	1
POPPY, ICELAND	PHYSALIS SPP.	2.4
POTATO PLANT	SOLANUM TUBEROSUM	1
(GREEN PARTS)	EPINEPHRUM AJUREUM	3.4
POTIOPS	ORNITHOGALUM SPP.	1
PREGNANT ONION	PRIMULA SPP.	4
PRIMROSE	PRIMULA SPP.	4
PRIMULA	PRIMULA SPP.	4
PRIVEE	LIGUSTRUM SPP.	2.4
PYRACANTHA	PYRACANTHA SPP.	2.4
QUEEN ANNE'S LACE	DALCIS CAROTA	2.4
QUEEN ANNE'S LACE, FALSE	AMMI MAJUS	4
RANUNCULUS	RANUNCULUS SPP.	2.4
REDWOOD, COAST	SEQUOIA SEMPERVIRENS	2.4
RHODODENDRON	RHODODENDRON SPP.	1
RHUBARB (LEAVES)	CONIUM MACULATUM	3
ROSBARY BEAN	ABRUS PRECATORIUS	1
ROSBARY PEA	ABRUS PRECATORIUS	1
RUBBER PLANT	RUE	4
RUE	RUTA GRAVEOLENS	4
SAGEBRUSH	MELANTHUS SPP.	4
SAGO PALM	CYCAS REVOLUTA	2
SCARLET PIMPERNEL	SCHEFFLERA ARVENSIS	2.4
SCHIFFLERA	SCHIFFLERA ACTINOPHYLLA	2.4
SCOTCH BROOM	CYTISUS SPP.	2
SHASTA DAISY	CHRYSANTHEMUM MAXIMUM	2.4
SILK OAK	GREVILLEA SPP.	3.4
SKUNK CABBAGE	VERATRUM SPP.	2
SMOKE BUSH	COTINUS COGGYGRIA	4
SNAKE PLANT	SANSEVIERIA SPP.	2.4
SNAKESHEAD	FRITILLARIA MELEGARIS	1
SNOW-ON-THE-MOUNTAIN	EUPHORBIA SPP.	2.4
SNOWBERRY	SYMPHORICARPOS SPP.	2
SNOWDROP	GALANTHUS SPP.	2.4
SNOWFLAKE	LEUCOJUM SPP.	2.4
SPATHIPHYLLUM	SPATHIPHYLLUM SPP.	2
SPIDER LILY	LYCORIS SPP.	2.4
SPIDER LILY	HYMENOCALLIS SPP.	2.4
SPLIT-LEAF PHILODENDRON	MONSTERA DELICIOSA	3.4
SPRENGER ASPARAGUS	ASPARAGUS DENISFLORUS	4
SQUILL	SCILLA SPP.	1
ST. JOHNSWORT	HYPERICUM CALYCINUM	1.4
STAR-OF-BETHLEHEM	ORNITHOGALUM SPP.	4
STINGING NETTLES	URTICA SPP.	4
STRING OF BEADS	SENECIO SPP. (SOME SPP.)	2.4
SWEET PEA (SE		

LANDSCAPE GENERAL SPECIFICATIONS

SECTION 02955 - TREES, SHRUBS AND GROUND COVERS

PART 1: GENERAL

1. GENERAL REQUIREMENTS

- A. DRAWINGS AND GENERAL PROVISIONS OF CONTRACT, INCLUDING GENERAL CONDITIONS AND DIVISION 1 SPECIFICATION SECTIONS APPLY TO THIS SECTION.
B. EXAMINE ALL OTHER SECTIONS OF THE SPECIFICATIONS FOR REQUIREMENTS WHICH AFFECT WORK OF THIS SECTION WHETHER OR NOT SUCH WORK IS SPECIFICALLY MENTIONED IN THIS SECTION.
C. COORDINATE WORK WITH THAT OF ALL OTHER TRADES AFFECTING, OR AFFECTED BY WORK OF THIS SECTION.

1.2 SUMMARY

- A. THIS SECTION INCLUDES THE FOLLOWING:
1. FURNISHING PLANTS, MATERIALS, SUPPLIES, LABOR, EQUIPMENT, AND PERFORMING ALL OPERATIONS IN CONNECTION WITH FURNISHING AND PLACEMENT OF TOPSOIL AND PLANTING MIXTURE, PLANTING OF ALL TREES, SHRUBS AND PERENNIAL GROUND COVERS, PRUNING/MULCHING/WATERING OF PLANTS, MAINTENANCE, GUARANTEE AND FINAL CLEAN-UP.
B. RELATED SECTIONS: THE FOLLOWING SECTIONS CONTAIN REQUIREMENTS THAT RELATE TO THIS SECTION: SECTION 02300 "EARTHWORK"

1.3 SUBMITTALS

- A. SAMPLES: BEFORE ANY BARK MULCH IS DELIVERED TO THE JOB SITE, SUBMIT A SAMPLE TO THE LANDSCAPE ARCHITECT FOR THEIR APPROVAL.
B. MATERIALS LIST:
1. BEFORE ANY PLANTING MATERIALS ARE DELIVERED TO THE JOB SITE, SUBMIT TO THE LANDSCAPE ARCHITECT A COMPLETE LIST OF ALL PLANTS AND OTHER ITEMS PROPOSED TO BE INSTALLED.

1.4 QUALITY ASSURANCE

- A. INSTALLER QUALIFICATIONS: PROVIDE AT LEAST ONE PERSON WHO SHALL BE PRESENT AT ALL TIMES DURING EXECUTION OF THIS PORTION OF THE WORK AND WHO SHALL BE THOROUGHLY FAMILIAR WITH THE TYPE OF MATERIALS BEING INSTALLED AND THE BEST METHODS FOR THEIR INSTALLATION AND WHO SHALL DIRECT ALL WORK PERFORMED UNDER THIS SECTION.
B. MATERIAL STANDARDS:
1. ALL PLANTS AND PLANTING MATERIAL SHALL MEET OR EXCEED THE SPECIFICATIONS OF FEDERAL, STATE, AND COUNTY LAWS REQUIRING INSPECTION FOR PLANT DISEASE AND INSECT CONTROL.

1.5 DELIVERY, STORAGE, HANDLING

- A. DELIVERY AND STORAGE:
1. DELIVER ALL ITEMS TO THE SITE IN THEIR ORIGINAL CONTAINERS WITH ALL LABELS INTACT AND LEGIBLE AT TIME OF LANDSCAPE ARCHITECT INSPECTION.
2. IMMEDIATELY REMOVE FROM THE SITE ALL PLANTS WHICH ARE NOT TRUE TO NAME AND ALL MATERIALS WHICH DO NOT COMPLY WITH THE PROVISIONS OF THIS SECTION OF THESE SPECIFICATIONS.
B. ROOT PROTECTION:
a. HANDLE PLANTS AT ALL TIMES IN ACCORDANCE WITH THE BEST HORTICULTURAL PRACTICES SO THAT THE ROOTS OR BARKS ARE ADEQUATELY PROTECTED FROM THE SUN AND DRYING WINDS.

1.6 SCHEDULES

- A. PLANTING SEASON:
a. PLANTING OPERATIONS FOR DECIDUOUS MATERIALS SHALL TAKE PLACE DURING MARCH 15 TO JUNE 30 FOR SPRING PLANTING AND AUGUST 15TH TO OCTOBER 1 OR UNTIL GROUND FREEZES TO FALL PLANTING.
b. PLANTING OPERATIONS FOR EVERGREEN MATERIAL SHALL BE DURING MARCH 1 THROUGH JUNE 30 FOR SPRING PLANTING AND AUGUST 1 THROUGH SEPTEMBER 15 FOR FALL PLANTING.

PART 2: MATERIALS

2.1 PLANT MATERIALS

- A. GENERAL:
1. PLANT MATERIALS SHALL MEAN TREES AND PLANTS OF ALL DESCRIPTIONS REQUIRED TO BE FURNISHED FOR THE PROJECT, IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
2. ALL PLANTS SHALL BE FIRST-CLASS REPRESENTATIVES OF THEIR NORMAL SPECIES OR VARIETIES.
3. PLANTS FURNISHED IN CONTAINERS SHALL HAVE THE ROOTS WELL ESTABLISHED IN THE SOIL MASS AND SHALL HAVE GROWN IN THE CONTAINER FOR AT LEAST ONE (1) GROWING SEASON.

2.3 MULCH

- A. BARK MULCH: ALL BARK MULCH SHALL BE SHREDED PINE BARK AS LOCALLY OR REGIONALLY MANUFACTURED, OR AN EQUAL APPROVED IN ADVANCE BY THE LANDSCAPE ARCHITECT.

2.4 PLANTING MIXTURE

- A. TOPSOIL: MOST TOPSOIL REQUIRED SHALL BE OBTAINED FROM ON-SITE STOCKPILED MATERIAL. SHOULD ADDITIONAL TOPSOIL BE NEEDED, IT SHALL BE IMPORTED MATERIAL FROM A LOCALLY APPROVED SOURCE.
B. PEAT: PEAT SHALL BE SPAGNUM PEAT, SEDGE PEAT MOSS, FURNISH AIR-DRIED, FINELY SHREDED, ORPH BETWEEN 5.5 AND 6.5, CONTAINING NO MORE THAN THIRTY-FIVE (35%) PERCENT MOISTURE BY WEIGHT.

2.5 MISCELLANEOUS MATERIALS

- A. WOOD STAKES: STAKES FOR TREE SUPPORT SHALL BE 2" X 2" X 80", WOOD STAKES.
B. GALVANIZED ANTISEPTIC SHALL BE AN ENGLISON PERMEABLE ENOUGH TO PERMIT TRANSPIRATION, AND WILL BE USED TO RETARD EXCESS WATER LOSS.
C. HOSE: HOSE FOR COVERING WIRE SHALL BE NEW OR USED TWO PLY RUBBER HOSE NOT LESS THAN 1/2 INCH INSIDE DIAMETER.

PART 3: EXECUTION

3.1 SURFACE CONDITIONS

- A. INSPECTION: PRIOR TO ALL WORK OF THIS SECTION, CAREFULLY INSPECT THE INSTALLED WORK OF ALL OTHER TRADES AND VERIFY THAT ALL SUCH WORK IS COMPLETE TO THE POINT WHERE THIS INSTALLATION MAY PROPERLY COMMENCE.
B. LOCATION:
1. VERIFY THAT PLANTING MAY BE COMPLETED IN ACCORDANCE WITH THE ORIGINAL DESIGN AND THE REFERENCED STANDARDS.

3.2 TREE PROTECTION AND REMOVAL

- A. REMOVAL OF TREES:
1. TREE REMOVAL UNDER THIS CONTRACT SHALL BE ACCOMPLISHED AS REQUIRED TO ACCOMMODATE THE SCOPE OF WORK AS INDICATED ON THE SITE PLANS AS PREPARED BY SHERMAN, GREENGLASS & SHERMAN, INC.
B. PROTECTION OF TREES:
1. GENERAL PROTECTION: THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF TOPS, TRUNKS, AND ROOTS OF EXISTING TREES ON THE SITE THAT ARE TO REMAIN.

3.3 PLANTING TREES, SHRUBS AND GROUND COVERS

- A. GENERAL:
1. PLANT NURSERY STOCK IMMEDIATELY UPON DELIVERY TO THE SITE AND APPROVAL BY THE LANDSCAPE ARCHITECT EXCEPT THAT, IF THIS IS NOT FEASIBLE, HEAL-IN ALL BALLED MATERIAL WITH DAMP SOIL AND PROTECT FROM SUN AND WIND.
2. REGULARLY WATER ALL NURSERY STOCK IN CONTAINERS AND TUBE-PAKS AND PLACE THEM IN A COOL AREA PROTECTED FROM SUN AND DRYING WINDS.
B. EXCAVATION OF PLANT HOLES:
1. TREE PITS SHALL BE SUBSTANTIALLY VERTICAL SIDES AND HORIZONTAL BOTTOMS.

3.4 SEED BED PREPARATION

- A. SUB GRADE PREPARATION: SEED BED PREPARATION SHALL PERTAIN TO THE PREPARATION OF THE SURFACE OF THE GROUND TO RECEIVE THE SEED.
B. PREPARING UNDISTURBED AREAS: AREA TO BE SEEDING, WHICH HAVE NOT BEEN DISTURBED BY SITE GRADING OR TOPSOIL STRIPPING OPERATIONS, SHALL BE MOWED AND RAKED PRIOR TO TILLING AND TOP SOILING OPERATIONS.

3.5 TOPSOIL PLACEMENT

- A. SPREADING: TOPSOIL SHALL BE SPREAD EVENLY ON THE PREPARED AREAS TO A MINIMUM DEPTH OF 6 INCHES AFTER MACHINE COMPACTION.
B. FINISH GRADING: GRADE THE AREAS TO FINISH GRADES FILLING AS NEEDED OR REMOVING SURPLUS DRIFT AND FLOATING AREAS TO A SMOOTH UNIFORM GRADE.
C. WALKS BEYOND PREPARATION: AFTER FINISH GRADING AND JUST BEFORE SEEDING, THE AREAS TO BE SEEDED SHALL BE LOOSENED TO PROVIDE A ROUGH, FIRM BUT FINELY PULVERIZED SEED BED.

- 7. THE CONTRACTOR MAY APPLY MULCH AND LAWN SEED MIX HYDRAULICALLY IN A SINGLE APPLICATION, PROVIDING ONE HALF OF THE SEED HAS BEEN SOWN BY BROADCAST OR DRILL METHODS AS AN INITIAL APPLICATION AND THE RATE OF APPLICATION OF LAWN SEED MIX INCREASED BY 4 POUNDS PER 1000 SQUARE FEET.
8. THE APPLICATION OF THE SEED SLURRY SHALL BE MADE WITH EQUIPMENT HAVING A BUILT-IN AGITATION SYSTEM AND OPERATING CAPACITY SUFFICIENT TO AGITATE, SUSPEND AND HOMOGENEOUSLY MIX A SLURRY CONTAINING WATER, SEED, AND MULCH OF SEED.
F. WATERING: WATERING IMMEDIATELY AFTER SEEDING OR MULCHING WITH A FINE SPRAY TO A DEPTH OF 6 INCHES.
H. MULCHING:
1. MULCH ALL HYDROSEEDED AREAS, DRAINAGE SWALES, SLOPES 4:1 OR STEEPER, AND ANY AREAS WHERE LIKELY HAZARD OF EROSION EXISTS.

3.6 MULCHING

- A. MULCHING:
1. ALL TREES AND SHRUB BEDS WILL BE CULTIVATED FOLLOWING THE GENERAL SHAPE OF THE BEDS AS INDICATED ON THE PLANS.
2. APPLY THE SHREDED BARK MULCH TO A DEPTH OF 4", EVENLY SPREAD OVER THE ENTIRE AREA OF EACH PLANTING PIT.
3. THOROUGHLY SOAK ALL MULCH AREAS.
B. STAKING, GUYING, AND WRAPPING

3.7 STAKING, GUYING, AND WRAPPING

- A. STAKING AND GUYING:
1. TREES, GREATER THAN 1-1/2" IN CALIPER, SHALL BE STAKED IMMEDIATELY AFTER PLANTING.
B. PRUNING:
1. MAIN TREE SHALL BE PRUNED IN ACCORDANCE WITH STANDARD HORTICULTURAL PRACTICE TO PRESERVE NATURAL CHARACTER OF PLANT.
2. PRESERVE A SHAPE AND FORM REPRESENTATIVE OF THE SPECIES.
C. PRUNING:
1. ALL DEAD WOOD, SUCKERS, BADLY BRUISED OR BROKEN BRANCHES SHALL BE REMOVED.

3.9 WATERING

- A. ALL PLANTS SHALL BE WATERED TWICE WITHIN THE FIRST 24 HOURS OF THE TIME OF PLANTING, AND ALL PLANTS DURING THE MAINTENANCE PERIOD SHALL BE WATERED AT LEAST TWICE EACH WEEK.
B. INSPECTION FOR ACCEPTANCE AND CLEAN-UP

3.10 INSPECTION FOR ACCEPTANCE AND CLEAN-UP

- A. INSPECTION:
1. IN ADDITION TO THE NORMAL PROGRESS INSPECTIONS, SCHEDULE AND CONDUCT THE FOLLOWING FORMAL INSPECTIONS, GIVING THE LANDSCAPE ARCHITECT AT LEAST 24 HOURS PRIOR NOTICE OF READINESS FOR INSPECTION.
2. INSPECTION OF PLANTS IN CONTAINERS PRIOR TO PLANTING.
3. INSPECTION OF PLANTS IN CONTAINERS PRIOR TO PLANTING.
4. FINAL INSPECTION AFTER COMPLETION OF PLANTING.
5. FINAL INSPECTION AT THE END OF THE MAINTENANCE PERIOD, PROVIDED THAT ALL PREVIOUS DEFICIENCIES HAVE BEEN CORRECTED.

SECTION 02930 - SEEDING AND SODDING

PART 1: GENERAL

1.1 GENERAL REQUIREMENTS

- A. DRAWINGS AND GENERAL PROVISIONS OF CONTRACT, INCLUDING GENERAL CONDITIONS AND DIVISION 1 SPECIFICATION SECTIONS APPLY TO THIS SECTION.
B. EXAMINE ALL OTHER SECTIONS OF THE SPECIFICATIONS FOR REQUIREMENTS WHICH AFFECT WORK OF THIS SECTION WHETHER OR NOT SUCH WORK IS SPECIFICALLY MENTIONED IN THIS SECTION.
C. COORDINATE WORK WITH THAT OF ALL OTHER TRADES AFFECTING, OR AFFECTED BY WORK OF THIS SECTION.

1.2 SUMMARY

- A. WORK IN THIS SECTION INCLUDES THE FOLLOWING:
1. FURNISHING ALL MATERIALS, SUPPLIES, LABOR, EQUIPMENT AND PERFORMING ALL OPERATIONS IN CONNECTION WITH FINISH GRADING OF TOPSOIL, AND PREPARATION THEREOF FOR SEEDING, LAYING OF SOD, FERTILIZING, LIMING, HYDRO-MULCHING, EROSION CONTROL, MAINTENANCE AND PROTECTION OF ALL PLANTED AND PAVED AREAS AND CLEAN-UP.
B. RELATED SECTIONS (AS MAY BE PROVIDED BY CIVIL ENGINEER): SECTION 02300 "EARTHWORK"

1.3 SUBMITTALS

- A. SAMPLES & CERTIFICATES:
1. CERTIFICATES ATTESTING THAT THE FOLLOWING MATERIAL MEET THE REQUIREMENTS SPECIFIED, SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT FOR THEIR SELECTION AND APPROVAL.
b. FERTILIZER
c. LIME
2. MANUFACTURER'S LITERATURE/PRODUCT DATA MANUFACTURER'S LITERATURE ON THE FOLLOWING MATERIALS SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT.

1.4 QUALITY ASSURANCE

- A. QUALIFICATIONS OF WORKMEN:
1. PROVIDE AT LEAST ONE PERSON WHO SHALL BE PRESENT AT ALL TIMES DURING EXECUTION OF THIS PORTION OF THE WORK AND WHO SHALL BE THOROUGHLY FAMILIAR WITH THE TYPE OF MATERIALS BEING INSTALLED AND THE BEST METHODS FOR THEIR INSTALLATION AND WHO SHALL DIRECT ALL WORK PERFORMED UNDER THIS SECTION.

1.5 DELIVERY, STORAGE, HANDLING

- A. SEED: SEED SHALL BE DELIVERED IN ORIGINAL SEALED PACKAGES BEARING THE PRODUCER'S GUARANTEED ANALYSIS FOR PERCENTAGES OF MIXTURES, PURITY, GERMINATION, WET SEED CONTENT, AND INERT MATERIAL. SEED SHALL BE LABELED IN CONFORMANCE WITH THE U.S. DEPARTMENT OF AGRICULTURAL RULES AND REGULATIONS AND APPLICABLE STATE SEED LAWS.
B. BROADCAST SEEDING: WHEN SEED IS SOWN BY BROADCASTING, EXERCISE GREAT CARE THAT A UNIFORM DISTRIBUTION OF SEED IS OBTAINED.
C. HYDRO SEEDING: WHEN HYDRAULIC SEED IS USED, SEED AND MULCH SHALL BE APPLIED IN SEPARATE AND DISTINCT OPERATIONS EXCEPT FOR THE FOLLOWING SEED PREPARATION.



CIVIL ENGINEER
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18 CHENEY DRIVE,
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LANDSCAPE SPECIFICATIONS

LA105

SHEET NUMBER: 5 OF 8 LANDSCAPE
THE DRAWING AND ITS CONTENT IS THE INTELLECTUAL PROPERTY OF WARRENSTREET ARCHITECTS INC. WITH THE SOLE INTENT TO BUILD THE PROJECT TITLED ABOVE AT ONE LOCATION NOTED HEREIN. THE USE OF THE CONTENT FOR ANY OTHER PURPOSE IS PROHIBITED AND PROTECT YOURS UNDER COPYRIGHT LAW.

LANDSCAPE GENERAL SPECIFICATIONS, CONT.

- B. SOD: UPON DELIVERY OF SOD TO THE WORK SITE, USE ALL MEANS NECESSARY TO PROTECT AND MAINTAIN THE SOD BEFORE, DURING AND AFTER INSTALLATION. DELIVERY OF SOD SHALL BE CAREFULLY COORDINATED SO ITS PLACEMENT CAN PROCEED DIRECTLY AFTER ITS ARRIVAL. SOD SHALL BE INSTALLED ON SITE NO MORE THAN 24 HOURS AFTER CUTTING.
- C. FERTILIZER/LIME: FERTILIZER AND LIME SHALL BE DELIVERED TO THE SITE IN THE ORIGINAL, UNOPENED CONTAINERS BEARING THE MANUFACTURER'S GUARANTEED CHEMICAL ANALYSIS, NAME, TRADE NAME, TRADEMARK, AND CONFORMANCE WITH STATE AND FEDERAL LAWS. IN LIEU OF CONTAINERS, BOTH MATERIALS MAY BE FURNISHED IN BULK AND A CERTIFICATE INDICATING THE ABOVE INFORMATION SHALL ACCOMPANY EACH DELIVERY.
- D. STORAGE: SEED, HYDROMULCH, HYDRAMULCH BINDER, FERTILIZER AND LIME SHALL BE KEPT IN DRY STORAGE AWAY FROM CONTAMINANTS. THEY SHALL BE UNIFORM IN COMPOSITION, DRY, UNFROZEN AND FREE FLOWING. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY MATERIAL WHICH HAS BECOME CAKED FOR OTHERWISE DAMAGED OR DOES NOT MEET SPECIFIED REQUIREMENTS.
- E. REPLACEMENTS: IN THE EVENT OF REJECTION OF THE SEED, IMMEDIATELY MAKE ALL REPLACEMENTS NECESSARY TO THE APPROVAL OF THE LANDSCAPE ARCHITECT AND AT NO ADDITIONAL COST TO THE OWNER.
- F. SCHEDULES:
- SEASONAL LIMITATIONS CONDUCT SEEDING OPERATIONS DURING THE SPECIFIED TIME PERIODS. IF SPECIAL CONDITIONS EXIST THAT MAY WARRANT A VARIANCE IN THE SPECIFIED PLANT DATES OR CONDITIONS, A WRITTEN REQUEST SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT STATING THE SPECIAL CONDITIONS AND PROPOSED VARIANCE.
- G. NOTICE TO PROCEED:
- THE CONTRACTOR SHALL NOT PROCEED WITH SEEDING AND SOD PLACEMENT OPERATIONS UNTIL THE IRRIGATION SYSTEM HAS BEEN TESTED AND APPROVED.

