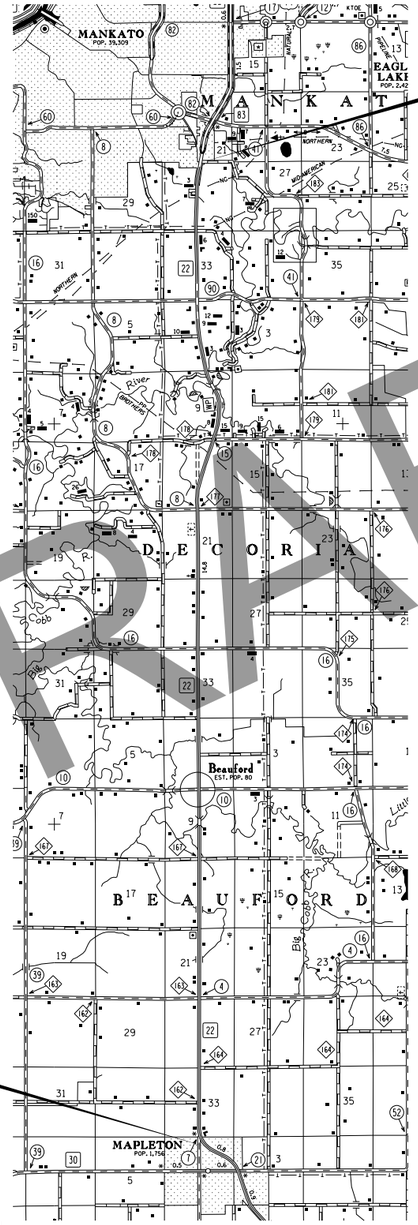
MINNESOTA DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PLAN FOR LANDSCAPING

LOCATED ON TH 22 FROM NORTH EDGE OF MAPLETON TO JUNCTION OF 206TH STREET

STATE PROJ. NO. 0704-110

GROSS LENGTH 73920 FEET 14 MILES
BRIDGES-LENGTH _____ FEET _____ MILES
EXCEPTIONS-LENGTH _____ FEET _____ MILES
NET LENGTH 73920 FEET 14 MILES
REF. POINT 35+00.395 TO REF. POINT 49+00.395



END S.P. 0704-110 (T.H. 22)
STA 732+24.20

BEGIN S.P. 0704-110 (T.H. 22)
STA 70+00.00

DESIGN DESIGNATION

ADT (Current Year) 2017 = 5400 Design Speed 60 MPH

PROJECT LOCATION
COUNTY : BLUE EARTH
DISTRICT : 7

FOR PLANS AND UTILITIES SYMBOLS SEE TECHNICAL MANUAL

PROJ. NO.	CHARGE IDENTIFIER

PLAN REVISIONS		
DATE	SHEET NO.	APPROVER

DATE: 10/20/2017 TIME: 5:4:54 PM
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FED. PROJ. NO. STATE FUNDS

GOVERNING SPECIFICATIONS

THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2 - 5	GENERAL LAYOUT
6 - 7	ESTIMATED QUANTITIES
8	PLANT TABULATION
9 - 30	REMOVAL PLAN
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100	MAPLETON GRADING AND UTILITIES PLAN
101 - 102	MISCELLANEOUS DETAILS
103 - 112	STANDARD PLANS