PART 2: MATERIALS

- 2.1 TOPSOIL**
- A. TOPSOIL REQUIRED SHALL BE OBTAINED FROM ON-SITE STOCKPILED MATERIAL WHICH WILL BE PLACED BY THE SITE CONTRACTOR. SHOULD ADDITIONAL TOPSOIL BE NEEDED TO BRING LANDSCAPE AREAS UP TO GRADE, THEN IT SHALL BE FURNISHED AND PLACED BY THE SITE CONTRACTOR, WITH IMPORTED MATERIAL FROM A LOCALLY APPROVED SOURCE.
- B. TOPSOIL SHALL BE A FINE SANDY LOAM OR A 'SANDY LOAM' AS DETERMINED BY MECHANICAL ANALYSIS AND BASED ON THE 'USDA' CLASSIFICATION SYSTEM. IT SHALL BE OF UNIFORM COMPOSITION, WITHOUT ADMIXTURE OF SUBSOIL, LOOSE, FRIABLE, AND SHALL CONTAIN ORDINARY AMOUNT OF HUMUS. IT SHALL CONTAIN NO LUMPS OF SOIL, ROCKS LARGER THAN 1 INCH, OR STOKES, OR ROOTS, AND OTHER DEBRIS. IT SHALL BE SUFFICIENTLY FERTILE TO SUSTAIN NORMAL HEALTHY LAWN GROWTH AND SHALL NOT HAVE A PH VALUE HIGHER THAN 7.0 OR LOWER THAN 6.5 THE TOPSOIL SHALL BE DELIVERED IN AN UNFROZEN AND NON-MUDDY CONDITION AND MUST MEET THE APPROVAL OF THE LANDSCAPE ARCHITECT.
- C. THE LOAM PLACED IN LANDSCAPE AREAS ON THE SITE MUST BE TESTED AND AMENDED AS RECOMMENDED BY SOIL TESTING FOR LAWN AND PLANTING. THE COST OF ANY AMENDMENT TO THE LOAM AND TOPSOIL SHALL BE THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY. THE SITE CONTRACTOR SHALL FURNISH ADDITIONAL TOPSOIL AS REQUIRED.

2.2 SEED

- A. GENERAL:
- CONTRACTOR SHALL SUBMIT CERTIFICATION TAGS FOR APPROVAL. ALL GRASS SEED SHALL BE:
 - FREE FROM NOXIOUS WEED SEEDS AND RECLEANED GRADE A RECENT CROP SEED
 - TREATED WITH APPROPRIATE FUNGICIDE
 - DELIVERED TO THE SITE IN SEALED CONTAINERS WITH DEALER GUARANTEED ANALYSIS.
- B. FINE LAWN SEED MIXTURE:
- ALL SEEDED, FINE LAWN AREAS AND INTENDED FOR THE PLAYFIELD AREAS AS DESIGNATED ON THE PLANS, SHALL BE SEEDED WITH THE MIXTURE HEREIN SPECIFIED:
- | NAME OF GRASS | PROPORTION BY WEIGHT |
|----------------------------|----------------------|
| CLASSIC KENTUCKY BLUEGRASS | 20% |
| KENTUCKY BLUEGRASS | 20% |
| PERENNIAL RYEGRASS | 20% |
| SR4200 PERENNIAL RYEGRASS | 15% |
| SHADOW E CHEWINGS FESCUE | 10% |
| SHADEMASTER RED FESCUE | 10% |
| SR5000 CHEWINGS FESCUE | 5% |
- C. NATIVE SEED MIXTURE:
- FOR ALL TURF AREAS NOT DESIGNATED ON THE PLANS FOR USE AS FINE LAWN ON THE PLAYFIELD AREAS, SHALL BE SEEDED WITH THE MIXTURE HEREIN SPECIFIED:
- | NAME OF GRASS | PROPORTION BY WEIGHT |
|---------------------|----------------------|
| TALL FESCUE | 53% |
| CREeping RED FESCUE | 41% |
| REDTOP | 6% |
- ALL SEED USED SHALL MEET THE FOLLOWING MINIMUM STANDARDS:
- | | |
|-------------|-----|
| PURITY | 95% |
| GERMINATION | 85% |

2.3 SOD

- A. ALL SOD SHALL BE WELL ESTABLISHED MOWN LAWN GRASS. IT SHALL BE VIGOROUS, WELL ROOTED, HEALTHY TURF FREE FROM DISEASE, INSECT PESTS, WEEDS AND OTHER GRASSES, STONES AND/OR DEBRIS MATERIALS.
- B. IT SHALL HAVE BEEN GROWN FROM A SEED MIXTURE IDENTICAL TO THAT SPECIFIED FOR THE FINE LAWN SEED MIXTURE SPECIFIED ABOVE. THIS SOD IS AVAILABLE FOR GOLD STAR SOD FARMS, CANTERBURY, NH. NOT MORE THAN 5% WEED AND UNDESIRABLE GRASSES SHALL BE ALLOWED.
- C. SOD SHALL BE A MINERAL BACKED SOD GROWN IN THE NEW ENGLAND REGION. IT SHALL BE CUT IN UNIFORMLY WIDE STRIPS, 3/4" IN THICKNESS WITH CLEAN, CUT EDGES. SOD SHALL BE ROLLED OR FOLDED PRIOR TO LIFTING AND HANDLING TO PREVENT TEARING, BREAKING, DRYING AND ANY OTHER DAMAGE.

2.4 SOIL AMENDMENTS

- A. FERTILIZER:
- FERTILIZER TO BE SPREAD ON AREAS TO BE SEEDED SHALL BE COMMERCIALY PREPARED AND SHALL CONTAIN THE FOLLOWING PERCENTAGES BY WEIGHT:
 - LAWN SEED AND SOD AREAS:
 - 16% NITROGEN
 - 16% PHOSPHORIC ACID
 - 16% POTASH
 - 5% ZINC
 - USE FERTILIZER PERCENTAGE FOR ESTIMATING PURPOSES ONLY. AFTER ON-SITE, STOCKPILED TOPSOIL HAS BEEN PLACED, THE CONTRACTOR SHALL SUBMIT A LABORATORY CHEMICAL ANALYSIS TO THE LANDSCAPE ARCHITECT FOR REVIEW AND DETERMINATION OF A FERTILIZER ANALYSIS AND APPLICATION RATE. THIS CHEMICAL ANALYSIS SHALL BE OBTAINED FROM A MINIMUM OF FOUR (4) RANDOM SOIL SAMPLES SELECTED AND TAKEN IN THE FIELD PER LANDSCAPE ARCHITECT'S/OWNER'S REPRESENTATIVE APPROVAL.
 - THE TOPSOIL ANALYSIS SHALL INCLUDE THE FOLLOWING CHEMICAL PARAMETERS:

PH	>
NITRATE	NPPM
ORGANIC MATTER	%
PHOSPHOROUS (OLSON)	PPM
POTASSIUM	PPM
SODIUM	MEQ/100G
SULFATE	PPM
CONDUCTIVITY	MMHGS/CM
 - COMMERCIAL FERTILIZER SHALL BE COMPLETE, UNIFORM IN COMPOSITION, DRY AND FREE FLOWING. THE FERTILIZER SHALL BE DELIVERED TO THE SITE IN THE ORIGINAL WATERPROOF CONTAINERS, EACH BEARING THE MANUFACTURER'S STATEMENT OF ANALYSIS.
- D. SUPERPHOSPHATE:
- INCORPORATE SUPERPHOSPHATE INTO THE TOPSOIL WITH THE FIRST APPLICATION OF COMMERCIAL FERTILIZER AT THE RATE OF TWENTY POUNDS PER THOUSAND SQUARE FEET OR AT THE RATE DETERMINED FROM THE TEST RESULTS.
- E. GROUND LIMESTONE:
- INCORPORATE GROUND LIMESTONE INTO THE TOPSOIL AFTER IT HAS BEEN SPREAD AT THE RATE OF FIFTY POUNDS PER THOUSAND SQUARE FEET OR AT THE RATE DETERMINED FROM THE TEST RESULTS TO ACHIEVE A PH OF 6.0 TO 6.5.
- F. MULCH:
- WHERE A SPECIFIC TYPE OF MULCH IS REQUIRED, THE TYPE WILL BE DESCRIBED IN THE EXECUTION SECTION. WHERE MULCHING REQUIREMENTS CAN BE MET EQUALLY WELL BY ONE OF SEVERAL TYPES, THE CONTRACTOR SHALL HAVE THE OPTION OF SELECTING ONE OF THE ACCEPTABLE TYPES.
 - ORGANIC MULCH: JACKLIN ORGANIC MULCH AS MANUFACTURED BY THE VAUGHAN/JACKLIN CORPORATION, EAST 8803 SPRAGUE, SPOKANE, WASHINGTON 99213 > (TELEPHONE (509) 926-8241), OR APPROVED EQUAL.
 - VEGETATIVE MULCH: VEGETATIVE MULCH MATERIAL SHALL BE COMPOSED OF WHEAT STRAW, RYE STRAW OR BARLEY STRAW, IN THAT ORDER OF PREFERENCE AND SHALL BE FREE OF NOXIOUS WEED SEEDS, STONES, DIRT, ROOTS, STUMPS, OR OTHER FOREIGN MATERIAL.
 - CELLULOSE FIBER MULCH: WOOD CELLULOSE FIBER MULCH SHALL CONSIST OF VIRGIN WOOD FIBERS MANUFACTURED FROM WHOLE WOOD CHIPS AND SHALL BE PROCESSED IN SUCH A MANNER THAT IT WILL NOT CONTAIN ANY GROWTH OR GERMINATION INHIBITING FACTORS. THE MULCH SHALL BE DYED AN APPROPRIATED COLOR TO FACILITATE VISUAL METERING DURING APPLICATION. UPON APPLICATION, THE MATERIAL SHALL PRODUCE A MAT ABSORPTION AND PERCOLATION AND SHALL COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL. THE WOOD CELLULOSE FIBERS MUST MAINTAIN UNIFORM SUSPENSION IN WATER UNDER AGITATION.
 - MULCH TACKIFIERS:
 - TACKIFIERS MIXED WITH OR APPLIED OVER STRAW SHALL BE TERRA-TACK AR, OR APPROVED EQUAL OF NON-ASPHALTIC FORMULATION. TACKIFIERS USED TO ANCHOR VEGETATIVE OR CELLULOSE FIBER MULCH SHALL BE TERRA-TACK III, OR APPROVED EQUAL OF NON-ASPHALTIC FORMULATION.
 - WATER:
 - WATER SHALL BE AVAILABLE FROM MUNICIPAL SYSTEM THROUGH CONTRACTOR.
- G. EROSION CONTROL BLANKET:
- EROSION CONTROL FABRIC MAY BE REQUIRED AS AN ADDITIONAL MEASURE TO PREVENT EROSION ON SLOPES GREATER THAN 2:1 AND IN DRAINAGE SWALES. IF THIS MATERIAL IS NECESSARY AND AUTHORIZED WHILE WORK IS IN PROGRESS, THEN THE MATERIAL SHALL BE CURLEX EROSION CONTROL BLANKET CONSISTING OF A DENSE MAT OF CURLED AND SEASONED ASPEN WOOD EXCELSIOR BOUND WITH A TOUGH, PHOTO-DEGRADABLE, EXTRUDED PLASTIC MESH AS MANUFACTURED BY AMERICAN EXCELSIOR CO., ARLINGTON, TEXAS OR APPROVED EQUAL.

PART 3: EXECUTION

3.1 SURFACE CONDITIONS

- A. INSPECTION:
- PRIOR TO ALL WORK OF THIS SECTION, CAREFULLY INSPECT THE INSTALLED WORK OF ALL OTHER TRADES AND VERIFY THAT ALL SUCH WORK IS COMPLETE TO THE POINT WHERE THIS INSTALLATION MAY PROPERLY COMMENCE. VERIFY THAT SEEDING MAY BE COMPLETED IN ACCORDANCE WITH THE ORIGINAL DESIGN AND THE REFERENCED STANDARDS.
- B. DISCREPANCIES:
- IN THE EVENT OF DISCREPANCY, IMMEDIATELY NOTIFY THE LANDSCAPE ARCHITECT.
 - DO NOT PROCEED WITH INSTALLATION IN AREAS OF DISCREPANCY UNTIL ALL SUCH DISCREPANCIES HAVE BEEN FULLY RESOLVED.

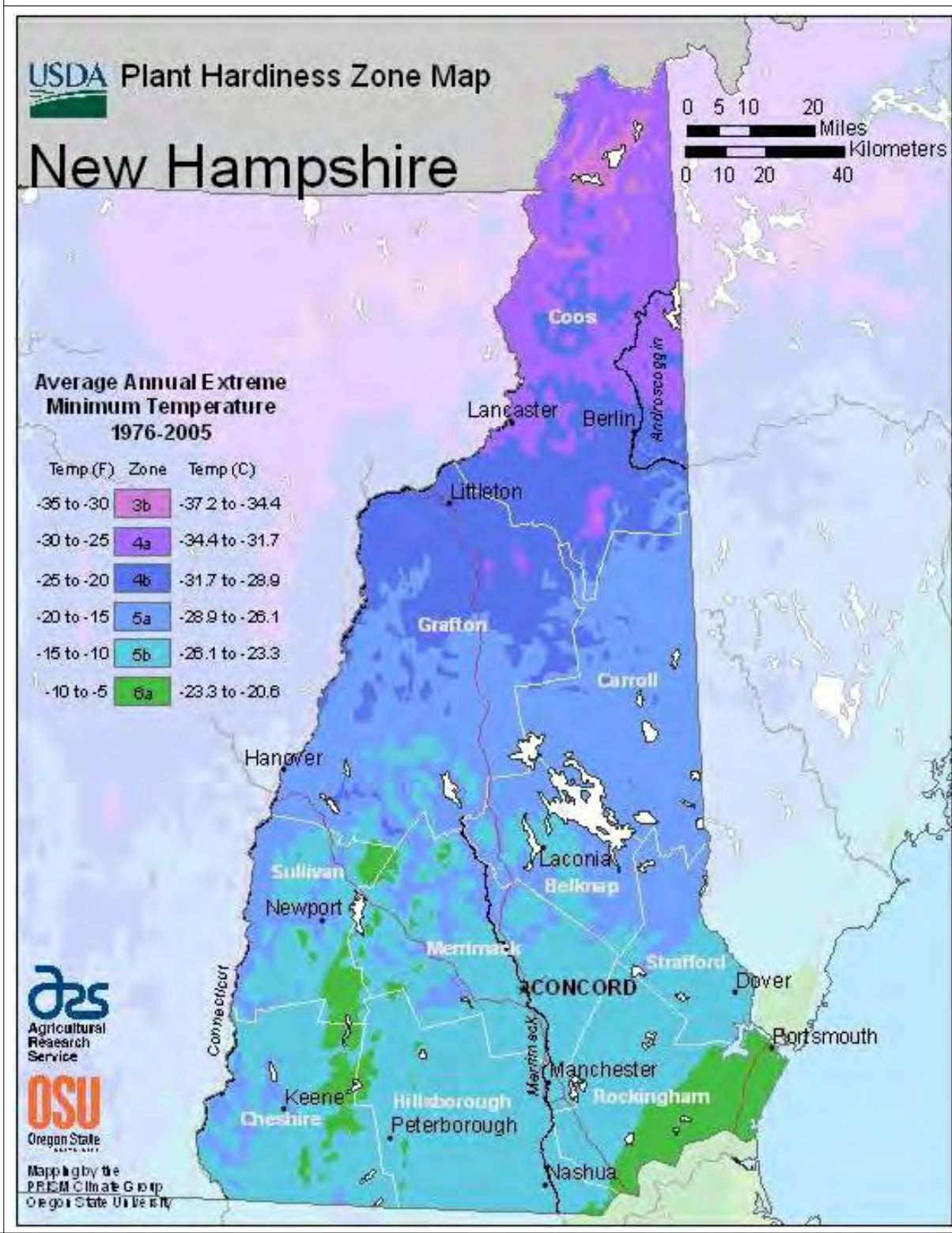
3.2 SEED BED PREPARATION

- A. SUBGRADE PREPARATION:
- SEED BED PREPARATION SHALL PERTAIN TO THE PREPARATION OF THE SURFACE OF THE GROUND TO RECEIVE THE SEED. THE GROUND SHALL BE HAND OR MACHINE RAKED SO AS TO REMOVE ALL DEBRIS, CLODS, STONES, OR OTHER FOREIGN MATTER LARGER THAN 1 INCH, TO A DEPTH OF 4 INCHES. PRIOR TO DUMPING AND SPREADING OF TOPSOIL, THE SURFACE SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 2 INCHES TO FACILITATE BONDING OF TOPSOIL TO SUBGRADE SOIL. WHERE SUBGRADES HAVE BEEN COMPACTED ARTIFICIALLY SCARIFY TO A DEPTH OF 6 INCHES. PRIOR TO SPREADING TOPSOIL, ALL SUBGRADES SHALL BE GRADED EVENLY ACCORDING TO THE CONTRACT DOCUMENTS.
 - SUCH DEBRIS, CLODS, ROCKS, AND OTHER MATERIAL SO REMOVED SHALL BE DISPOSED OF AS APPROVED BY THE LANDSCAPE ARCHITECT/OWNER'S REPRESENTATIVE. SEED BED PREPARATION SHALL NOT COMPROMISE UNTIL THE MOISTURE CONDITIONS MAKE THE GROUND AREA AND SOIL FRIABLE.
- B. PREPARING UNDISTURBED AREAS:
- AREAS TO BE SEEDED, WHICH HAVE NOT BEEN DISTURBED BY SITE GRADING OR TOPSOIL STRIPPING OPERATIONS, SHALL BE MOWED AND RAKED PRIOR TO TILLING AND TOPSOILING OPERATIONS. TILLAGE OF THE EXISTING VEGETATION INTO THE GROUND WILL NOT BE ACCEPTED.