THIS PLAN CONTAINS 112 SHEETS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: CANDACE C. AMBERG LICENSE # 40646

DATE: _____ SIGNATURE: _____

PROJECT DESIGNERS _____

RECOMMENDED FOR APPROVAL _____ 20 ____
DISTRICT TRANSPORTATION ENGINEER

RECOMMENDED FOR APPROVAL _____ 20 ____
PRINCIPAL LANDSCAPE ARCHITECT

RECOMMENDED FOR APPROVAL _____ 20 ____
STATE PRE-LETTING ENGINEER

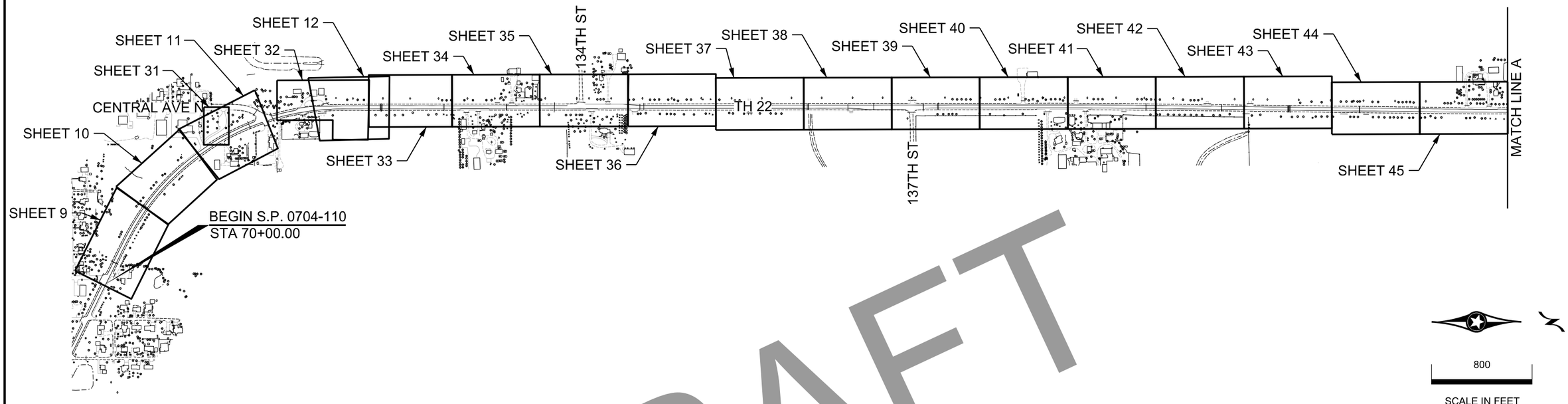
OFFICE OF LAND MANAGEMENT APPROVAL _____ 20 ____
DIRECTOR, LAND MANAGEMENT

APPROVED _____ 20 _____
STATE DESIGN ENGINEER

I HEREBY CERTIFY THAT THE FINAL FIELD REVISIONS, IF ANY, WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: _____ LICENSE # _____

DATE: _____ SIGNATURE: _____



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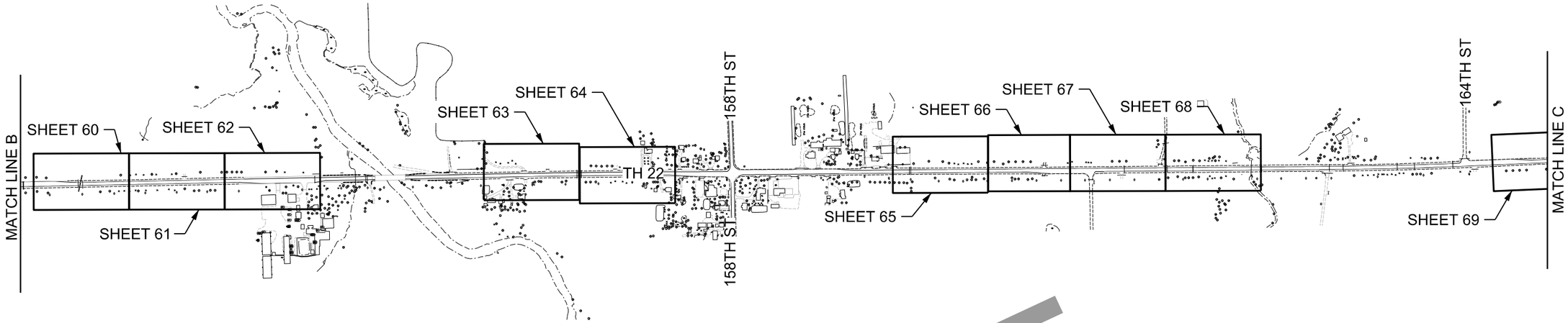

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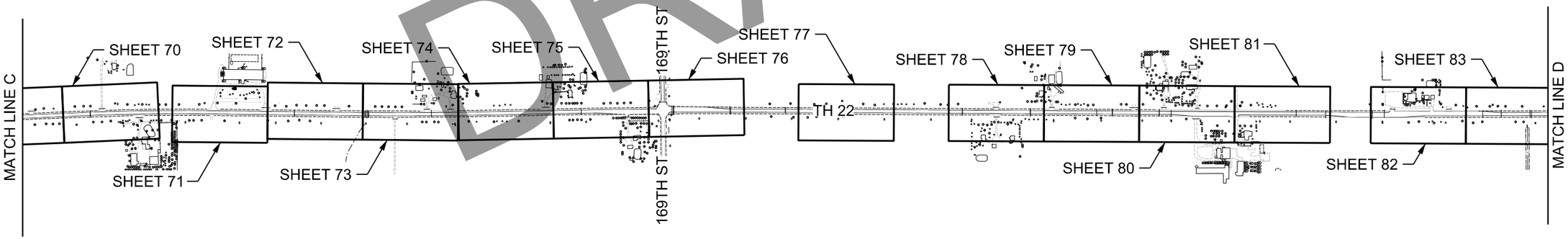
SCALE IN FEET