3.3 TOPSOIL PLACEMENT

- A. SPREADING:
- TOPSOIL SHALL BE SPREAD EVENLY ON THE PREPARED AREAS TO A MINIMUM DEPTH OF 6 INCHES AFTER MACHINE COMPACTION. SPREADING SHALL NOT BE DONE WHEN THE GROUND OR TOPSOIL IS FROZEN OR EXCESSIVELY WET. AFTER SPREADING, ANY LARGE, STIFF CLODS OR HARD LUMPS SHALL BE BROKEN UP AND THE GROUND SHALL BE HAND OR MACHINE RAKED TO REMOVE ALL DEBRIS, STONES, AND FOREIGN MATTER LARGER THAN 1 INCH TO A DEPTH OF 4 INCHES.
- B. FINISH GRADING:
- GRADE THE AREAS TO FINISH GRADES FILLING AS SHOWN OR REMOVING SURPLUS DIRT AND FLOATING AREAS TO A SMOOTH UNIFORM GRADE. ALL LAWN AREAS SHALL SLOPE TO DRAIN. WHERE NO GRADES ARE SHOWN, AREAS SHALL HAVE A SMOOTH AND CONTINUAL GRADE BETWEEN EXISTING OR FIXED CONTROLS (SUCH AS WALKS, CURBS, OR WALLS), RAKE AND LEVEL AS NECESSARY TO OBTAIN TRUE EVEN LAWN SURFACES. ALL FINISH GRADES SHALL MEET THE APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE SEED IS SOWN OR SOD IS PLACED.
- C. SEED BED PREPARATION:
- AFTER FINISH GRADING AND JUST BEFORE SEEDING, THE AREAS TO BE SEEDED SHALL BE LOOSENEED TO PROVIDE A ROUGH, FIRM BUT FINELY PULVERIZED SEED BED. THE INTENT IS TO TEXTURE THE REMAINING WATER, SEED, AND FERTILIZER WHILE REMAINING STABLE AND ALLOWING SEED TIME TO GERMINATE. SEED SHALL BE APPLIED TO THE CONDITIONED SEED BED NOT MORE THAN 48 HOURS AFTER THE SEED BED HAS BEEN PREPARED.
 - IF THERE HAS BEEN A TIME LAPSE BETWEEN THE PLACEMENT OF TOPSOIL AND SEEDING OPERATIONS TO ALLOW IT TO BECOME SETTLED AND COMPACTED ON THE SURFACE, THE AREA TO BE PLANTED WITH SEED SHALL BE THOROUGHLY HARROWED, WORKED TO A DEPTH OF 4 INCHES SO AS TO PROVIDE A SURFACE OF SUCH CONDITION THAT IT WILL ALLOW HAND RAKING AND APPLICATION OF THE SEED IN COMPLIANCE WITH THESE SPECIFICATIONS.
- D. HYDRIC/SOIL AMENDMENTS:
- APPLICATION OF FERTILIZER WILL BE IN 2 STAGES. TWO WEEKS PRIOR TO APPLICATION OF SEED, FERTILIZER SHALL BE APPLIED AT THE RATE OF 3 LBS/1000 S.F. FOR TURF AREAS. FERTILIZER SHALL BE APPLIED BY BROADCASTING OR DRILL METHODS. IT SHALL BE APPLIED SEPARATELY FROM THE SEED AND MIXED INTO THE SOIL TO A MINIMUM DEPTH OF 2 INCHES AND MAY BE INCORPORATED AS PART OF THE TOPSOIL PLACEMENT AND SEED BED PREPARATION OPERATIONS. SPRINKLE IMMEDIATELY AFTER INITIAL APPLICATION OF THE FERTILIZER WITH A FINE SPRAY UNTIL GROUND IS THOROUGHLY SATURATED, WITH PARTICULAR CARE TO AVOID RUNOFF ON SLOPING AREAS.
 - THE 2ND APPLICATION WILL FOLLOW THE FOLLOWING SEASON WITHIN THE SPECIFIED WARRANTY PERIOD AT A RATE DETERMINED BY SOIL TEST RESULTS FOR BOTH TURF AND NATIVE GRASS/WILDFLOWER AREAS.
 - APPLICATION OF SUPERPHOSPHATE AND GROUND LIMESTONE SHALL BE APPLIED AT RATES DETERMINED BY SOILS TEST RESULTS.
- E. SEEDING:
- IMMEDIATELY PRIOR TO THE APPLICATION OF THE SEED, THE SOIL SHALL BE LOOSE TO A DEPTH OF AT LEAST 1 INCH AND FREE FROM ALL MATERIAL AS SPECIFIED. IF SOIL IS TOO LOOSE OR DRY FOR GOOD HANDLING, IT SHOULD BE MOISTENED AND ROLLED LIGHTLY.
 - SEEDING SHALL BE DONE WITHIN THE SPECIFIED TIME PERIODS AND AT THE FOLLOWING RATES:
 - FINE LAWN SEED SHALL BE SOWN AT A RATE OF 3.0 POUNDS PER 1000 SQUARE FEET AND SHALL BE PLANTED IN THE SPRING FROM APRIL 1ST TO MAY 30TH OR IN THE FALL FROM AUGUST 16TH TO OCTOBER 1ST.
 - NATIVE SEED MIX SHALL BE SOWN AT A RATE OF 5.0 POUNDS PER 1000 SQUARE FEET AND SHALL BE PLANTED IN THE SPRING FROM APRIL 1ST TO MAY 30TH OR IN THE FALL FROM AUGUST 16TH TO OCTOBER 1ST.
- F. METHODS:
- SEEDING BY DRILL IS PREFERABLE, HOWEVER, HYDRAULIC SEEDING OR BROADCASTING WILL BE PERMITTED. BROADCAST SEEDING AND HYDRAULIC SEEDING SHALL NOT BE USED DURING ADVERSE WEATHER.
 - AREAS SOWN BY HYDRAULIC OR BROADCAST METHODS WILL BE VISUALLY INSPECTED FOR UNIFORMITY OF APPLICATION. AREAS WHICH FAIL TO REVEAL AN AVERAGE OF TWO SEEDS PER SQUARE INCH WILL BE RESOWN AT NO ADDITIONAL EXPENSE TO THE OWNER.
 - THE APPLIED SEED, REGARDLESS OF APPLICATION, SHALL NOT BE COVERED BY A SOIL THICKNESS NO GREATER THAN 1/2 INCH.
 - SEEDING BY DRILL:
 - SEEDING EQUIPMENT USED FOR APPLYING GRASS SEED MUST BE DESIGNED, MODIFIED, OR EQUIPPED TO REGULATE THE APPLICATION RATE AND PLANTING DEPTH OF GRASS SEED. SEED MUST BE UNIFORMLY DISTRIBUTED IN THE DRILL HOPPER DURING THE DRILLING OPERATION. ALL GRASS ESTABLISHMENT EQUIPMENT SHALL BE OPERATED PERPENDICULAR TO THE SLOPE DRAINAGE. A DRILL SHALL BE NO WIDER THAN THE WIDTH OF THE AREA WHICH IT IS TO OPERATE. THE ROWS OF PLANTED SEEDS SHALL BE A MAXIMUM OF 6 INCHES APART AND SHALL BE AT RIGHT ANGLES TO THE FINISHED SLOPES.
 - BROADCAST SEEDING:
 - WHEN SEED IS SOWN BY BROADCASTING, EXERCISE GREAT CARE THAT A UNIFORM DISTRIBUTION OF SEED IS OBTAINED. SEEDING SHALL BE DONE ON A STILL DAY USING A HOPPER TYPE SEEDER WITH ONE HALF OF THE SEED FOR EACH AREA BEING SOWN AT RIGHT ANGLES TO THE OTHER HALF. SEED DISTRIBUTION BY BROADCASTING SHALL BE COVERED WITH 1/4 TO 1/2 INCH OF SOIL. THE SEED MAY BE COVERED BY RAKING, DRAGGING, OR BY APPROPRIATE MECHANICAL MEANS.
 - HYDRAULIC SEEDING:
 - WHEN HYDRAULIC SEED IS USED, SEED AND MULCH SHALL BE APPLIED IN SEPARATE AND DISTINCT OPERATIONS EXCEPT FOR THE FOLLOWING:
 - THE CONTRACTOR MUST PROVIDE ONE POUND OF MULCH PER EACH THREE GALLONS OF WATER IN THE HYDROSEEDER AS A CUSHION AGAINST SEED DAMAGE. THE MULCH USED AS A CUSHION MAY BE PART OF THE TOTAL REQUIRED MULCH WITH THE REMAINDER APPLIED AFTER THE SEED IS METERING DURING APPLICATION.
 - THE CONTRACTOR MAY APPLY MULCH AND LAWN SEED MIX HYDRAULICALLY IN A SINGLE APPLICATION, PROVIDING ONE HALF OF THE SEED HAS BEEN SOWNED BY BROADCAST OR DRILL METHODS AS AN INITIAL APPLICATION AND THE RATE OF APPLICATION OF LAWN SEED MIX INCREASED BY 4 POUNDS PER 1000 SQUARE FEET.
 - THE APPLICATION OF THE SEED SLURRY SHALL BE MADE WITH EQUIPMENT HAVING A BUILT-IN AGITATION SYSTEM AND OPERATING CAPACITY SUFFICIENT TO AGITATE, SUSPEND AND HOMOGENEOUSLY MIX A SLURRY CONTAINING WATER, SEED, AND MULCH OF SEED. THE SLURRY SHALL BE SPRAYED OVER THE SOIL IN A UNIFORM COAT. ALL HYDRAULICALLY SEED AREAS SHALL BE HYDROMULCHED UPON COMPLETION.
- G. WATERING:
- WATERING IMMEDIATELY AFTER SEEDING OR MULCHING WITH A FINE SPRAY TO A DEPTH OF 6 INCHES. AVOID RUNOFF ON SLOPING AREAS.
 - THE SURFACE LAYER OF THE SOIL MUST BE KEPT DAMP BY FREQUENT LIGHT WATERING DURING THE GERMINATION PERIOD AND UNTIL PLANTS ARE FIRMLY ROOTED.
- H. PROTECTION:
- PROTECT ALL SEEDED AREAS BY ERECTING TEMPORARY FENCES, BARRIERS, SIGNS, ETC. AS NECESSARY TO PREVENT TRAMPLING. THEY SHALL REMAIN IN PLACE FOR AT LEAST SIX WEEKS UNLESS OTHER ARRANGEMENTS ARE MADE WITH THE LANDSCAPE ARCHITECT.
- I. MULCHING:
- GENERAL:
 - MULCH ALL HYDROSEEDED AREAS, DRAINAGE SWALES, SLOPES 4:1 OR STEEPER, AND ANY AREAS WHERE LIKELY HAZARD OF EROSION EXISTS. TOPSOIL OR SEED WHICH WASHES OUT FOR REASONS ATTRIBUTABLE TO THE CONTRACTOR'S ACTIVITIES OR FAILURE TO TAKE PROPER PRECAUTIONS, SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
 - ALL STRUCTURES SHALL BE PROTECTED FROM HYDRAULIC APPLICATION OF MULCH MATERIAL AND MATERIAL DEPOSITED ON FACILITIES SHALL BE REMOVED.
 - MULCH SHALL NOT BE APPLIED IN THE PRESENCE OF FREE SURFACE WATER, BUT MAY BE APPLIED ON DAMP GROUND.
 - APPLICATION OF ORGANIC MULCH:
 - WET APPLICATION: ORGANIC MULCH SHALL BE MIXED WITH WATER AT A RATE OF ONE POUND MULCH (DRY WEIGHT) TO ONE GALLON OF WATER HYDRAULICALLY APPLIED AS PER MANUFACTURER'S RECOMMENDATIONS AT A MINIMUM RATE OF 2000 POUNDS PER ACRE.
 - DRY APPLICATION: ORGANIC MULCH SHALL BE BROADCAST AT A MINIMUM RATE OF 2000 POUNDS PER ACRE, AND SHALL BE ROLLED LIGHTLY TO SET FIRMLY INTO THE SOIL.
 - APPLICATION OF WOOD CELLULOSE FIBER MULCH:
 - WOOD CELLULOSE FIBER MULCH SHALL BE APPLIED HYDRAULICALLY. IT SHALL BE MIXED WITH WATER AT THE RATE SPECIFIED BY THE MANUFACTURER AND SHALL BE MIXED IN STANDARD HYDRAULIC MULCHING EQUIPMENT TO FORM A HOMOGENEOUS SLURRY. THE SLURRY SHALL BE SPRAYED UNIFORMLY OVER THE SURFACE AT A MINIMUM RATE OF 1800 POUNDS PER ACRE.
 - APPLICATION OF VEGETABLE MULCH:
 - MULCH SHALL BE APPLIED IN A UNIFORM MANNER WITH A MULCH SPREADER AT A MINIMUM RATE OF 1:12 TONS PER ACRE WHERE REQUIRED MULCH SHALL BE ANCHORED INTO THE SEED BED BY TUCKING OR APPLICATION OF A TACKIFYING AGENT.
 - ANCHORING MULCH:
 - GENERAL: ANCHOR MULCH IN ALL AREAS SEEDED WHICH ARE IN THE CONTRACTOR'S OPINION HIGHLY SUSCEPTIBLE TO EROSION.
 - APPLICATION: MULCH TACKIFIERS SHALL BE MIXED WITH WATER AT A RATE SPECIFIED BY THE MANUFACTURER AND SHALL BE APPLIED AT A MINIMUM RATE OF 40 POUNDS PER ACRE.
 - CURLEX EROSION CONTROL BLANKETS:
 - GENERAL: FURNISH AND INSTALL 'CURLEX' BLANKETS TO SLOPES WHICH ARE IN THE CONTRACTOR'S OPINION HIGHLY SUSCEPTIBLE TO EROSION AND ITS OCCURRENCE CANNOT BE PREVENTED BY ANY OTHER MEANS.
 - APPLICATION: BLANKETS WILL BE APPLIED VERTICALLY TO THE SLOPE AND ATTACHED TO THE SLOPE WITH U-SHAPED METAL STAPLES, WITH LEGS 6" IN LENGTH AND 1" CROWN. SIZE, GAUGE AND NUMBER OF STAPLES WILL VARY WITH GROUNDE CONDITIONS, SLOPE, ETC.

USDA PLANT HARDINESS ZONE MAP



NH INVASIVE SPECIES WATCH LIST

NEW HAMPSHIRE INVASIVE SPECIES COMMITTEE - APPROVED BY THE ISC APRIL 11, 2018

THE NH INVASIVE PLANT SPECIES WATCH LIST IS A NON-REGULATORY REFERENCE TOOL THAT SERVES TO:
 1. IDENTIFY POTENTIALLY INVASIVE NON-NATIVE PLANT SPECIES BASED ON DEGREE OF INVASIVE QUALITIES (E.G., AGGRESSIVE GROWTH, RAPID REPRODUCTION, AND/OR LACK OF NATURAL HERBIVORES) AND PRESENCE (BUT NOT NECESSARILY ABUNDANCE) IN NH AND/OR NEARBY ELSEWHERE IN NEW ENGLAND
 2. INFORM PREVENTION (E.G., EARLY DETECTION/RAPID RESPONSE), MONITORING, AND MANAGEMENT DECISIONMAKING FOR SPECIES THAT MAY IMPACT NH'S ECOSYSTEMS OR ECONOMY
 3. INCREASE AWARENESS OF INVASIVE PLANT SPECIES.

SCIENTIFIC NAME	SYNONYMS	COMMON NAME
ABUTILON THEOPHRASTI MEDIK.		VELVETLEAF INDIANMALLOW
ACER GINNALA MAXIM.		AMUR MAPLE
AGROSTEMMA GITHAGO L. VAR. GITHAGO	LYCHNIS GITHAGO (L.) SCOP.	COMMON CORNCOCKLE
AIRA CARYOPHYLLEA L.	ASPRIS CARYOPHYLLEA (L.) WASH	COMMON SILVER-HAIRGRASS
ALIUUM VINEALE L.		CROW GARLIC
AMORPHA FRUTICOSA L.	AMORPHA FRUTICOSA L. VAR. ANGSTUFOLIA PURSH; A. FRUTICOSA L. VAR. OBLONGIFOLIA PALMER; A. FRUTICOSA L. VAR. TENNESSEENSIS (SHUTTLEW. EX KUNZE) PALMER	FALSE INDIGO-BUSH
ARALIA ELATA (MIQ.) SEEM.	DIORPHANTHUS ELATUS MIQ.	JAPANESE ANGELICA/TREE
BARBARA VULGARIS AIT. F.	BARBARA ARCUTA (OPIZ EX J. & K. PRESL) REICHENB.; B. STRICTA; OF AUTHORS NOT ANDRZ.; B. VULGARIS VAR. ARCUTA (OPIZ EX J. & K. PRESL) FRIES; CAMPE BARBARA (L.) W. WIGHT EX PIPER; C. STRICTA; OF AUTHORS NOT (ANDRZ.); W. WIGHT EX PIPER; ERYSIMUM BARBARA L.	GARDEN YELLOW-ROCKET
BRASSICA JUNCEA (L.) CZERN.	BRASSICA JUNCEA (L.) CZERN. VAR. CRISPIFOLIA BAILEY; SINAPIS JUNCEA L.	CHINESE MUSTARD
BRASSICA NIGRA (L.) W.D.J. KOCH	SINAPIS NIGRA L.	BLACK MUSTARD
BROMUS TECTORUM L.	ANISANTHA TECTORUM (L.) NEVSKI	CHEAT GRASS
CARDAMINE IMPATIENS L.		NARROW-LEAVED BITTER-CRESS
CENTAUREA JACEA L.	CENTAUREA DEBEAUXII GREY & GODR. SSP. THUILLIERI DOSTÁL; C. JACEA L. SSP. DECIPENS (THUILL.) ČELÁK; C. JACEA L. SSP. PRATENSIS ČELÁK; C. PRATENSIS THUILL.; C. THUILLIERI (DOSTÁL) J. DUVIGNÉ & LAMBINON; CYANUS JACEA (L.) P. GAERTN.; JACEA PRATENSIS LAM.	BROWN KNAPWEED
CENTAUREA NIGRA L.	JACEA NIGRA (L.) HILL	BLACK KNAPWEED
CHELIDONIUM MAJUS L.	CHELIDONIUM MAJUS L. VAR. LACINIATUM (P. MILL.) SYME; C. MAJUS L. VAR. PLENUM WEHRHAIN	GREATER CELANDINE
CIRSIIUM PALUSTRE (L.) SCOP.	CARDIUM PALUSTRIS L.	MARSH THISTLE
CIRSIIUM VULGARE (SAVI) TEN.	CARDIUM LANCEOLATUM L.; C. VULGARIS SAVI; CIRSIIUM LANCEOLATUM (L.) SCOP.	COMMON THISTLE
CONVOLVULUS ARVENSIS L.	STROPHOCALLOS ARVENSIS (L.) SMALL	FIELD BINDWEED
CYTISUS SCOPARIUM (L.) LINK	SPARTIUM SCOPARIUM L.	SCOTCH BROOM
DIGITARIA SANGUINALIS (L.) SCOP.	PANICUM SANGUINALE L.	HAIRY CRABGRASS
EICHORNIA CRASSIPES (MART.) SOLMSLAUBACH	EICHORNIA SPECIOSA KUNTH; PIAROPUS CRASSIPES (MART.) RAF.	COMMON WATERHYACINTH
ELYMUS REPENS (L.) GOULD	AGROPYRON REPENS (L.) GOULD; ELYTRIGIA REPENS (L.) DESV. EX B.D. JACKSON; TRITICUM REPENS L.	CREeping WILD-RYE
EPILOBIUM HIRSUM L.		HAIRY WILLOWHERB
EPIPACTIS HELLEBORINE (L.) CRANTZ	EPIPACTIS LATIFOLIA (L.) ALL.; SERAPIAS HELLEBORINE L.	BROAD-LEAVED HELLEBORINE
EUONYMUS EUROPAEUS L.		EUROPEAN SPINDLE-TREE
EUONYMUS FORTUNEI (TURCZ.) HAND-MAZZ	EUONYMUS FORTUNEI (TURCZ.) HAND-MAZZ VAR. RADICANS (SIEB. EX MIQ.) REHD.; E. FORTUNEI (TURCZ.) HAND-MAZZ VAR. VEGETUS (REHD.) REHD.; E. RADICANS SIEB. EX MIQ.; E. RADICANS SIEB. EX MIQ. VAR. VEGETUS REHD.	CLIMBING SPINDLE-TREE
FESTUCA FILIFORMIS POURRET	FESTUCA CAPILLATA LAM.; F. OVINA L. VAR. CAPILLATA (LAM.) ALEF.; F. TENUIFOLIA SIBTHORP	FINE-LEAVED SHEEP FESCUE
FIGARIA VERNA HUDS. SSP. FERTILIS (LAWALRÉE EX LEGEAARD) STACE	FIGARIA VERNA HUDS. SSP. BULBIFERA A. & D. LOVE; RANUNCULUS FIGARIA L. SSP. BULBIFER LAMBINON; R. FIGARIA L. SSP. BULBIFERA (MARDSEN-JONES) LAWALRÉE, AN ILLEGIMATE NAME; R. FIGARIA VAR. BULBIFERA MARDSEN-JONES	FIG-CROWFOOT
FROELICHA FRACILIS (HOOK.) MOQ.	OPLOTHECA GRACILIS MOQ.	SLENDER COTTON-WEED
GALIUM MOLLUGO L.		WHORLED BEDSTRAW
GLECHOMA HEDERACEA L.	GLECHOMA HEDERACEA L. VAR. MICRANTHA MORIC.; G. HEDERACEA L. VAR. PARVIFLORA (BENTH.) HOUSE; NEPETA HEDERACEA (L.) TRÉVISAN	GILL-OVER-THE-GROUND
HYLOTELEPHIUM TELEPHIUM (L.) H. OHBA	SEDUM PURPUREUM (L.) J.A. SCHULTES; S. PURPURASCENS W.D.J. KOCH; S. TELEPHIUM L.	PURPLE ORPINE
KOCHIA SCOPARIA (L.) SCHRAD.	BASSIA SCOPARIA (L.) A.J. SCOTT; CHENOPODIUM SCOPARIUM L.; KOCHIA SCOPARIA (L.) SCHRAD. VAR. PUBESCENS FENZL.; K. SCOPARIA (L.) SCHRAD. VAR. SUBVILLOSA MOQ.	SUMMER-CYPRESS
LAMIUM AMPLEXICAULE L. VAR. AMPLEXICAULE		COMMON HENBIT
LAMIUM PURPUREUM L.	LAMIUM DISSECTUM WITH.; L. HYBRIDUM; OF AUTHORS NOT VILL.	RED HENBIT
LONICERA XYLLOSTEUM L.		FLY HONEY-SUCKLE
LUPINUS POLYPHYLLUS LINDL. VAR. POLYPHYLLUS	LUPINUS PALLIDIPES HELLER; L. POLYPHYLLUS LINDL. VAR. ALBIFLORUS L.H. BAILEY; L. POLYPHYLLUS LINDL. VAR. PALLIDIPES (HELLER) C.P. SM.	BLUE LUPINE
LYCHNIS FLOS-CUCULLI L. SSP. FLOS-CUCULLI	CORONARIA FLOS-CUCULLI (L.) A. BRAUN; SILENE FLOS-CUCULLI (L.) CLAIRVILLE	RAGGED ROBIN LYCHNIS
LYSIMACHIA ARVENSIS (L.) U. MANN & A. ANDERB.	ANAGALLIS ARVENSIS L.; A. ARVENSIS L. VAR. CAERULEA (SCHREB.) GREY & GODR.; A. CAERULEA SCHREB.	SCARLET PIMPERNEL
LYSIMACHIA VULGARIS L.		GARDEN YELLOW-OOSESTRIFE
MISCANTHUS SINENSIS ANDERS.	MISCANTHUS SINENSIS ANDERS. VAR. GRACILLIMUS A.S. HITCHC.	CHINESE SILVERGRASS
MYCELIS MURALIS (L.) DUROST.	LACTUCA MURALIS (L.) FRESEN.	WALL-KETTUCE
MYOSOTIS SCORPIOIDES L.		WATER-FORGET-ME-NOT
NASTURTIUM MICROPHYLLUM BOENN. EX REICHENB.	NASTURTIUM OFFICINALE AIT. F. VAR. MICROPHYLLUM (BOENN. EX REICHENB.) THELLUNG; RORIPPA MICROPHYLLA (BOENN. EX REICHENB.) HYL. EX A. & D. LOVE	ONE-ROWED WATER-CRESS
NASTURTIUM OFFICINALE AIT. F.	BAEMERTIA NASTURTIUM-AQUATICUM (L.) HAYEK; RORIPPA NASTURTIUM AQUATICUM (L.) HAYEK; SISYMBRIUM NASTURTIUM-AQUATICUM L.	TWO-ROWED WATER-CRESS
OENANTHE JAVANICA (BLUME) DC		JAVA WATER DROPWORT
PERSICARIA LONGISETA (BRUIJN) KITAGAWA	PERSICARIA CAESPITOSA (BLUME) NAKAI VAR. LONGISETA (BRUIJN) REED; POLYGONUM CAESPITOSUM BLUME VAR. LONGISETUM (BRUIJN) STEWARD; P. LONGISETUM BRUIJN	ORIENTAL LADY'S-THUMB SMARTWEED
PHELLODENDRON AMURENSE RUPR.	PHELLODENDRON AMURENSE RUPR. VAR. SACHALINENSE F. SCHMIDT; P. JAPONICUM MAXIM.; P. SACHALINENSE (F. SCHMIDT) SARG.	AMUR CORKTREE
POA COMPRESSA L.		FLAT-STEMMED BLUE GRASS
POA MEMORIALIS L.		WOOD BLUE GRASS
POPULUS ALBA L.	POPULUS ALBA L. VAR. BOLLEANA LAUCHE	WHITE POPLAR
RANUNCULUS REPENS L.	RANUNCULUS REPENS L. VAR. DEGENERATES SCHUR; R. REPENS L. VAR. ERECTUS DC.; R. REPENS L. VAR. GLABRATUS DC.; R. REPENS L. VAR. PLENIORUS FERN.; R. REPENS L. VAR. VILLOSIUS LAMOTTE	SPOT-LEAVED CROWFOOT
RAPHANUS RAPHANISTRUM L. SSP. RAPHANISTRUM		WILD RADISH
RHINANTHUS MINOR L. SSP. MINOR	RHINANTHUS CRISTA-GALLI L. IN PART.; R. CRISTA-GALLI L. VAR. FALLAX (WIMMER & GRAB.) DRUCE; R. STENOPHYLLUS (SCHUR) SCHINZ & THELLUNG	LITTLE YELLOW-RATTLE
RUMEX ACETOSELLA L. SSP. PYRENAICUS (POURRET EX LAPEYR.) AKEROYD	ACETOSELLA VULGARIS (KOCH) FOURR. SSP. PYRENAICA (POURRET EX LAPEYR.) Á. LÓVE; RUMEX ACETOSELLA L. VAR. PYRENAICUS (POURRET EX LAPEYR.) TIMBAL-LAGRAVE; R. PYRENAICUS POURRET EX LAPEYR.	SHEEP DOCK
SECURIGERA VARIA (L.) LASSEN	CORONILLA VARIA L.</	

LANDSCAPE IRRIGATION SPECIFICATIONS

SECTION 32 84 00 >PLANTING IRRIGATION
PART 1 > GENERAL
1.1 SUMMARY
A. THE INTENT IS THAT THE LANDSCAPE IRRIGATION SYSTEM SHALL BE DESIGN-BUILT AND THAT ALL LAWN AND PLANTING AREAS FOR THIS PROJECT RECEIVE FULL COVERAGE OF THE IRRIGATION SYSTEM.
B. SECTION INCLUDES:
1. PIPES, TUBES, AND FITTINGS.
2. MANUAL VALVES
3. AUTOMATIC CONTROL VALVES.
4. AUTOMATIC DRAIN VALVES.
5. SPRINKLERS.
6. QUICK COUPLERS.
7. CONTROLLERS.
8. BOXES FOR AUTOMATIC CONTROL VALVES.
1.2 ACTION SUBMITTALS
A. PRODUCT DATA:
1. PIPES, TUBES, AND FITTINGS.
2. MANUAL VALVES.
3. AUTOMATIC CONTROL VALVES.
4. AUTOMATIC DRAIN VALVES.
5. SPRINKLERS.
6. QUICK COUPLERS.
7. CONTROLLERS.
8. BOXES FOR AUTOMATIC CONTROL VALVES.
9. INCLUDE RATED CAPACITIES, OPERATING CHARACTERISTICS, ELECTRICAL CHARACTERISTICS, AND FURNISHED SPECIALTIES AND ACCESSORIES.
10. WIRING DIAGRAMS: FOR POWER, SIGNAL, AND CONTROL WIRING.
11. DELEGATED DESIGN SUBMITTAL: FOR IRRIGATION SYSTEMS ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.
1.3 INFORMATIONAL SUBMITTALS
A. COORDINATION DRAWINGS: IRRIGATION SYSTEMS, DRAWN TO SCALE, ON WHICH COMPONENTS ARE INDICATED AND COORDINATED WITH EACH OTHER, USING INPUT FROM INSTALLERS OF THE ITEMS INVOLVED. ALSO INCLUDE ADJUSTMENTS NECESSARY TO AVOID PLANTINGS AND OBSTRUCTIONS, SUCH AS SIGNS AND LIGHT STANDARDS.
B. ZONING CHART: INDICATE EACH IRRIGATION ZONE AND ITS CONTROL VALVE.
C. CONTROLLER TIMING SCHEDULE: INDICATE TIMING SETTINGS FOR EACH AUTOMATIC CONTROLLER ZONE.
D. FIELD QUALITY CONTROL SUBMITTALS:
1. FIELD QUALITY CONTROL REPORTS.
1.4 CLOSEOUT SUBMITTALS
A. OPERATION AND MAINTENANCE DATA.
1.5 QUALITY ASSURANCE
A. QUALIFICATIONS:
1. INSTALLERS: ENTITY THAT EMPLOYS A CERTIFIED IRRIGATION DESIGNER >LANDSCAPE QUALIFIED BY THE IRRIGATION ASSOCIATION.
B. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGENCY, AND MARKED FOR INTENDED LOCATION AND APPLICATION.
PART 2 > PRODUCTS
2.1 PERFORMANCE REQUIREMENTS
A. IRRIGATION ZONE CONTROL: AUTOMATIC OPERATION WITH CONTROLLER AND AUTOMATIC CONTROL VALVES.
B. LOCATION OF SPRINKLERS AND SPECIALTIES: DESIGN LOCATION IS APPROXIMATE. MAKE MINOR ADJUSTMENTS NECESSARY TO AVOID PLANTINGS AND OBSTRUCTIONS, SUCH AS SIGNS AND LIGHT STANDARDS. MAINTAIN 100 PERCENT IRRIGATION COVERAGE OF ALL LAWN AND PLANTING AREAS INDICATED.
C. DELEGATED DESIGN: DESIGN 100 PERCENT COVERAGE IRRIGATION SYSTEM, INCLUDING COMPREHENSIVE ENGINEERING ANALYSIS BY A QUALIFIED PROFESSIONAL ENGINEER, USING PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA TO BE DETERMINED BASED UPON FINAL SITE DISTURBANCE.
D. AVAILABLE LAND RECORDS INDICATE THE FOLLOWING SOIL CONDITIONS:
1. MINIMUM WORKING PRESSURES: THE FOLLOWING ARE MINIMUM PRESSURE REQUIREMENTS FOR PIPING, VALVES, AND SPECIALTIES UNLESS OTHERWISE INDICATED:
1. IRRIGATION MAIN PIPING: 200 PSIG.
2. CIRCUIT PIPING: 150 PSIG.
2.2 PIPES, TUBES, AND FITTINGS
A. COMPLY WITH REQUIREMENTS IN "PIPING SCHEDULE" ARTICLE FOR APPLICATIONS OF PIPE, TUBE, AND FITTING MATERIALS, AND FOR JOINING METHODS FOR SPECIFIC SERVICES. SERVICE LOCATIONS, AND PIPE SIZES.
B. PE PIPE WITH CONTROLLED ID: ASTM D2239, PE 3408 COMPOUND, SDR 15.
1. INSERT FITTINGS FOR PE PIPE: ASTM D2609, NYLON OR PROPYLENE PLASTIC WITH BARBED ENDS. INCLUDE BANDS OR OTHER FASTENERS.
C. PVC PIPE: ASTM D1785, PVC 1120 COMPOUND, SCHEDULES 40 AND 80.
1. PVC SOCKET FITTINGS: ASTM D2466, SCHEDULES 40 AND 80.
2. PVC THREADED FITTINGS: ASTM D2464, SCHEDULE 80.
3. PVC SOCKET UNIONS: CONSTRUCTION SIMILAR TO THAT OF MSS SP-107, EXCEPT BOTH HEADPIECE AND TAILPIECE SHALL BE PVC WITH SOCKET ENDS.
D. PVC PIPE, PRESSURE RATED: ASTM D2241, PVC 1120 COMPOUND, SDR 26.
1. PVC SOCKET FITTINGS: ASTM D2467, SCHEDULE 80.
2. PVC SOCKET UNIONS: CONSTRUCTION SIMILAR TO THAT OF MSS SP-107, EXCEPT BOTH HEADPIECE AND TAILPIECE SHALL BE PVC WITH SOCKET OR THREADED ENDS.
2.3 PIPING JOINING MATERIALS
A. PIPE FLANGE GASKET MATERIALS: AWWA C110, RUBBER, FLAT FACE, 1/8 INCH THICK UNLESS OTHERWISE INDICATED; FULL-FACE OR RING TYPE UNLESS OTHERWISE INDICATED.
B. METAL, PIPE-FLANGE BOLTS AND NUTS: ASME B16.2.1, CARBON STEEL UNLESS OTHERWISE INDICATED.
C. BRAZING FILLER METALS: AWS A5.81AS.8M, BCUP SERIES, COPPER-PHOSPHORUS ALLOYS FOR GENERAL-DUTY BRAZING UNLESS OTHERWISE INDICATED.
D. SOLDER FILLER METALS: ASTM B32, LEAD-FREE ALLOYS. INCLUDE WATER-FLUSHABLE FLUX IN ACCORDANCE WITH ASTM B813.
E. SOLVENT CEMENTS FOR JOINING PVC PIPING: ASTM D2564, INCLUDE PRIMER IN ACCORDANCE WITH ASTM F656.
F. PLASTIC, PIPE-FLANGE GASKET, BOLTS, AND NUTS: TYPE AND MATERIAL RECOMMENDED BY PIPING SYSTEM MANUFACTURER UNLESS OTHERWISE INDICATED.
2.4 MANUAL VALVES
A. CURB VALVES:
1. DESCRIPTION:
A. STANDARD: AWWA C800.
B. NPS 1/4 AND SMALLER PRESSURE RATING: 150 PSIG.
C. NPS 1/4 TO NPS 2 PRESSURE RATING: 800 PSIG.
D. BODY MATERIAL: BRASS OR BRONZE WITH BALL OR GROUNDKEY PLUG.
E. END CONNECTIONS: MATCHING PIPING.
F. STEM: WITH WIDE-TEE HEAD.
B. CURB-VALVE CASING:
1. STANDARD: SIMILAR TO AWWA M44 FOR CAST-IRON VALVE CASINGS.
2. TOP SECTION: TELESCOPING, OF LENGTH REQUIRED FOR DEPTH OF BURIAL OF CURB VALVE.
3. BARREL: APPROXIMATELY 3/8 INCH DIAMETER.
4. PLUG: WITH LETTERING "WATER."
5. BOTTOM SECTION: WITH BASE OF SIZE TO FIT OVER VALVE.
6. BASE SUPPORT: CONCRETE COLLAR.
C. SHUTOFF RODS FOR CURB-VALVE CASINGS: FURNISH TWO STEEL, TEE-HANDLE SHUTOFF ROD(S) WITH ONE POINTED END, STEM OF LENGTH TO OPERATE DEEPEST BURIED VALVE, AND SLOTTED END MATCHING CURB VALVE FOR PROJECT.
D. BRASS BALL VALVES:
1. DESCRIPTION:
A. STANDARD: MSS SP-110.
B. SWP RATING: 150 PSIG.
C. CWP RATING: 600 PSIG.
D. BODY DESIGN: TWO PIECE.
E. BODY MATERIAL: FORGED BRASS.
F. ENDS: THREADED OR SOLDER JOINT IF INDICATED.
G. SEATS: PTFE OR TFE.
H. STEM: BRASS.
I. BALL: CHROME-PLATED BRASS.
J. PORT: FULL.
E. BRONZE BALL VALVES:
1. DESCRIPTION:
A. STANDARD: MSS SP-110.
B. SWP RATING: 150 PSIG.
C. CWP RATING: 600 PSIG.
D. BODY DESIGN: TWO PIECE.
E. BODY MATERIAL: BRONZE.
F. ENDS: THREADED OR SOLDER JOINT IF INDICATED.
G. SEATS: PTFE OR TFE.
H. STEM: BRONZE.
I. BALL: CHROME-PLATED BRASS.
J. PORT: FULL.
F. IRON BALL VALVES:
1. DESCRIPTION:
A. STANDARD: MSS SP-72.
B. CWP RATING: 200 PSIG.
C. BODY DESIGN: SPLIT BODY.
D. BODY MATERIAL: ASTM A126, GRAY IRON.
E. ENDS: FLANGED.
F. SEATS: PTFE OR TFE.
G. STEM: STAINLESS STEEL.
H. BALL: STAINLESS STEEL.
I. PORT: FULL.
J. PORT: FULL.
G. PLASTIC BALL VALVES:
1. DESCRIPTION:
A. STANDARD: MSS SP-122.
B. PRESSURE RATING: 150 PSIG.
C. BODY MATERIAL: PVC.
D. TYPE: UNION.
E. END CONNECTIONS: SOCKET OR THREADED.
F. PORT: FULL.
H. IRON GATE VALVES, RESILIENT SEATED:
1. DESCRIPTION:
A. STANDARD: AWWA C509.
B. PRESSURE RATING: 200 PSIG MINIMUM.
C. BODY MATERIAL: DUCTILE OR GRAY IRON WITH BRONZE TRIM.
D. END CONNECTIONS: MECHANICAL JOINT OR PUSH-ON JOINT.
E. INTERIOR COATING: COMPLY WITH AWWA C550.
F. BODY DESIGN: NONRISING STEM.
G. OPERATOR: STEM NUT.
H. DISC: SOLID WEDGE WITH RESILIENT COATING.

I. IRON GATE VALVE CASINGS:
1. STANDARD: AWWA M44 FOR CAST-IRON VALVE CASINGS.
2. TOP SECTION: ADJUSTABLE EXTENSION OF LENGTH REQUIRED FOR DEPTH OF BURIAL OF VALVE.
3. BARREL: APPROXIMATELY 3/8 INCH DIAMETER.
4. PLUG: WITH LETTERING "WATER."
5. BOTTOM SECTION: WITH BASE OF SIZE TO FIT OVER VALVE.
6. BASE SUPPORT: CONCRETE COLLAR.
J. OPERATING WRENCHES FOR IRON GATE VALVE CASINGS: FURNISH TWO STEEL, TEE-HANDLE OPERATING WRENCH(ES) WITH ONE POINTED END, STEM OF LENGTH TO OPERATE DEEPEST BURIED VALVE, AND SOCKET MATCHING VALVE OPERATING NUT FOR PROJECT.
2.5 AUTOMATIC CONTROL VALVES
A. BRONZE, AUTOMATIC CONTROL VALVES:
1. DESCRIPTION: CAST-BRONZE BODY, NORMALLY CLOSED, DIAPHRAGM TYPE WITH MANUAL-FLOW ADJUSTMENT, AND OPERATED BY 24 V AC SOLENOID.
B. PLASTIC, AUTOMATIC CONTROL VALVES:
1. DESCRIPTION: MOLDED-PLASTIC BODY, NORMALLY CLOSED, DIAPHRAGM TYPE WITH MANUAL-FLOW ADJUSTMENT, AND OPERATED BY 24 V AC SOLENOID.
2.6 AUTOMATIC DRAIN VALVES
A. DESCRIPTION: SPRING-LOADED-BALL TYPE OF CORROSION-RESISTANT CONSTRUCTION AND DESIGNED TO OPEN FOR DRAINAGE IF LINE PRESSURE DROPS BELOW 2:12 TO 3 PSIG.
2.7 SPRINKLERS
A. GENERAL REQUIREMENTS: DESIGNED FOR UNIFORM COVERAGE OVER ENTIRE SPRAY AREA INDICATED AT AVAILABLE WATER PRESSURE.
B. PLASTIC, EXPOSED, IMPACT-DRIVE ROTARY SPRINKLERS:
1. DESCRIPTION:
A. CONSTRUCTION: ABS AND CORROSION-RESISTANT METALS.
B. MOUNTING: ABOVEGROUND, EXPOSED ON RISER.
2. CAPACITIES AND CHARACTERISTICS:
A. FLOW: 150 GPM.
B. ARC: FULL OR HALF CIRCLE.
C. RADIUS: 20 FEET.
D. INLET: NPS 3/4.
C. PLASTIC, POP-UP, GEAR-DRIVE ROTARY SPRINKLERS:
1. DESCRIPTION:
A. BODY MATERIAL: ABS.
B. NOZZLE: BRASS.
C. RETRACTION SPRING: STAINLESS STEEL.
D. INTERNAL PARTS: CORROSION RESISTANT.
2. CAPACITIES AND CHARACTERISTICS:
A. FLOW: 150 GPM.
B. POP-UP HEIGHT: 4 INCHES ABOVEGROUND TO NOZZLE.
C. ARC: FULL OR HALF CIRCLE.
D. RADIUS: 20 FEET.
E. INLET: NPS 3/4.
D. PLASTIC, POP-UP, IMPACT-DRIVE ROTARY SPRINKLERS:
1. DESCRIPTION:
A. CASE: ABS.
B. POP-UP HEIGHT: 4 INCHES ABOVEGROUND TO NOZZLE.
C. SPRINKLER CONSTRUCTION: ABS AND OTHER CORROSION-RESISTANT METALS.
2. CAPACITIES AND CHARACTERISTICS:
A. NOZZLE: BRASS.
B. FLOW: 150 GPM.
C. ARC: FULL OR HALF CIRCLE.
D. RADIUS: 20 FEET.
E. INLET: NPS 3/4.
E. PLASTIC, SURFACE SPRAY SPRINKLERS:
1. DESCRIPTION:
A. BODY MATERIAL AND FLANGE: ABS.
B. PATTERN: FIXED, WITH FLOW ADJUSTMENT.
2. CAPACITIES AND CHARACTERISTICS:
A. FLOW: 150 GPM.
B. POP-UP HEIGHT: 4 INCHES ABOVEGROUND TO NOZZLE.
C. ARC: FULL OR HALF CIRCLE.
D. RADIUS: 20 FEET.
F. PLASTIC, SURFACE, POP-UP SPRAY SPRINKLERS:
1. DESCRIPTION:
A. BODY MATERIAL AND FLANGE: ABS.
B. PATTERN: FIXED, WITH FLOW ADJUSTMENT.
2. CAPACITIES AND CHARACTERISTICS:
A. NOZZLE: BRASS.
B. FLOW: 150 GPM.
C. ARC: FULL OR HALF CIRCLE.
D. RADIUS: 20 FEET.
E. INLET: NPS 3/4.
H. PLASTIC SHRUB SPRINKLERS:
1. DESCRIPTION:
A. BODY MATERIAL: ABS.
B. NOZZLE: BRASS.
C. RETRACTION SPRING: STAINLESS STEEL.
D. INTERNAL PARTS: CORROSION RESISTANT.
E. PATTERN: FIXED, WITH FLOW ADJUSTMENT.
2. CAPACITIES AND CHARACTERISTICS:
A. NOZZLE: BRASS.
B. FLOW: 150 GPM.
C. POP-UP HEIGHT: 4 INCHES ABOVEGROUND TO NOZZLE.
D. ARC: FULL OR HALF CIRCLE.
E. RADIUS: 20 FEET.
F. INLET: NPS 3/4.
2.8 QUICK COUPLERS
A. DESCRIPTION: FACTORY-FABRICATED, BRONZE OR BRASS, TWO-PIECE ASSEMBLY. INCLUDE COUPLER WATER-SEAL VALVE; REMOVABLE UPPER BODY WITH SPRING-LOADED OR WEIGHTED, RUBBER-COVERED CAP; HOSE SWIVEL WITH ASME B1.20.7, 3/4-11.5NH THREADS FOR GARDEN HOSE ON OUTLET; AND OPERATING KEY.
1. LOCKING-TOP OPTION: VANDAL-RESISTANT LOCKING FEATURE. INCLUDE (2) TWO MATCHING KEYS).
2.9 CONTROLLERS
1. DESCRIPTION:
A. CONTROLLER STATIONS FOR AUTOMATIC CONTROL VALVES: EACH STATION IS VARIABLE FROM APPROXIMATELY 5 TO 60 MINUTES. INCLUDE SWITCH FOR MANUAL OR AUTOMATIC OPERATION OF EACH STATION.
2. EXTERIOR CONTROL ENCLOSURES: NEMA 250, TYPE 4, WEATHERPROOF, WITH LOCKING COVER AND TWO MATCHING KEYS; INCLUDE PROVISION FOR GROUNDING.
3. BODY MATERIAL: MOLDED PLASTIC.
4. MOUNTING: SURFACE TYPE FOR WALL.
3. INTERIOR CONTROL ENCLOSURES: NEMA 250, TYPE 12, DRIPPROOF, WITH LOCKING COVER AND TWO MATCHING KEYS.
A. BODY MATERIAL: MOLDED PLASTIC.
B. MOUNTING: SURFACE TYPE FOR WALL.
4. CONTROL TRANSFORMER: 24 V SECONDARY, WITH PRIMARY FUSE.
5. TIMING DEVICE: ADJUSTABLE 24-HOUR, 14-DAY CLOCK, WITH AUTOMATIC OPERATIONS TO SKIP OPERATION ANY DAY IN TIMER PERIOD, TO OPERATE EVERY OTHER DAY, OR TO OPERATE TWO OR MORE TIMES DAILY.
A. MANUAL OR SEMIAUTOMATIC OPERATION: ALLOWS THIS MODE WITHOUT DISTURBING PRESET AUTOMATIC OPERATION.
B. NICKEL-CADMIUM BATTERY AND TRICKLE CHARGER: AUTOMATICALLY POWERS TIMING DEVICE DURING POWER OUTAGES.
C. SURGE PROTECTION: METAL-OXIDE-VARISTOR TYPE ON EACH STATION AND PRIMARY POWER.
6. MOISTURE SENSOR: ADJUSTABLE FROM ONE TO SEVEN DAYS, TO SHUT OFF WATER FLOW DURING RAIN.
7. SMART CONTROLLERS: USE ET, TESTED IN ACCORDANCE WITH IA SWAT CLIMATOLOGICAL BASED CONTROLLER 8TH DRAFT TESTING PROTOCOL AND COMPLIANT WITH ASHRAE 88.1.
8. WIRING: UL 493, TYPE UF MULTICOORDUPTOR, WITH SOLID-COPPER CONDUCTORS; INSULATED CABLE; SUITABLE FOR DIRECT BURIAL.
A. FEEDER-CIRCUIT CABLES: NO. 12 AWG MINIMUM, BETWEEN BUILDING AND CONTROLLERS.
B. LOW-VOLTAGE, BRANCH-CIRCUIT CABLES: NO. 14 AWG MINIMUM, BETWEEN CONTROLLERS AND AUTOMATIC CONTROL VALVES; COLOR-CODED DIFFERENT FROM FEEDER-CIRCUIT-CABLE JACKET COLOR; WITH JACKETS OF DIFFERENT COLORS FOR MULTIPLE-CABLE INSTALLATION IN SAME TRENCH.
C. SPLICING MATERIALS: MANUFACTURER'S PACKAGED KIT CONSISTING OF: INSULATING, SPRING-TYPE CONNECTOR OR CRIMPED JOINT AND EPOXY RESIN MOISTURE SEAL; SUITABLE FOR DIRECT BURIAL.
9. CONCRETE BASE: REINFORCED PRECAST CONCRETE NOT LESS THAN 36 BY 24 BY 4 INCHES THICK, AND 6 INCHES GREATER IN EACH DIRECTION THAN OVERALL DIMENSIONS OF CONTROLLER. INCLUDE OPENING FOR WIRING.
2.10 BOXES FOR AUTOMATIC CONTROL VALVES
A. PLASTIC BOXES:
1. DESCRIPTION: BOX AND COVER, WITH OPEN BOTTOM AND OPENINGS FOR PIPING; DESIGNED FOR INSTALLING FLUSH WITH GRADE.
A. SIZE: AS REQUIRED FOR VALVES AND SERVICE.
B. SHAPE: SQUARE.
C. SIDEWALL MATERIAL: ABS.
D. COVER MATERIAL: ABS.
2. LETTERING: "IRRIGATION"
B. DRAINAGE BACKFILL: CLEANED GRAVEL OR CRUSHED STONE, GRADED FROM 3/4 INCH MINIMUM TO 3 INCHES MAXIMUM.

PART 3 > EXECUTION
3.1 EARTHWORK
A. EXCAVATING, TRENCHING, AND BACKFILLING ARE SPECIFIED IN SECTION 31 20 00 "EARTH MOVING."
B. INSTALL WARNING TAPE DIRECTLY ABOVE PRESSURE PIPING, 12 INCHES BELOW FINISHED GRADES, EXCEPT 6 INCHES BELOW SUBGRADE UNDER PAVEMENT AND SLABS.
C. DRAIN POCKETS: EXCAVATE TO SIZES INDICATED. BACKFILL WITH CLEANED GRAVEL OR CRUSHED STONE, GRADED FROM 3/4 TO 3 INCHES TO [12 INCHES BELOW GRADE. COVER GRAVEL OR CRUSHED STONE WITH SHEET OF ASPHALT-SATURATED FELT AND BACKFILL REMAINDER WITH EXCAVATED MATERIAL.
D. PROVIDE MINIMUM COVER OVER TOP OF UNDERGROUND PIPING ACCORDING TO THE FOLLOWING:
1. IRRIGATION MAIN PIPING: MINIMUM DEPTH OF 48 INCHES BELOW FINISHED GRADE, OR NOT LESS THAN 18 INCHES BELOW AVERAGE LOCAL FROST DEPTH, WHICHEVER IS DEEPER.
2. CIRCUIT PIPING: 12 INCHES
3. DRAIN PIPING: 12 INCHES
4. SLEEVES: 24 INCHES
3.2 INSTALLATION OF PIPING
A. LOCATION AND ARRANGEMENT: DRAWINGS INDICATE LOCATION AND ARRANGEMENT OF PIPING SYSTEMS. INSTALL PIPING AS INDICATED UNLESS DEVIATIONS ARE APPROVED ON COORDINATION DRAWINGS.
B. INSTALL PIPING AT MINIMUM UNIFORM SLOPE OF 0.5 PERCENT DOWN TOWARD DRAIN VALVES.
C. INSTALL PIPING FREE OF SAGS AND BENDS.
D. INSTALL GROUPS OF PIPES PARALLEL TO EACH OTHER, SPACED TO PERMIT VALVE SERVICE.
E. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS.
F. INSTALL UNIONS ADJACENT TO VALVES AND TO FINAL CONNECTIONS TO OTHER COMPONENTS WITH NPS 2 OR SMALLER PIPE CONNECTION.
G. INSTALL FLANGES ADJACENT TO VALVES AND TO FINAL CONNECTIONS TO OTHER COMPONENTS WITH NPS 2-1/2 OR LARGER PIPE CONNECTION.
H. INSTALL UNDERGROUND THERMOPLASTIC PIPING IN ACCORDANCE WITH ASTM D2774.
I. INSTALL EXPANSION LOOPS IN CONTROL-VALVE BOXES FOR PLASTIC PIPING.
J. LAY PIPING ON SOLID SUBBASE, UNIFORMLY SLOPED WITHOUT HUMPS OR DEPRESSIONS.
K. INSTALL DUCTILE-IRON PIPING IN ACCORDANCE WITH AWWA C900.
L. INSTALL PVC PIPING IN DRY WEATHER WHEN TEMPERATURE IS ABOVE 40 DEG F. ALLOW JOINTS TO CURE AT LEAST 24 HOURS AT TEMPERATURES ABOVE 40 DEG F BEFORE TESTING.
3.3 JOINT CONSTRUCTION
A. REAM ENDS OF PIPES AND TUBES AND REMOVE BURRS. BEVEL PLAIN ENDS OF STEEL PIPE.
B. REMOVE SCALE, SLAG, DIRT, AND DEBRIS FROM INSIDE AND OUTSIDE OF PIPE AND FITTINGS BEFORE ASSEMBLY.
C. THREADED JOINTS: THREADED PIPE WITH TAPERED THREADS IN ACCORDANCE WITH ASME B1.20.1. CUT THREADS FULL AND CLEAN USING SHARP DIES. REAM THREADED PIPE ENDS TO REMOVE BURRS AND RESTORE FULL ID. JOIN PIPE FITTINGS AND VALVES AS FOLLOWS:
1. APPLY APPROPRIATE TAPE OR THREAD COMPOUND TO EXTERNAL PIPE THREADS UNLESS DRY SEAL THREADING IS SPECIFIED.
2. DAMAGED THREADS: DO NOT USE PIPE OR PIPE FITTINGS WITH THREADS THAT ARE CORRODED OR DAMAGED. DO NOT USE PIPE SECTIONS THAT HAVE CRACKED OR OPEN WELDS.
D. FLANGED JOINTS: SELECT RUBBER GASKET MATERIAL OF SIZE, TYPE, AND THICKNESS FOR SERVICE APPLICATION. INSTALL GASKET CONCENTRICALLY POSITIONED; USE SUITABLE LUBRICANTS ON BOLT THREADS.
E. DUCTILE-IRON PIPING GASKETED JOINTS: COMPLY WITH AWWA C600 AND AWWA M41.
F. COPPER-TUBING BRAZED JOINTS: CONSTRUCT JOINTS IN ACCORDANCE WITH CDAS "COPPER TUBE HANDBOOK," USING COPPER-PHOSPHORUS BRAZING FILLER METAL.
G. COPPER-TUBING SOLDERED JOINTS: APPLY ASTM B813 WATER-FLUSHABLE FLUX TO TUBE END UNLESS OTHERWISE INDICATED. CONSTRUCT JOINTS IN ACCORDANCE WITH ASTM B828 OR CDAS "COPPER TUBE HANDBOOK," USING LEAD-FREE SOLDER ALLOY (0.20 PERCENT MAXIMUM LEAD CONTENT) COMPLYING WITH ASTM B32.
H. PE PIPING FASTENER JOINTS: JOIN WITH INSERT FITTINGS AND BANDS OR FASTENERS IN ACCORDANCE WITH PIPING MANUFACTURER'S WRITTEN INSTRUCTIONS.
I. PVC PIPING SOLVENT-CEMENTED JOINTS: CLEAN AND DRY JOINING SURFACES. JOIN PIPE AND FITTINGS IN ACCORDANCE WITH THE FOLLOWING:
1. COMPLY WITH ASTM F442 FOR SAFE-HANDLING PRACTICE OF CLEANERS, PRIMERS, AND SOLVENT CEMENTS.
2. PVC PRESSURE PIPING: JOIN SCHEDULE NUMBER, ASTM D1785, PVC PIPE AND PVC SOCKET FITTINGS IN ACCORDANCE WITH ASTM D2672. JOIN OTHER-THAN-SCHEDULE NUMBER PVC PIPE AND SOCKET FITTINGS IN ACCORDANCE WITH ASTM D2855.
3. PVC NONPRESSURE PIPING: JOIN IN ACCORDANCE WITH ASTM D2855.
3.4 INSTALLATION OF VALVES
A. UNDERGROUND CURB VALVES: INSTALL IN CURB-VALVE CASINGS WITH TOPS FLUSH WITH GRADE.
B. UNDERGROUND IRON GATE VALVES, RESILIENT SEAT: COMPLY WITH AWWA C600 AND AWWA M44. INSTALL IN VALVE CASING WITH TOP FLUSH WITH GRADE.
1. INSTALL VALVES AND PVC PIPE WITH RESTRAINED, GASKETED JOINTS.
C. ABOVEGROUND VALVES: INSTALL AS COMPONENTS OF CONNECTED PIPING SYSTEM.
D. THROTTLING VALVES: INSTALL IN UNDERGROUND PIPING IN BOXES FOR AUTOMATIC CONTROL VALVES.
E. DRAIN VALVES: INSTALL IN UNDERGROUND PIPING IN BOXES FOR AUTOMATIC CONTROL VALVES.
3.5 INSTALLATION OF SPRINKLERS
A. INSTALL SPRINKLERS AFTER HYDROSTATIC TEST IS COMPLETED.
B. INSTALL SPRINKLERS AT MANUFACTURER'S RECOMMENDED HEIGHTS.
C. LOCATE PART-CIRCLE SPRINKLERS TO MAINTAIN A MINIMUM DISTANCE OF 4 INCHES FROM WALLS AND 2 INCHES FROM OTHER BOUNDARIES UNLESS OTHERWISE INDICATED.
3.6 INSTALLATION OF AUTOMATIC IRRIGATION CONTROL SYSTEM
A. EQUIPMENT MOUNTING: INTERIOR: INSTALL CONTROLLERS ON INTERIOR WALL.
1. PLACE AND SECURE ANCHORAGE DEVICES. USE SETTING DRAWINGS, TEMPLATES, DIAGRAMS, INSTRUCTIONS, AND DIRECTIONS FURNISHED WITH ITEMS TO BE EMBEDDED.
2. INSTALL ANCHOR BOLTS TO ELEVATIONS REQUIRED FOR PROPER ATTACHMENT TO SUPPORTED EQUIPMENT.
B. EQUIPMENT MOUNTING, EXTERIOR: INSTALL EXTERIOR FREESTANDING CONTROLLERS ON PRECAST CONCRETE BASES.
1. PLACE AND SECURE ANCHORAGE DEVICES. USE SETTING DRAWINGS, TEMPLATES, DIAGRAMS, INSTRUCTIONS, AND DIRECTIONS FURNISHED WITH ITEMS TO BE EMBEDDED.
2. INSTALL ANCHOR BOLTS TO ELEVATIONS REQUIRED FOR PROPER ATTACHMENT TO SUPPORTED EQUIPMENT.
C. INSTALL CONTROL CABLE IN PROTECTION PIPING AND AT LEAST 2 INCHES BELOW OR BESIDE PIPING. PROVIDE CONDUCTORS OF SIZE NOT SMALLER THAN RECOMMENDED BY CONTROLLER MANUFACTURER. INSTALL CABLE IN SEPARATE SLEEVE UNDER PAVED AREAS.
3.7 IDENTIFICATION
A. IDENTIFY SYSTEM COMPONENTS. COMPLY WITH REQUIREMENTS FOR IDENTIFICATION SPECIFIED IN SECTION 22 05 53 "IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT."
B. EQUIPMENT NAMEPLATES AND SIGNS: INSTALL ENGRAVED PLASTIC-LAMINATE EQUIPMENT NAMEPLATES AND SIGNS ON EACH AUTOMATIC CONTROLLER.
1. TEXT: IN ADDITION TO IDENTIFYING UNIT, DISTINGUISH BETWEEN MULTIPLE UNITS, INFORM OPERATOR OF OPERATIONAL REQUIREMENTS, INDICATE SAFETY AND EMERGENCY PRECAUTIONS, AND WARN OF HAZARDS AND IMPROPER OPERATIONS.
C. WARNING TAPES: ARRANGE FOR INSTALLATION OF CONTINUOUS, UNDERGROUND, DETECTABLE WARNING TAPES OVER UNDERGROUND PIPING DURING BACKFILLING OF TRENCHES. SEE SECTION 31 20 00 "EARTH MOVING" FOR WARNING TAPES.
3.8 FIELD QUALITY CONTROL
A. PERFORM TESTS AND INSPECTIONS.
B. TESTS AND INSPECTIONS:
1. LEAK TEST: AFTER INSTALLATION, CHARGE SYSTEM AND TEST FOR LEAKS. REPAIR LEAKS AND RETEST UNTIL NO LEAKS EXIST.
2. OPERATIONAL TEST: AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, OPERATE CONTROLLERS AND AUTOMATIC CONTROL VALVES TO CONFIRM PROPER SYSTEM OPERATION.
3. TEST AND ADJUST CONTROLS AND SAFETIES: REPLACE DAMAGED AND MALFUNCTIONING CONTROLS AND EQUIPMENT.
4. IRRIGATION SYSTEM WILL BE CONSIDERED DEFECTIVE IF IT DOES NOT PASS TESTS AND INSPECTIONS.
C. PREPARE TEST AND INSPECTION REPORTS.
3.9 ADJUSTING
A. ADJUST SETTINGS OF CONTROLLERS.
B. ADJUST AUTOMATIC CONTROL VALVES TO PROVIDE FLOW RATE AT RATED OPERATING PRESSURE REQUIRED FOR EACH SPRINKLER CIRCUIT.
C. ADJUST SPRINKLERS AND DEVICES, EXCEPT THOSE INTENDED TO BE MOUNTED ABOVEGROUND, SO THEY WILL BE FLUSH WITH, OR NOT MORE THAN 1/2 INCH ABOVE, FINISH GRADE.
3.10 PIPING SCHEDULE
A. INSTALL COMPONENTS HAVING PRESSURE RATING EQUAL TO OR GREATER THAN SYSTEM OPERATING PRESSURE.
B. PIPING IN CONTROL-VALVE BOXES AND ABOVEGROUND MAY BE JOINED WITH FLANGES OR UNIONS INSTEAD OF JOINTS INDICATED.
C. ABOVEGROUND IRRIGATION MAIN PIPING:
1. NPS 4 AND SMALLER:
A. GALVANIZED-STEEL PIPE AND GALVANIZED-STEEL PIPE NIPPLES; GALVANIZED, GRAY-IRON THREADED FITTINGS; AND THREADED JOINTS.
B. TYPE M HARD COPPER TUBE, WROUGHT-COPPER FITTINGS, AND SOLDERED JOINTS.
C. SCHEDULE 80, PVC PIPE, SOCKET-TYPE PVC FITTINGS; AND SOLVENT-CEMENTED JOINTS.
D. SCHEDULE 80, PVC PIPE, SCHEDULE 80, THREADED PVC FITTINGS; AND THREADED JOINTS.
D. UNDERGROUND IRRIGATION MAIN PIPING:
1. NPS 4 AND SMALLER:
A. NPS 3 AND NPS 4 DUCTILE-IRON, PUSH-ON-JOINT PIPE; DUCTILE-IRON, PUSH-ON-JOINT FITTINGS AND GASKETS; AND GASKETED JOINTS.
B. TYPE M HARD COPPER TUBE, WROUGHT-COPPER FITTINGS, AND SOLDERED JOINTS.
C. SCHEDULE 80, PVC PIPE AND SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.
D. SCHEDULE 80, PVC PIPE, SCHEDULE 80, THREADED PVC FITTINGS; AND THREADED JOINTS.
E. SDR 21, PVC, PRESSURE-RATED PIPE; SCHEDULE 80, PVC SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.
2. NPS 2 AND SMALLER:
A. SDR 9, PE, CONTROLLED ID PIPE; INSERT FITTINGS FOR PE PIPE; AND FASTENER JOINTS.
B. SCHEDULE 40, PVC PIPE AND SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.
C. SDR 26, PVC, PRESSURE-RATED PIPE; SCHEDULE 40, PVC SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.
2. NPS 2-1/2 TO NPS 4:
A. SDR 9, PE, CONTROLLED ID PIPE; INSERT FITTINGS FOR PE PIPE; AND Banded OR FASTENER JOINTS.
B. DR 11, PE, CONTROLLED ID PIPE; SOCKET OR BUTT-FUSION FITTINGS; AND HEAT-FUSION JOINTS. NPS 3 PIPE AND FITTINGS IF NPS 2-1/2 PIPE AND FITTINGS ARE NOT AVAILABLE.
C. SCHEDULE 40, PVC PIPE AND SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.
D. SDR 26, PVC, PRESSURE-RATED PIPE; SCHEDULE 40, PVC SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.
F. UNDERGROUND BRANCHES AND OFFSETS AT SPRINKLERS AND DEVICES: SCHEDULE 80, PVC PIPE; THREADED PVC FITTINGS; AND THREADED JOINTS.
1. OPTION: PLASTIC SWING-JOINT ASSEMBLIES, WITH OFFSETS FOR FLEXIBLE JOINTS, MANUFACTURED FOR THIS APPLICATION.
G. RISERS TO ABOVEGROUND SPRINKLERS AND SPECIALTIES:
1. TYPE M HARD COPPER TUBE, WROUGHT-COPPER FITTINGS, AND SOLDERED JOINTS.
2. SCHEDULE 80, PVC PIPE AND SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.
H. DRAIN PIPING SHALL BE [1 OR] OF THE FOLLOWING:
1. SDR 9, 11.5, OR 15; PE, CONTROLLED ID PIPE; INSERT FITTINGS FOR PE PIPE; AND Banded OR FASTENER JOINTS.
2. SCHEDULE 40, PVC PIPE AND SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.
3. SDR 21, 26, OR 32.5, PVC, PRESSURE-RATED PIPE; SCHEDULE 40, PVC SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.
3.11 VALVE SCHEDULE
A. UNDERGROUND, SHUTOFF-DUTY VALVES: USE THE FOLLOWING:
1. NPS 2 AND SMALLER: CURB VALVE, CURB-VALVE CASING, AND SHUTOFF ROD.
2. NPS 3 AND LARGER: IRON GATE VALVE, RESILIENT SEATED; IRON GATE VALVE CASING; AND OPERATING WRENCH(ES).
B. ABOVEGROUND, SHUTOFF-DUTY VALVES:
1. NPS 2 AND SMALLER:
A. BRASS BALL VALVE.
B. BRONZE GATE VALVE.
2. NPS 2-1/2 AND LARGER:
A. IRON BALL VALVE.
B. IRON GATE VALVE, NRS.
C. THROTTLING-DUTY VALVES:
1. NPS 2 AND SMALLER:
A. PLASTIC AUTOMATIC CONTROL VALVE.
B. BRASS BALL VALVE.
2. NPS 2-1/2 AND NPS 3:
A. BRONZE GATE VALVE.
3. PLASTIC AUTOMATIC CONTROL VALVE.
4. IRON BALL VALVE.
D. DRAIN VALVES:
1. NPS 1/2 AND NPS 3/4:
A. AUTOMATIC DRAIN VALVE.
B. BRASS BALL VALVE.
2. NPS 2-1/2 AND NPS 3:
A. BRONZE GATE VALVE.
2. NPS 1 TO NPS 2:
A. BRASS BALL VALVE.
B. BRONZE GATE VALVE.

END OF SECTION 32 84 00



CIVIL ENGINEER
NOBIS GROUP
18 CHENELL DRIVE,
CONCORD, NH 03301

PROJECT TITLE / ADDRESS:
GRAPPONE MAZDA
134 MANCHESTER STREET,
CONCORD, NH 03301



SCALE: AS NOTED DWN BY: Author
JOB #: 3714 CHK BY: Checker

PRINT DATE: 1/7/2023 2:26:26 PM

ISSUE DATE:
01/06/2022
ISSUED FOR PB REVIEW

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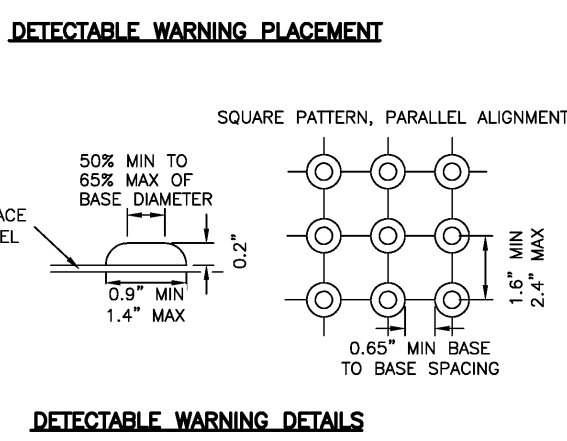
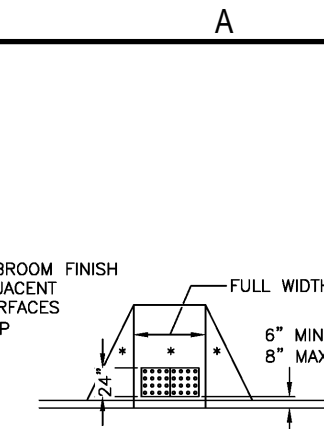
IRRIGATION SPECIFICATIONS

LA107
SHEET NUMBER: 7 OF 8 LANDSCAPE

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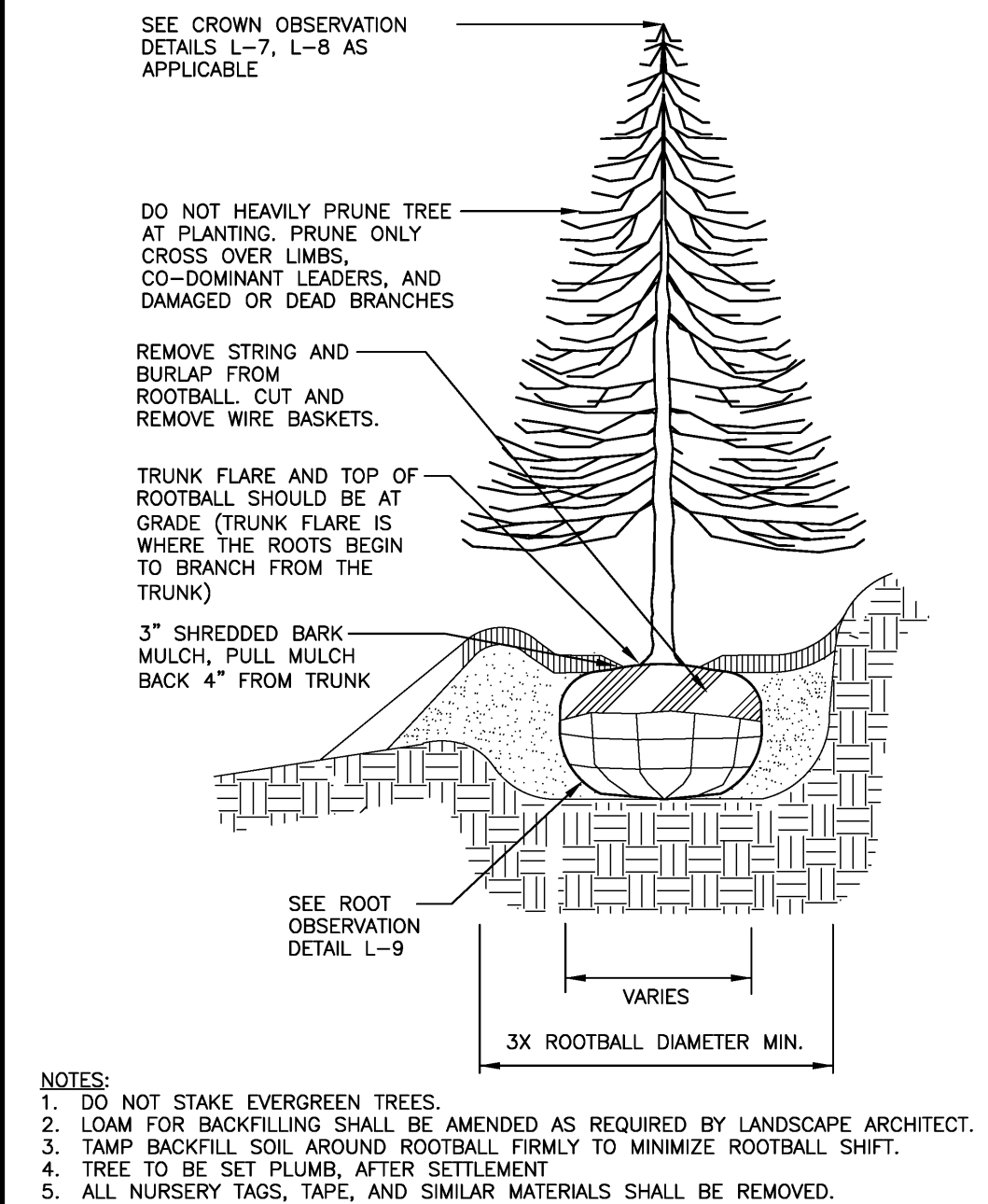
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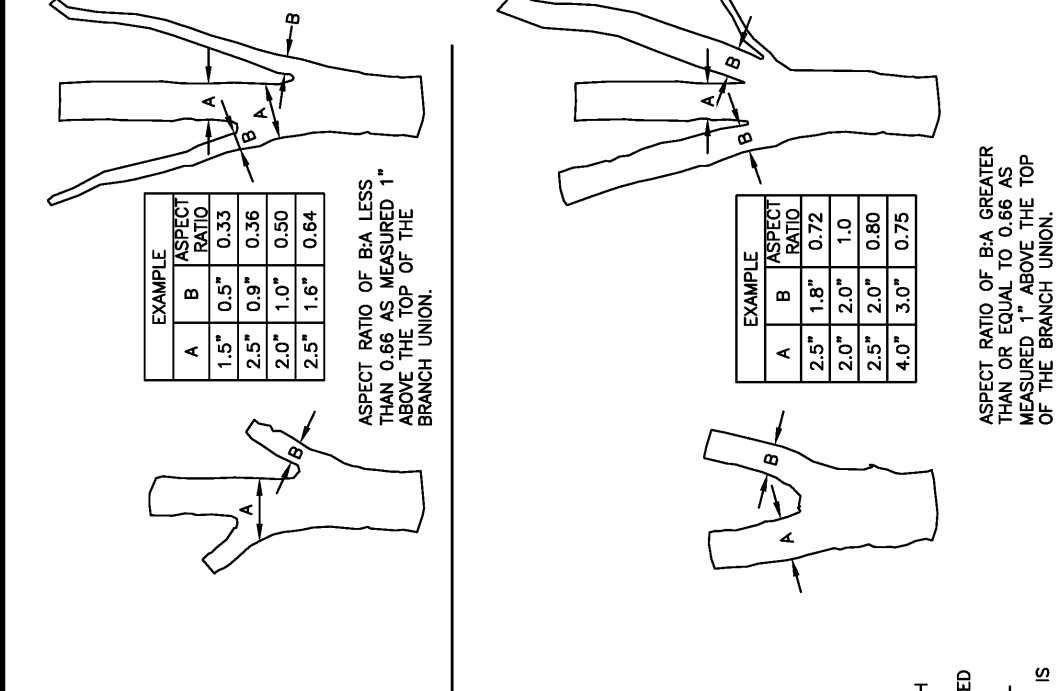


- NOTES:
- 1. DETECTABLE WARNING SURFACES SHALL BE CAST IRON WITHIN THE CITY R.O.W.
 - 2. CONCRETE ADJACENT TO ALL DETECTABLE WARNINGS SHALL HAVE A BROOM FINISH.
 - 3. THE COLOR OF THE DETECTABLE WARNING SHALL PROVIDE A VISUAL CONTRAST TO THE SURROUNDING SURFACE AND SHALL BE AS SPECIFIED ON THE PLANS.
 - 4. WHERE A RAMP OR LEVEL LANDING MEETS A CURB RADIUS, ALIGN THE EDGE OF THE DETECTABLE WARNING AREA PARALLEL TO THE CURB TO THE MAXIMUM EXTENT FEASIBLE.

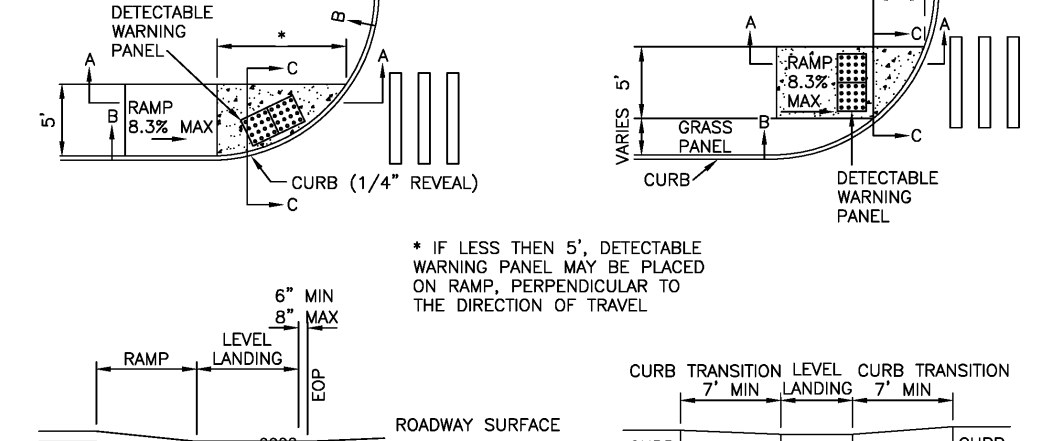
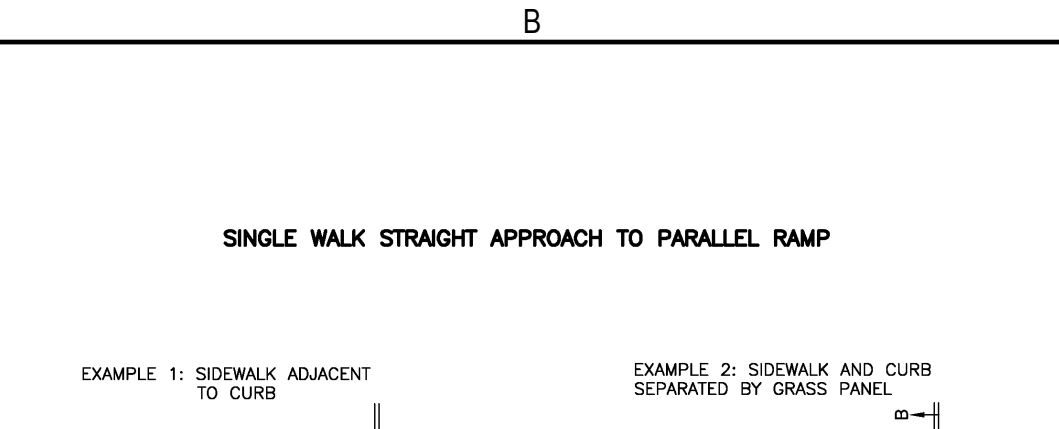
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1	REV STYLE	11-08		LANDSCAPE	
2	SECT C-C	11-11		CR-3	



NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION:	LANDSCAPE
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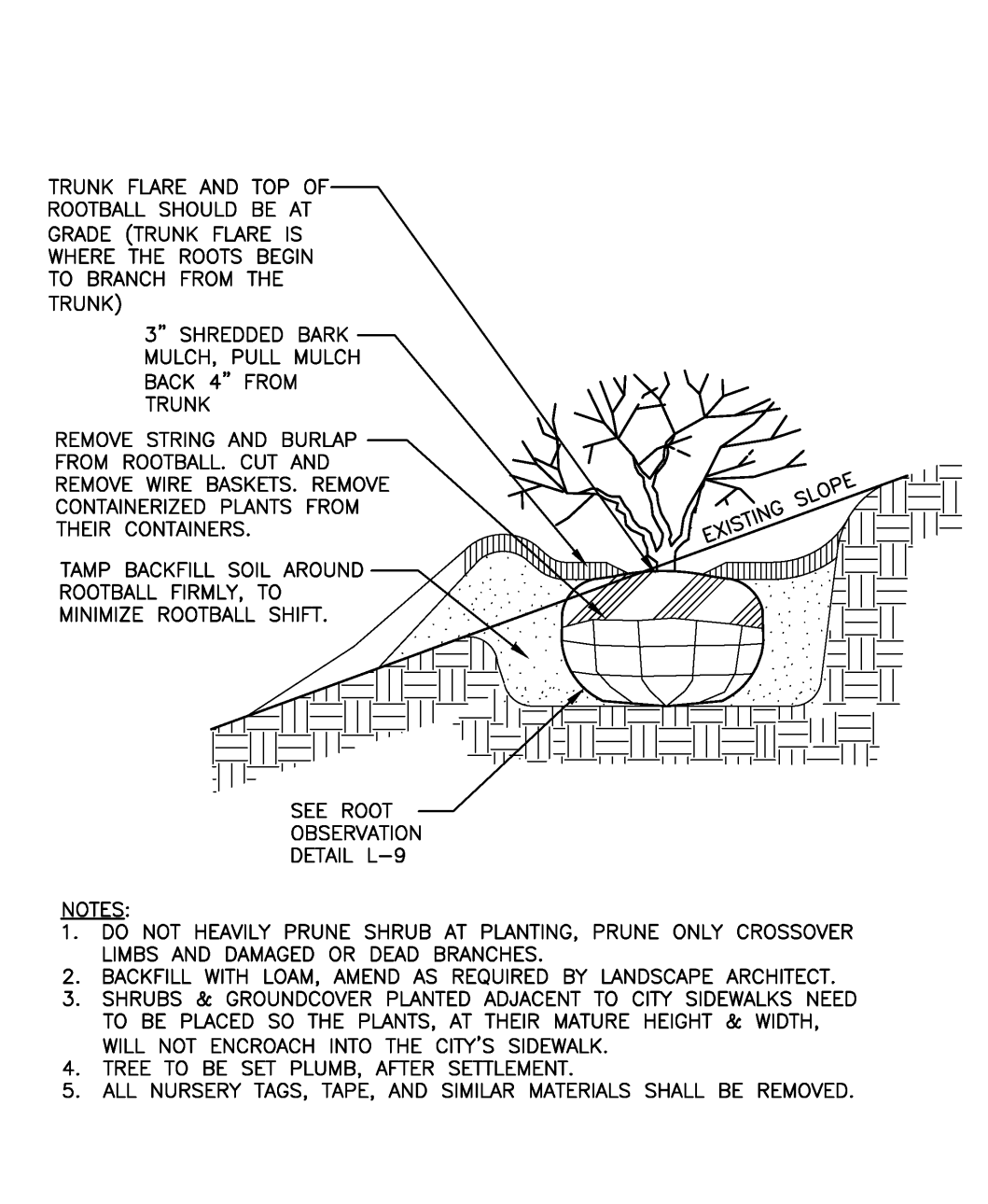


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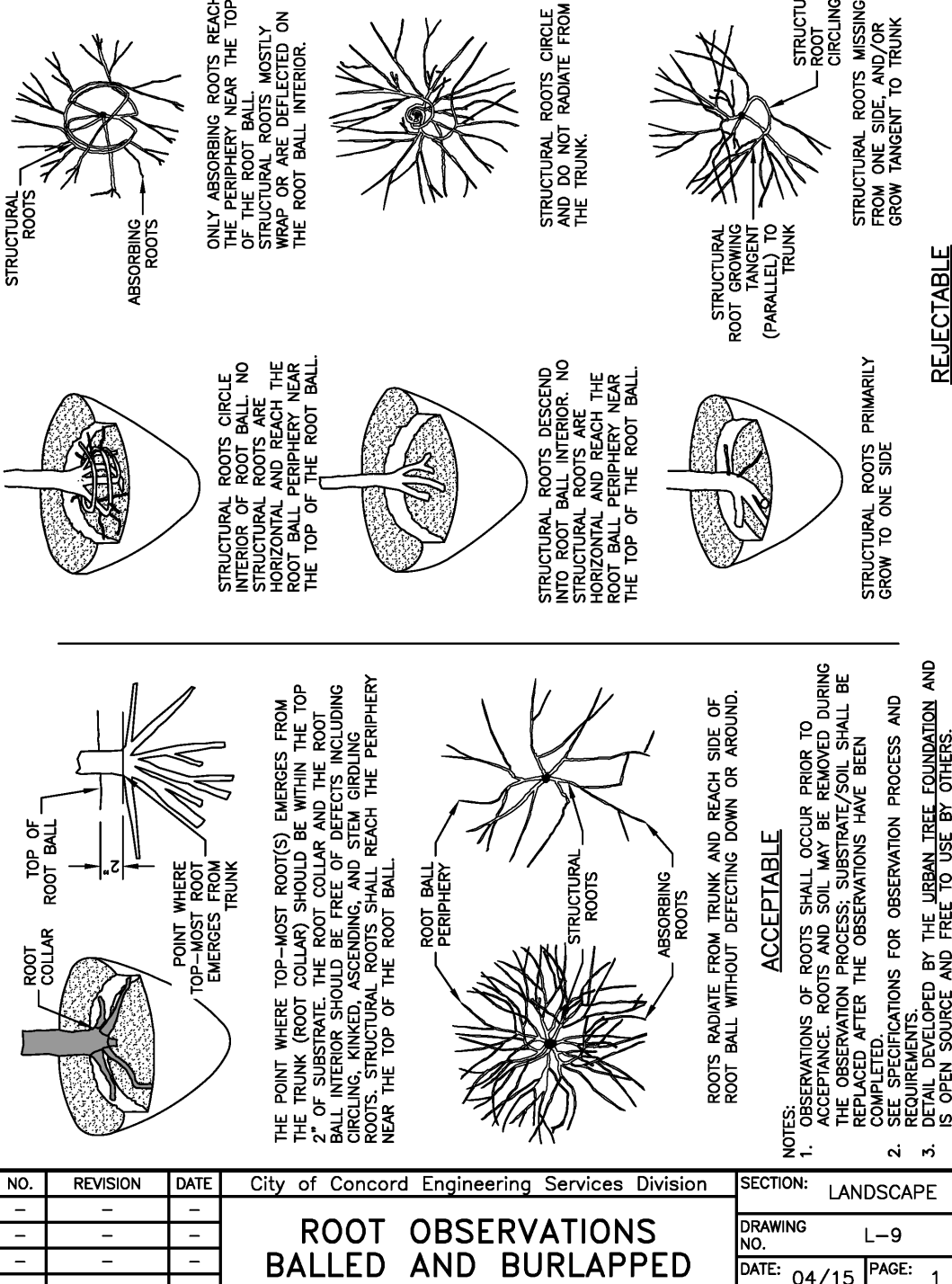


- NOTES:
- 1. DO NOT HEAVILY PRUNE SHRUB AT PLANTING, PRUNE ONLY CROSSOVER LIMBS AND DAMAGED OR DEAD BRANCHES.
 - 2. BACKFILL WITH LOAM, AMEND AS REQUIRED BY LANDSCAPE ARCHITECT.
 - 3. SHRUBS & GROUNDCOVER PLANTED ADJACENT TO CITY SIDEWALKS NEED TO BE PLACED SO THE PLANTS, AT THEIR MATURE HEIGHT & WIDTH, WILL NOT ENCRoACH INTO THE CITY'S SIDEWALK.
 - 4. TREE TO BE SET PLUMB, AFTER SETTLEMENT.
 - 5. ALL NURSERY TAGS, TAPE, AND SIMILAR MATERIALS SHALL BE REMOVED.

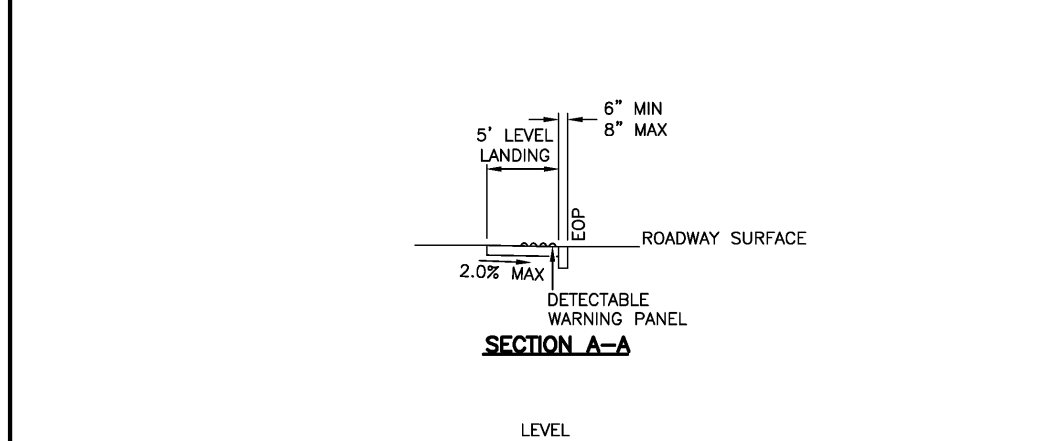
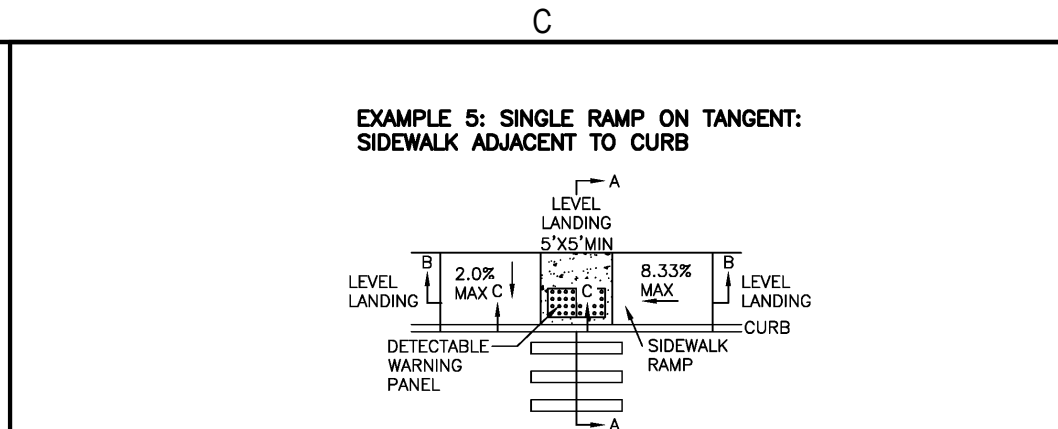
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1	REV STYLE	11-11		CR-3	
2	SECT C-C	11-11		CR-3	



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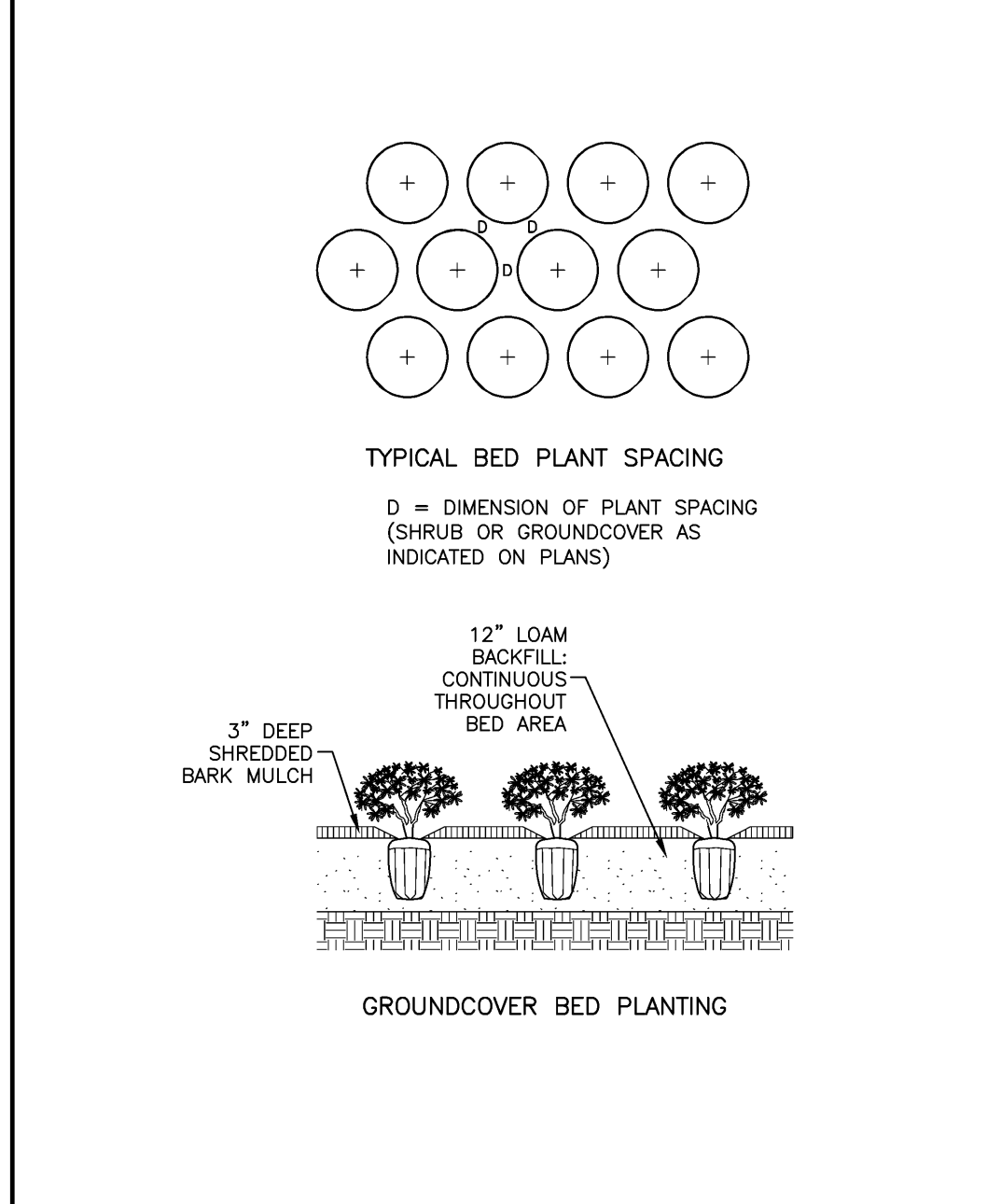


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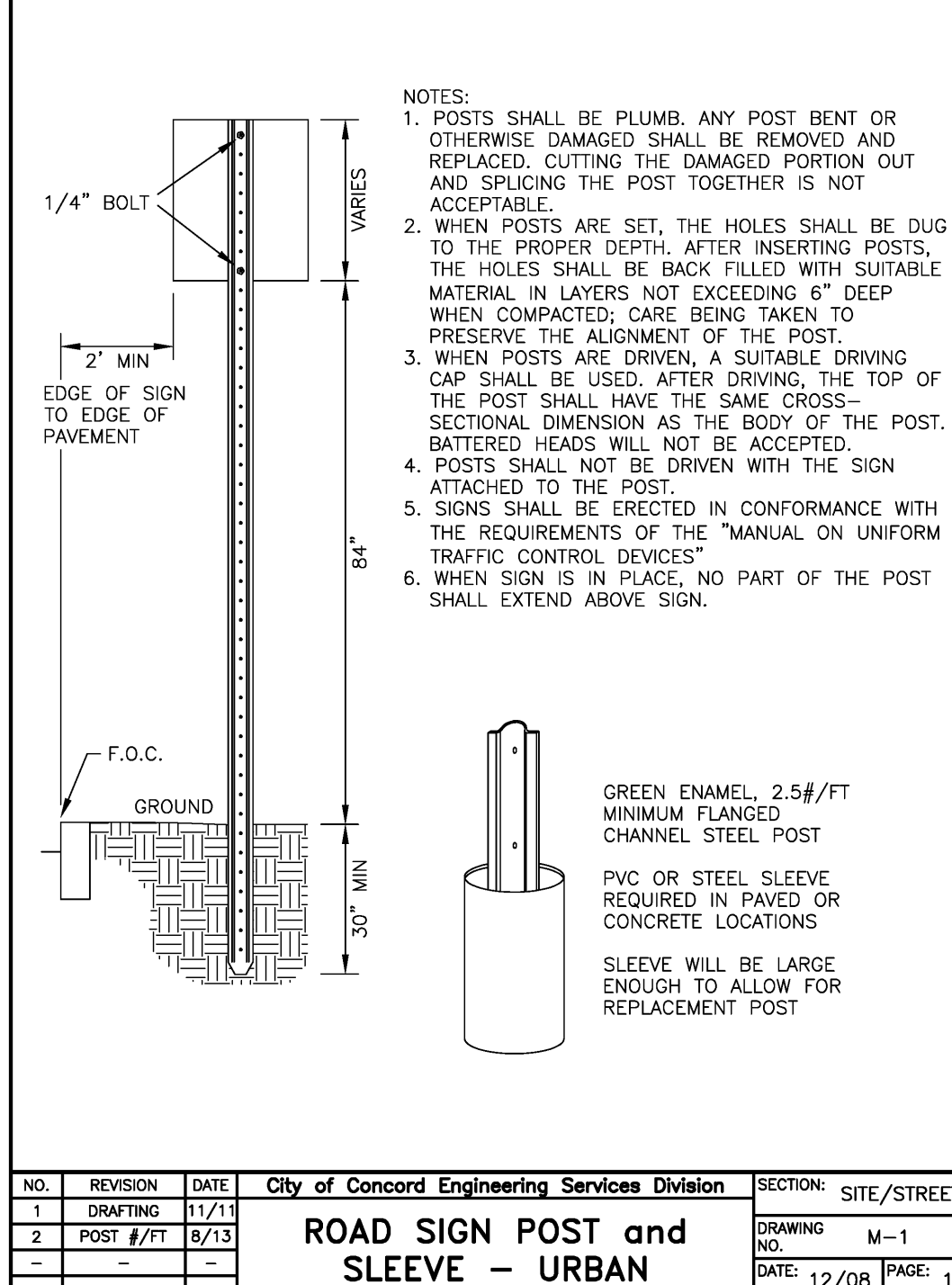


- NOTES:
- 1. POSTS SHALL BE PLUMB. ANY POST BENT OR OTHERWISE DAMAGED SHALL BE REMOVED AND REPLACED. CUTTING THE DAMAGED PORTION OUT AND SPLICING THE POST TOGETHER IS NOT ACCEPTABLE.
 - 2. WHEN POSTS ARE SET, THE HOLES SHALL BE DUG TO THE PROPER DEPTH, AFTER INSERTING POSTS, THE HOLES SHALL BE BACK FILLED WITH SUITABLE MATERIAL IN LAYERS NOT EXCEEDING 6" DEEP WHEN COMPACTED; CARE BEING TAKEN TO PRESERVE THE ALIGNMENT OF THE POST.
 - 3. WHEN POSTS ARE DRIVEN, A SUITABLE DRIVING CAP SHALL BE USED. AFTER DRIVING, THE TOP OF THE POST SHALL HAVE THE SAME CROSS-SECTIONAL DIMENSION AS THE BODY OF THE POST. BATTERED HEADS WILL NOT BE ACCEPTED.
 - 4. POSTS SHALL NOT BE DRIVEN WITH THE SIGN ATTACHED TO THE POST.
 - 5. SIGNS SHALL BE ERRECTED IN CONFORMANCE WITH THE REQUIREMENTS OF THE 'MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES'.
 - 6. WHEN SIGN IS IN PLACE, NO PART OF THE POST SHALL EXTEND ABOVE SIGN.

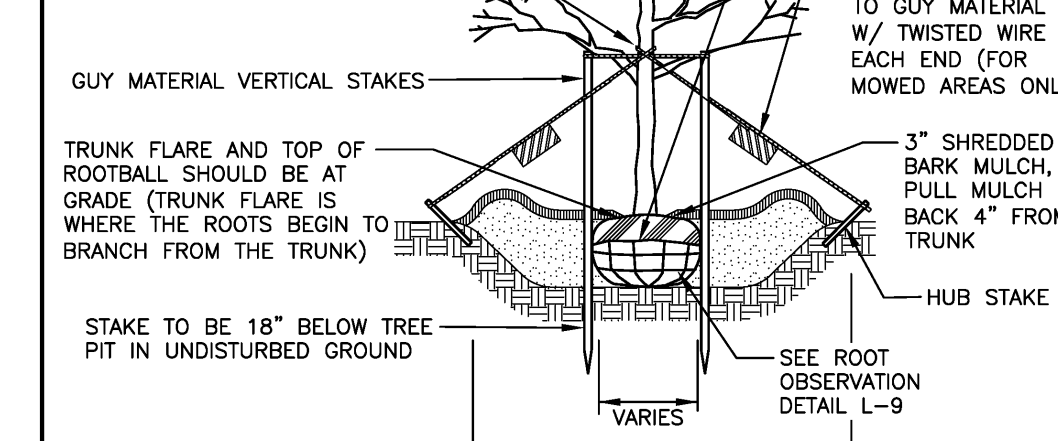
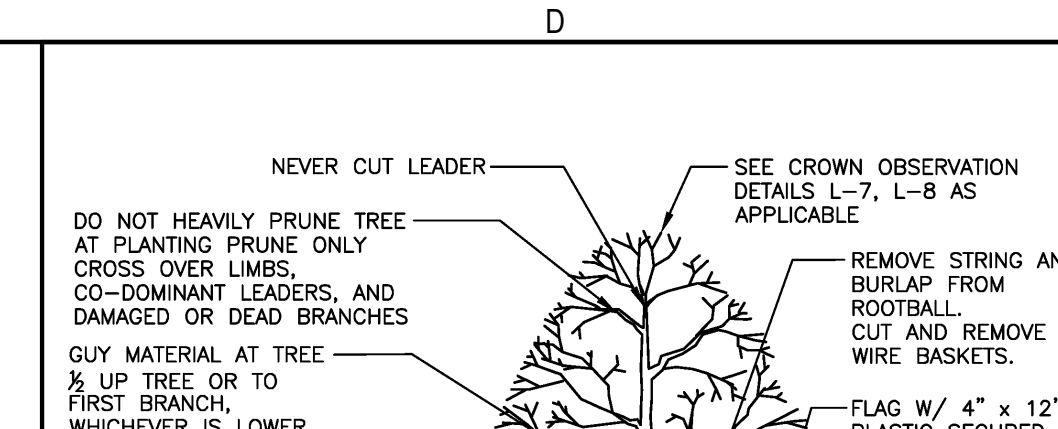
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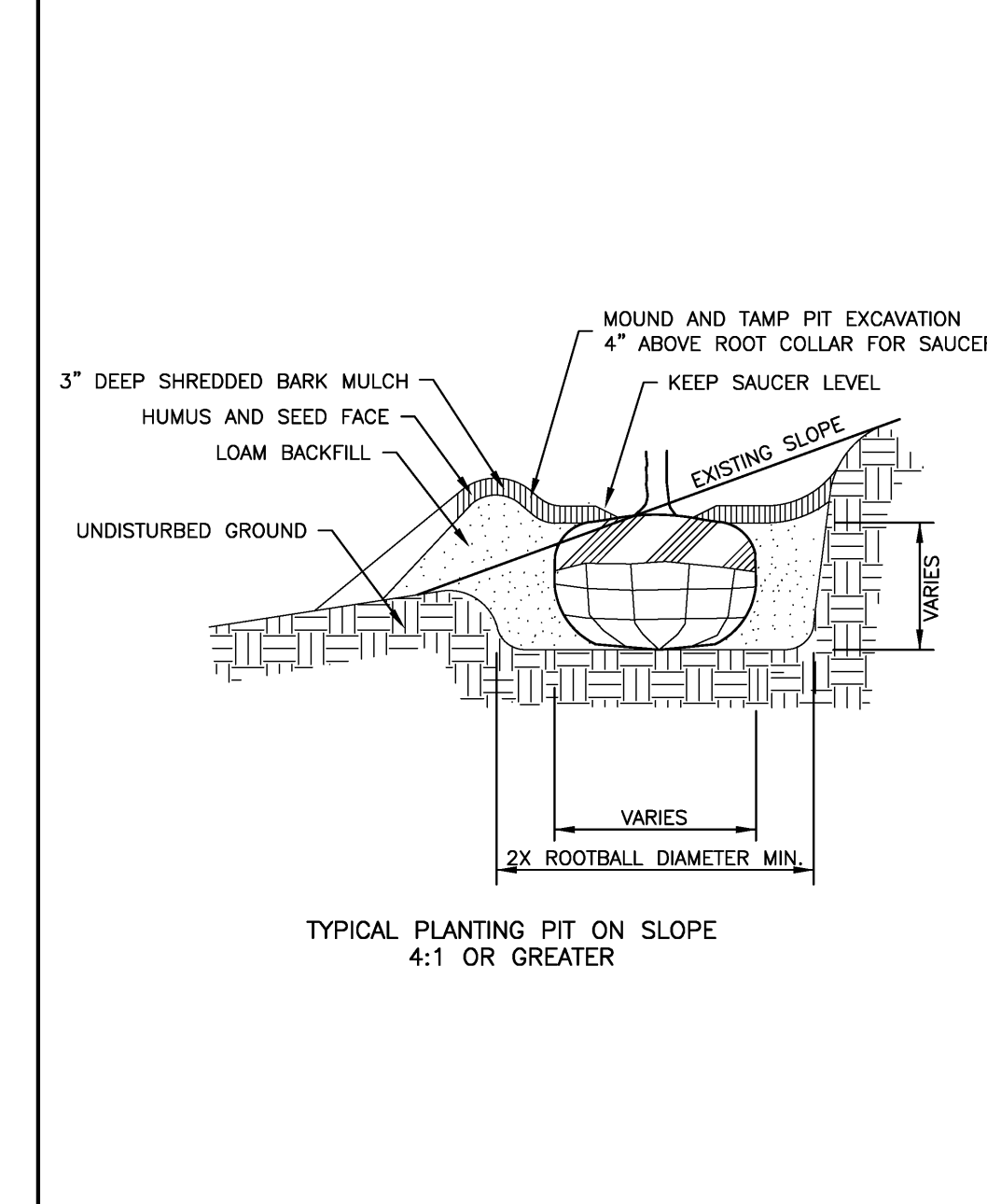


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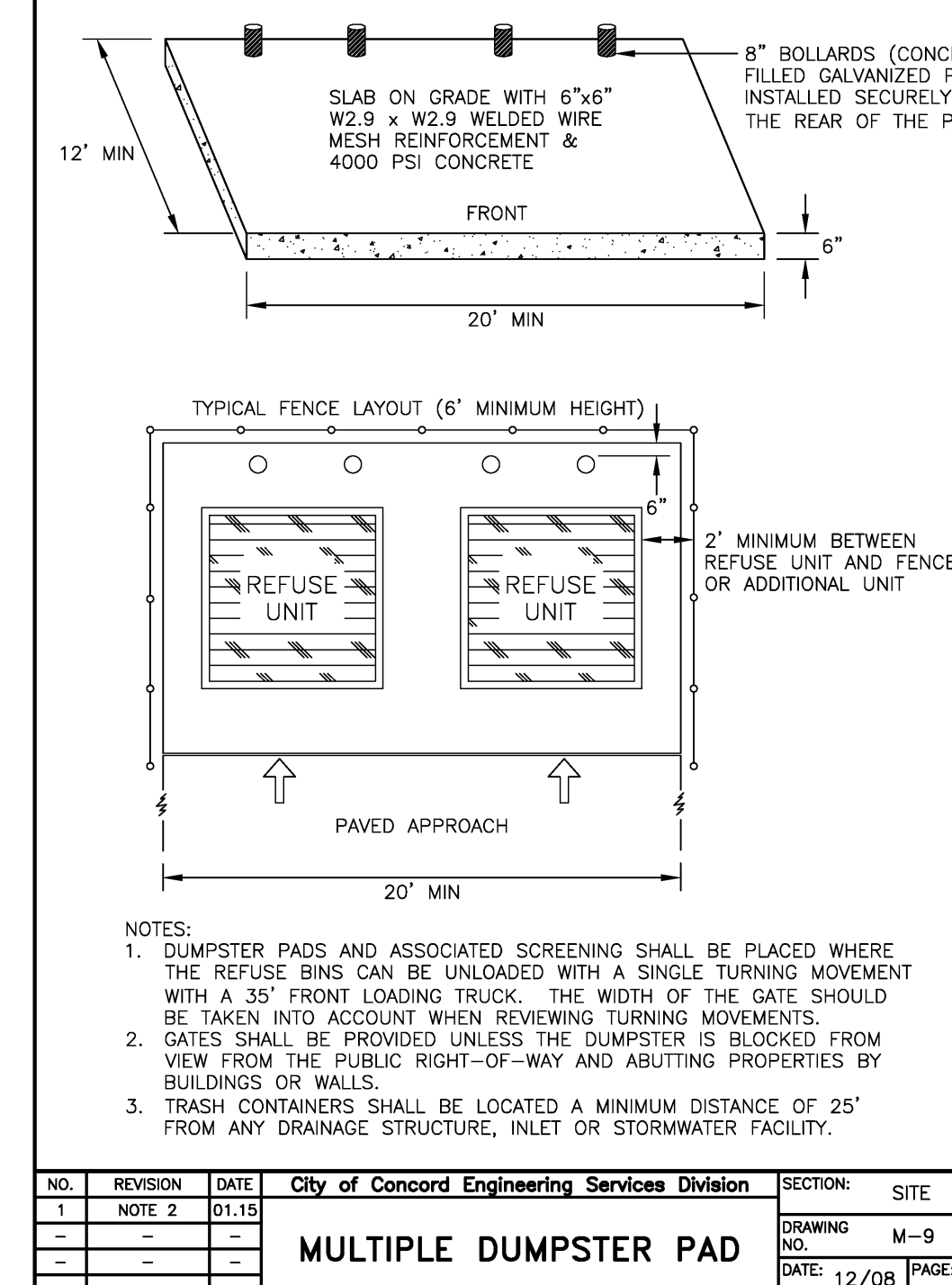


- NOTES:
- 1. GUYING AND STAKING TO BE DETERMINED IN THE FIELD BY THE LANDSCAPE ARCHITECT. LOCAL FIELD CONDITIONS AS WELL AS PLANT CHARACTERISTICS WILL DETERMINE THE NECESSITY OF GUYING AND STAKING.
 - 2. TYPICALLY ONLY TREES WITH A 3" OR GREATER CALIPER NEED TO BE STAKED. TREES WITH LESS THAN A 3" CALIPER NEED TO BE STAKED ONLY AS REQUIRED BY LANDSCAPE ARCHITECT.
 - 3. ONLY WRAP TREE TRUNKS AS REQUIRED BY LANDSCAPE ARCHITECT.
 - 4. TREE SHALL BE SET PLUMB, AFTER SETTLEMENT.
 - 5. LOAM FOR BACKFILLING SHALL BE AMENDED AS REQUIRED BY LANDSCAPE ARCHITECT.
 - 6. CITY TREES PLANTED ON PRIVATE PROPERTY, ADJACENT TO A PUBLIC RIGHT-OF-WAY, NEED TO BE PLANTED A MINIMUM OF 10 FEET FROM THE EDGE OF THE CITY SIDEWALK.
 - 7. ALL NURSERY TAGS, TAPE, AND SIMILAR MATERIALS SHALL BE REMOVED.

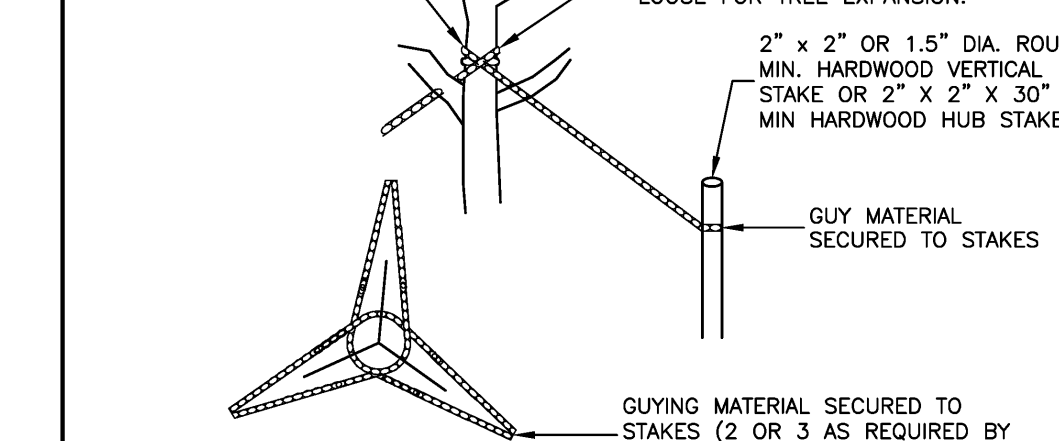
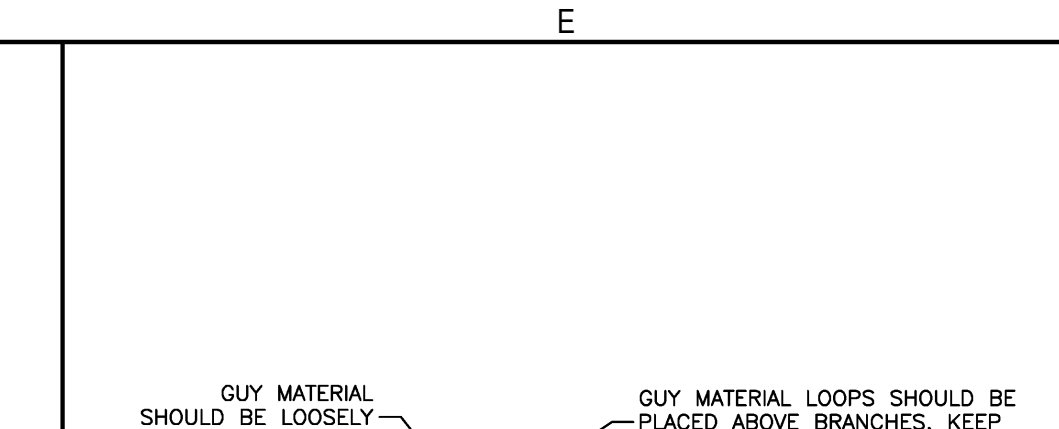
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NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION:	LANDSCAPE
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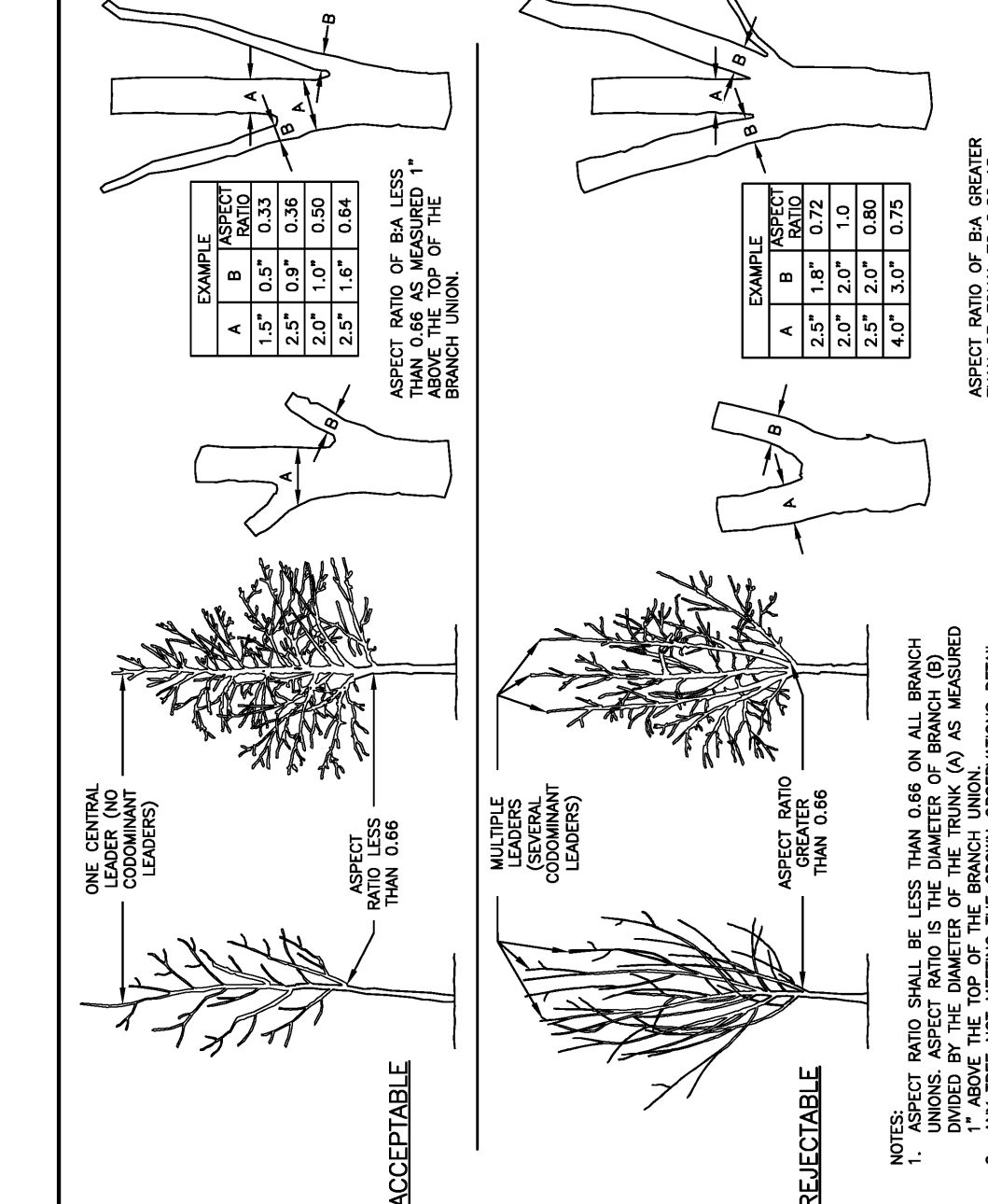


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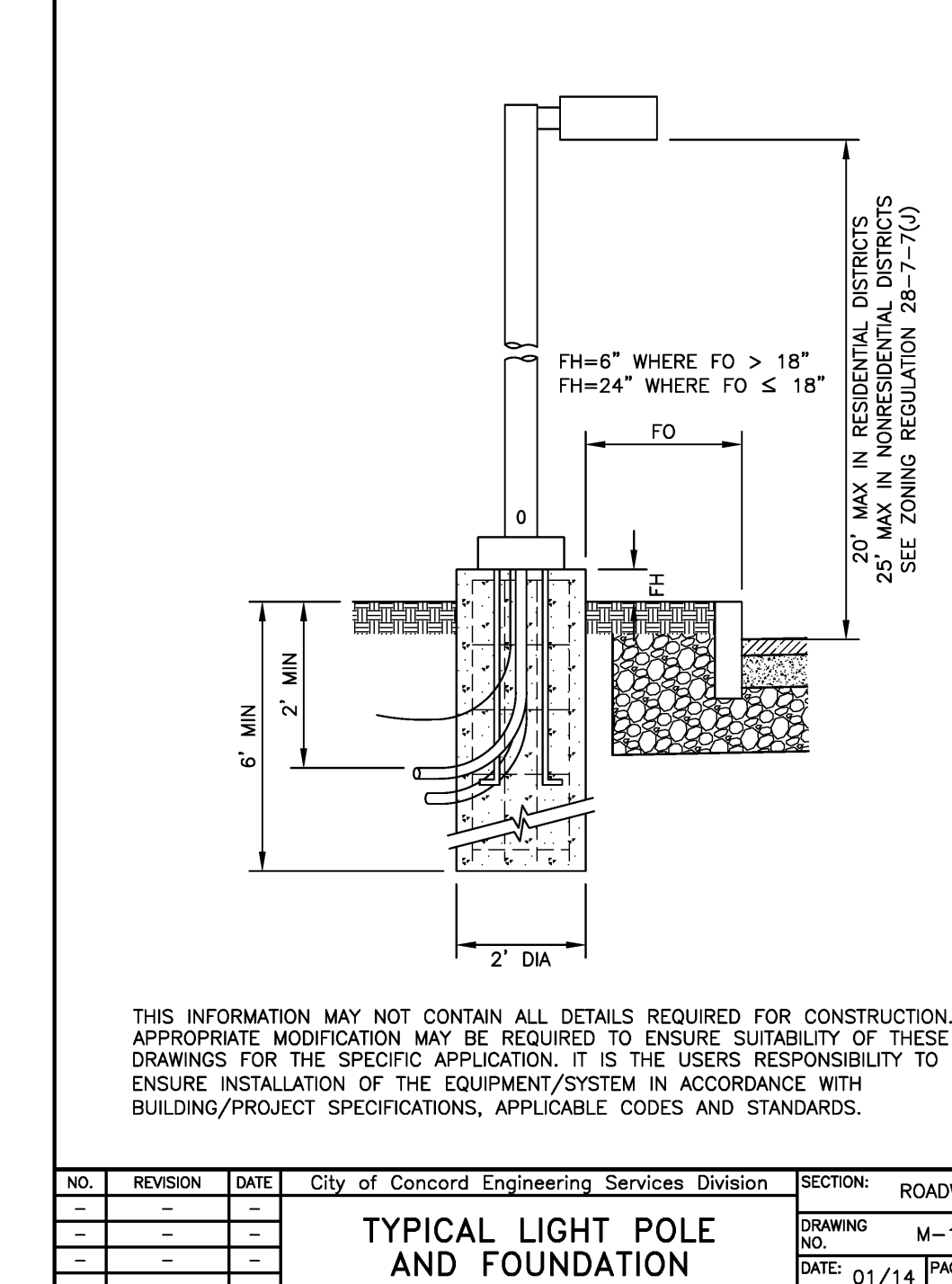


- NOTES:
- 1. POSTS SHALL BE PLUMB. ANY POST BENT OR OTHERWISE DAMAGED SHALL BE REMOVED AND REPLACED. CUTTING THE DAMAGED PORTION OUT AND SPLICING THE POST TOGETHER IS NOT ACCEPTABLE.
 - 2. WHEN POSTS ARE SET, THE HOLES SHALL BE DUG TO THE PROPER DEPTH, AFTER INSERTING POSTS, THE HOLES SHALL BE BACK FILLED WITH SUITABLE MATERIAL IN LAYERS NOT EXCEEDING 6" DEEP WHEN COMPACTED; CARE BEING TAKEN TO PRESERVE THE ALIGNMENT OF THE POST.
 - 3. WHEN POSTS ARE DRIVEN, A SUITABLE DRIVING CAP SHALL BE USED. AFTER DRIVING, THE TOP OF THE POST SHALL HAVE THE SAME CROSS-SECTIONAL DIMENSION AS THE BODY OF THE POST. BATTERED HEADS WILL NOT BE ACCEPTED.
 - 4. POSTS SHALL NOT BE DRIVEN WITH THE SIGN ATTACHED TO THE POST.
 - 5. SIGNS SHALL BE ERRECTED IN CONFORMANCE WITH THE REQUIREMENTS OF THE 'MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES'.
 - 6. WHEN SIGN IS IN PLACE, NO PART OF THE POST SHALL EXTEND ABOVE SIGN.

NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION:	LANDSCAPE
1	NOTES	4.15		L-2	



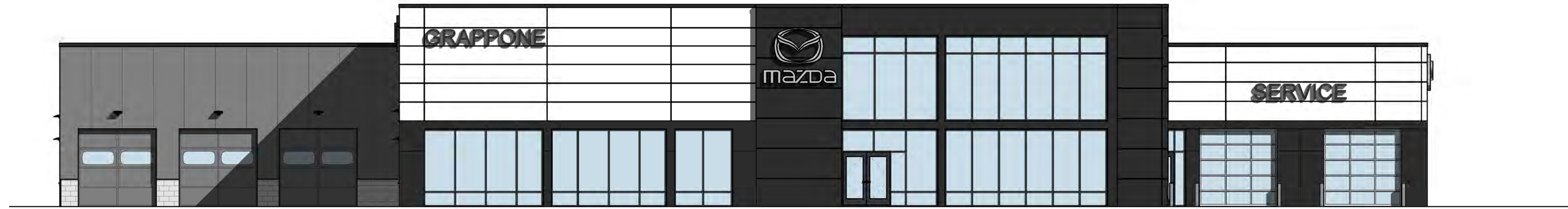
NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION:	LANDSCAPE
1	NOTES	4.15		L-2	



NO.	REVISION	DATE	City of Concord Engineering Services Division	SECTION:	LANDSCAPE
1	NOTES	4.15		L-2	



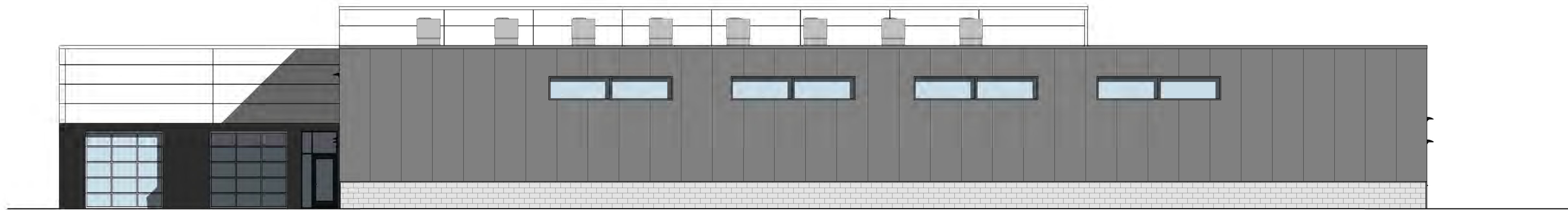
REV.	DATE	COMMENTS



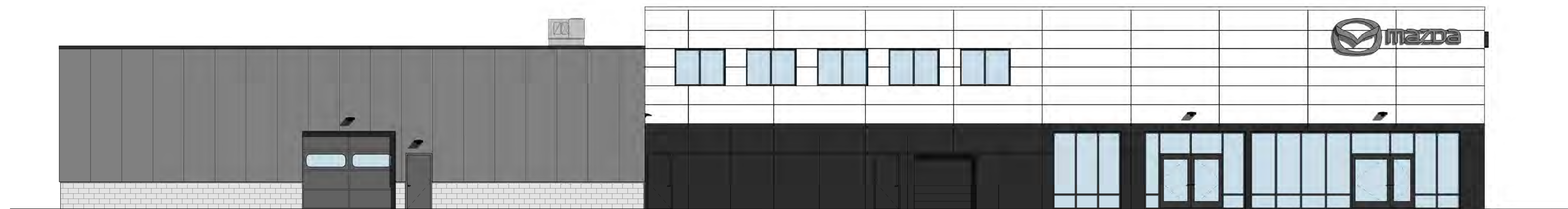
NORTH ELEVATION
 1/8" = 1'-0"



WEST ELEVATION
 1/8" = 1'-0"



SOUTH ELEVATION
 1/8" = 1'-0"



EAST ELEVATION
 1/8" = 1'-0"

three inches = one foot
 one and one half inches = one foot
 one inch = one foot
 three quarter inch = one foot
 one quarter inch = one foot
 one eighth inch = one foot
 TEMPLATE DATE: 11/22/2019

PROGRESS - NOT FOR CONSTRUCTION

PLAN KEY:

PROJECT TITLE / ADDRESS:
GRAPPONE MAZDA

134 MANCHESTER STREET,
 CONCORD, NH 03301

SCALE: AS NOTED DWN BY: CB
 JOB #: 3714 CHK BY: SD

PRINT DATE: 12/14/2021 4:46:31 PM

ISSUE DATE:

DESIGN REVIEW SET

REVISION	DATE	COMMENTS

COLORED ELEVATIONS

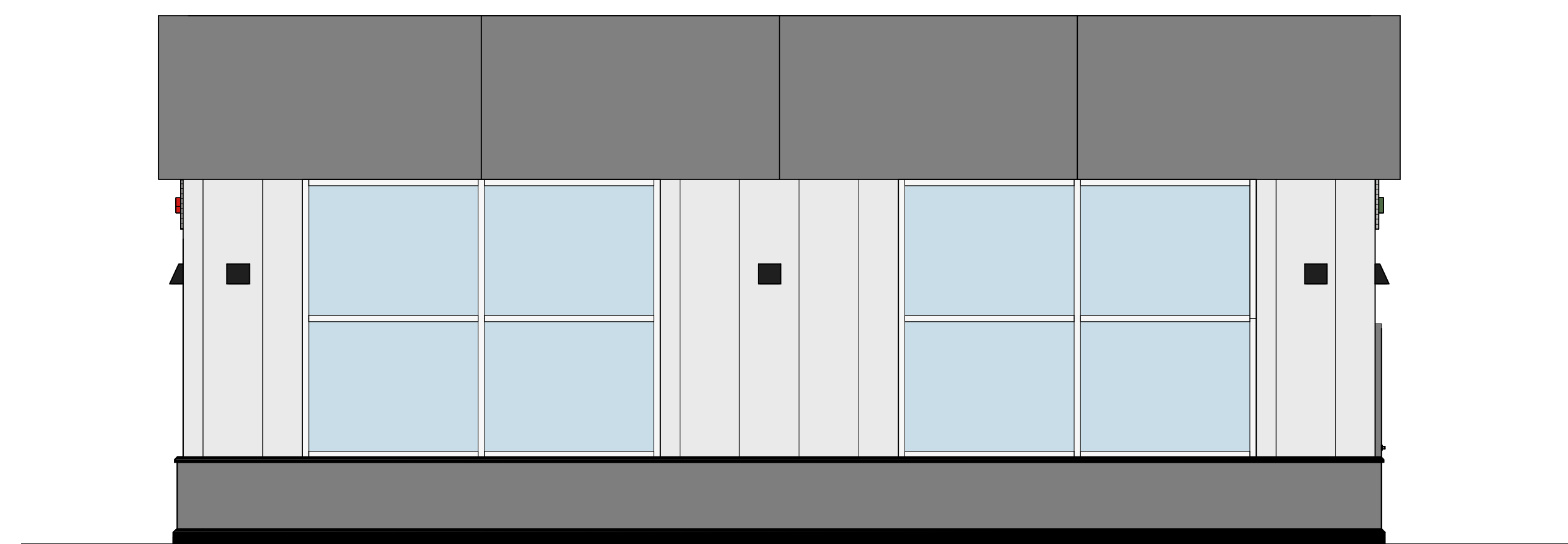
A202

SHEET NUMBER: OF ? ARCHITECTURAL

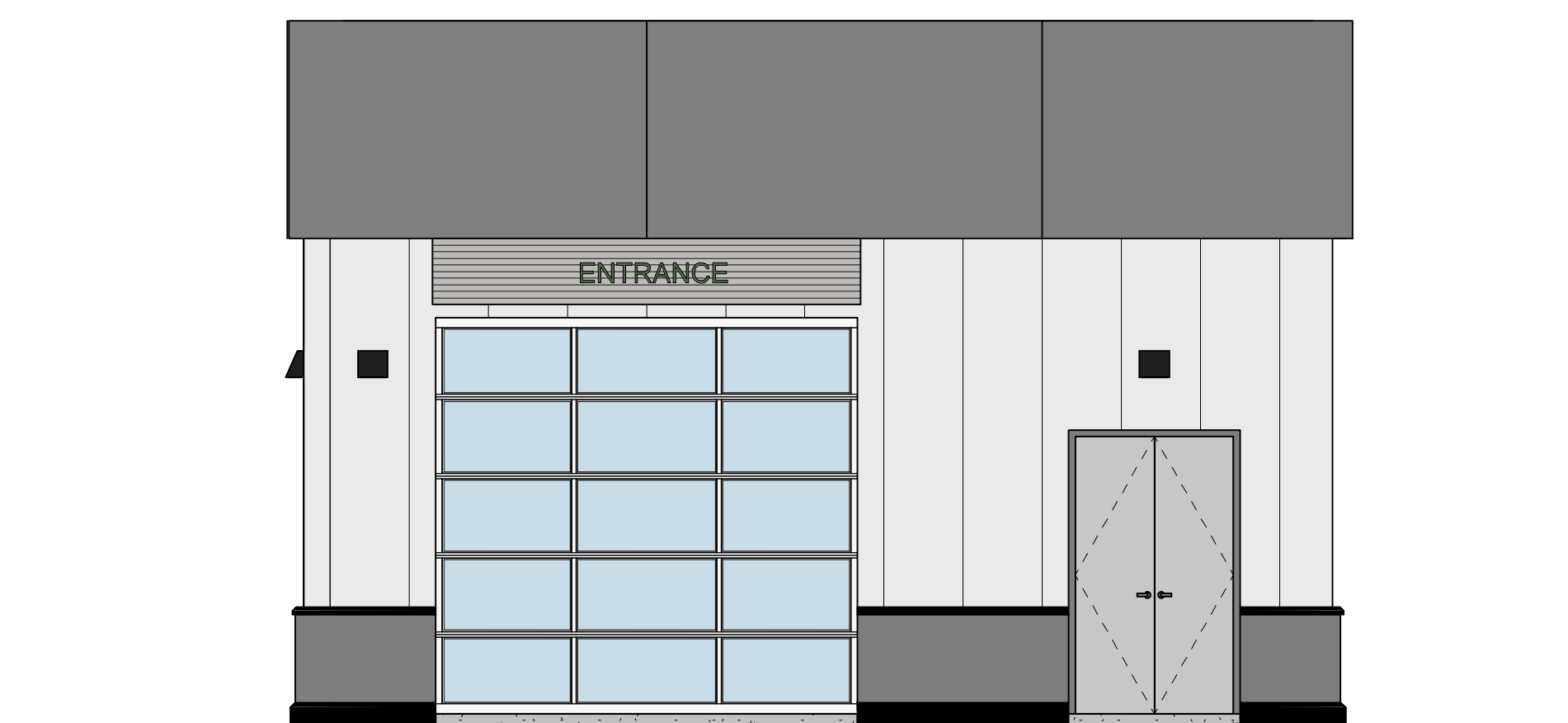
THE DRAWING AND ITS CONTENT IS THE INTELLECTUAL PROPERTY OF WARRENSTREET ARCHITECTS INC. WITH THE EXPLICIT INTENT TO BUILD THE PROJECT TITLED ABOVE AT ONE LOCATION NOTED HEREIN. THE USE OF THE CONTENT FOR ANY OTHER PURPOSE IS PROHIBITED AND PROTECTED UNDER COPYRIGHT LAW.

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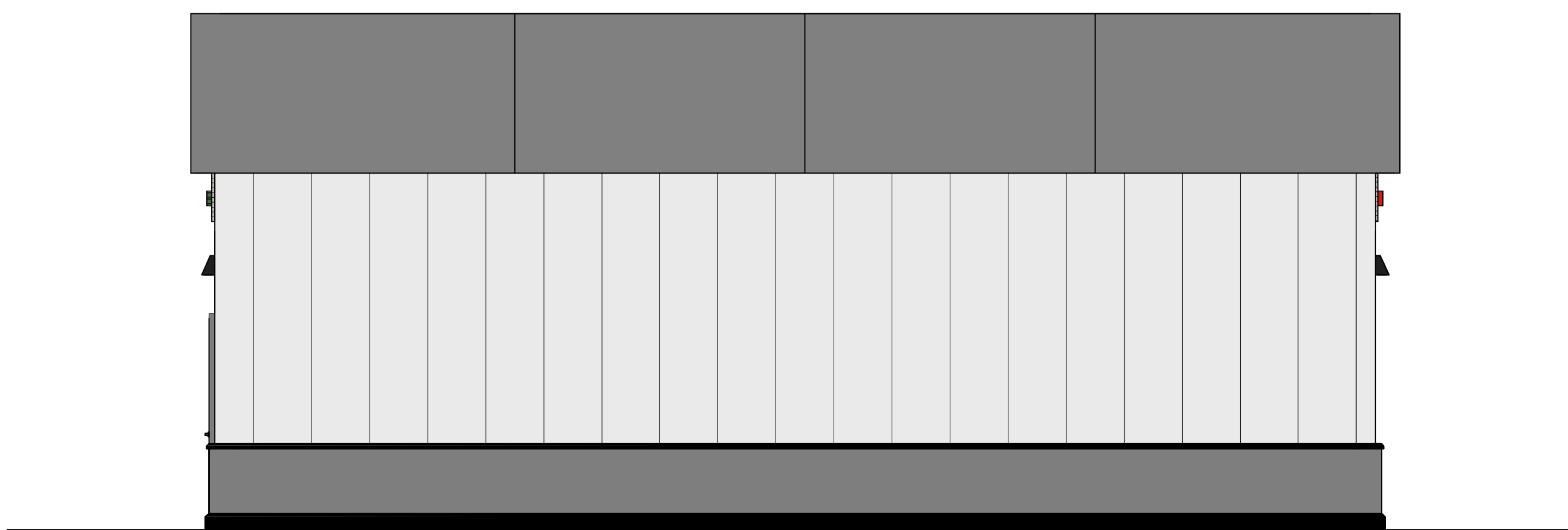
PROGRESS - NOT FOR CONSTRUCTION



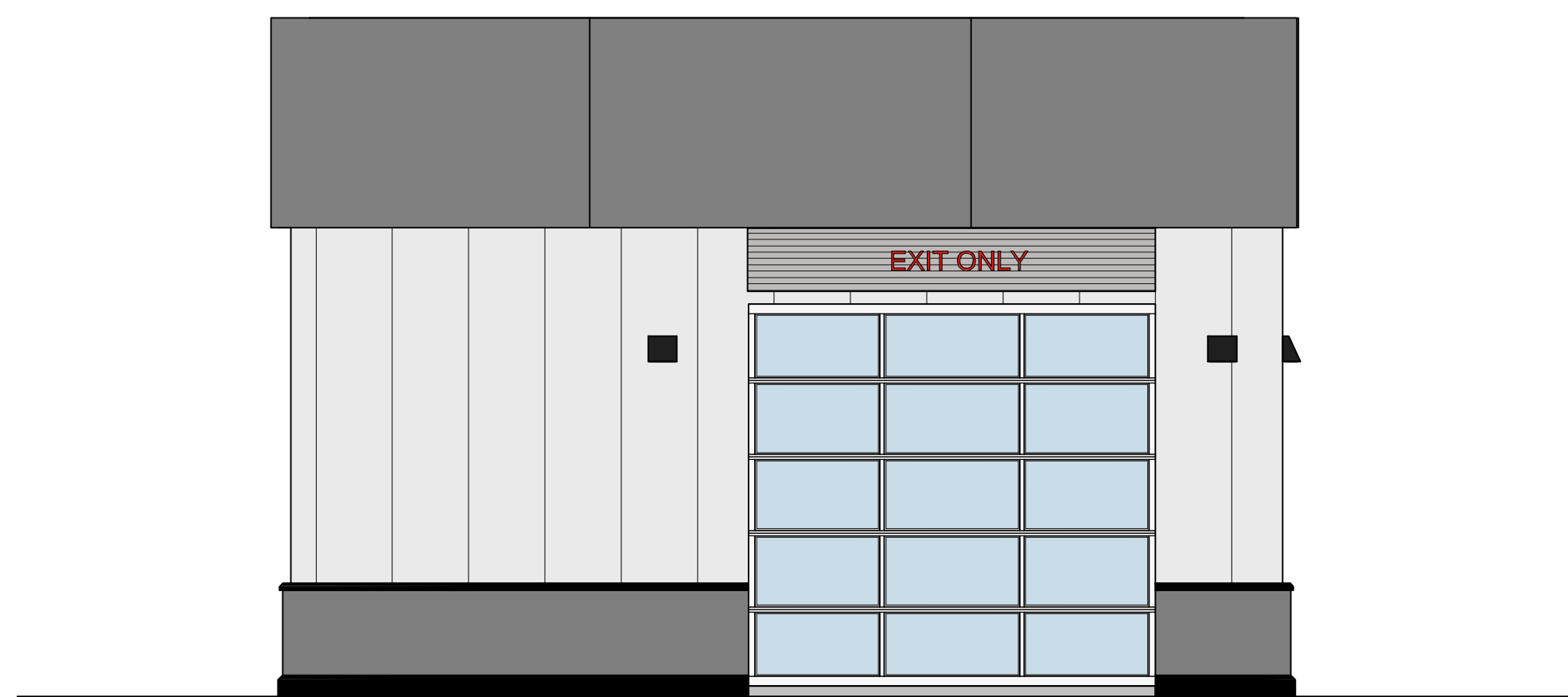
NORTH ELEVATION
 1/4" = 1'-0"



WEST ELEVATION
 1/4" = 1'-0"



SOUTH ELEVATION
 1/4" = 1'-0"



EAST ELEVATION
 1/4" = 1'-0"

PLAN KEY:

PROJECT TITLE / ADDRESS:
GRAPPONE MAZDA

134 MANCHESTER STREET,
 CONCORD, NH 03301

SCALE: AS NOTED DWN BY: CB
 JOB #: 3714 CHK BY: SD

PRINT DATE: 12/14/2021 4:50:32 PM

ISSUE DATE:

DESIGN REVIEW SET

REVISION	DATE	COMMENTS

COLORED CAR WAS
 ELEVATIONS

A201

SHEET NUMBER: OF ? ARCHITECTURAL
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three inches = one foot
 one and one half inches = one foot
 one inch = one foot
 three quarter inch = one foot
 one quarter inch = one foot
 one eighth inch = one foot
 P:\PROJECTS\3714 GRAPPONE MAZDA\A201 Design\A201 Drawings\3714 A201-17-14 Grappone Mazda Car Wash RCT.rvt
 TEMPLATE DATE: 11/25/2019