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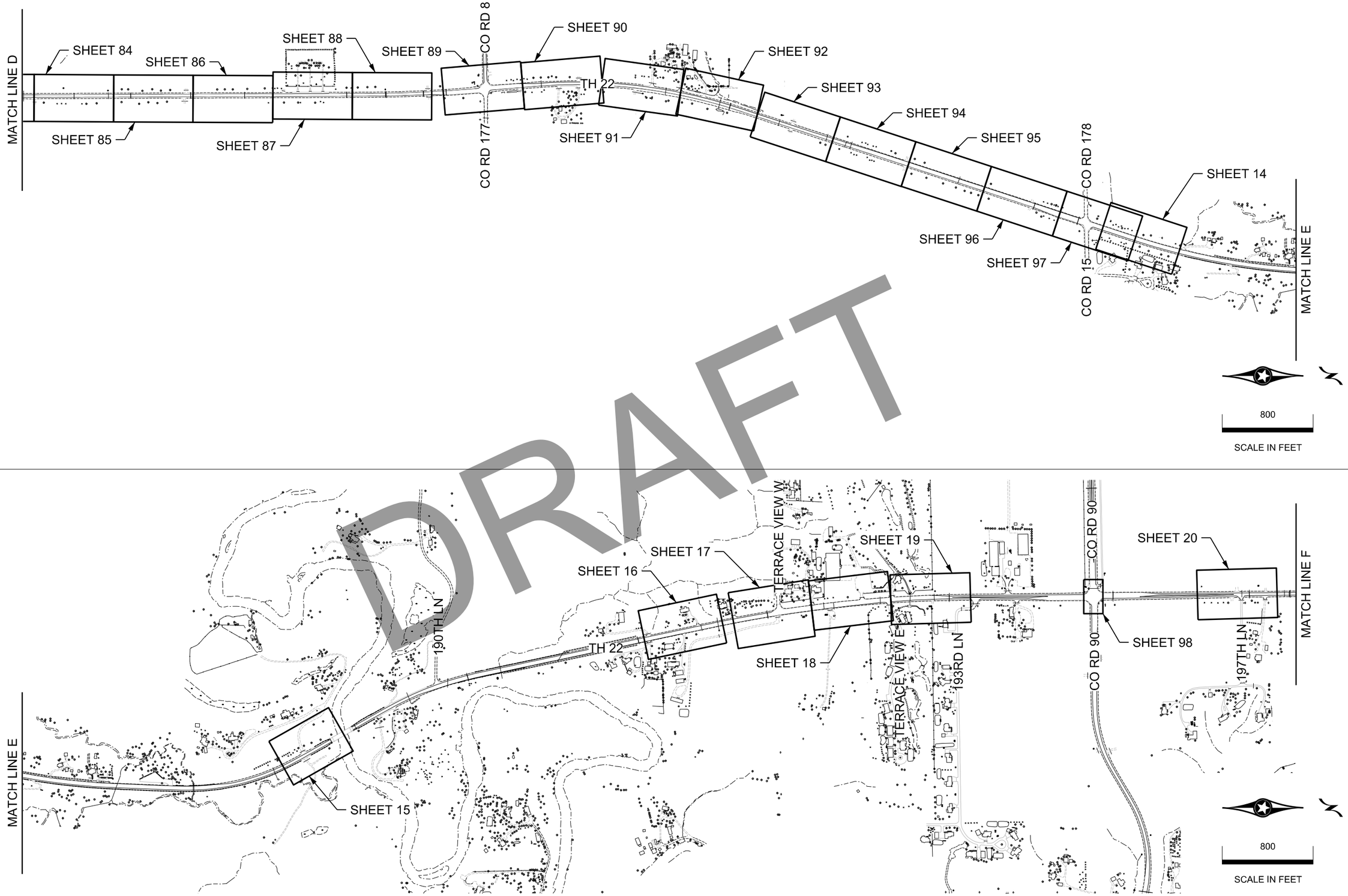

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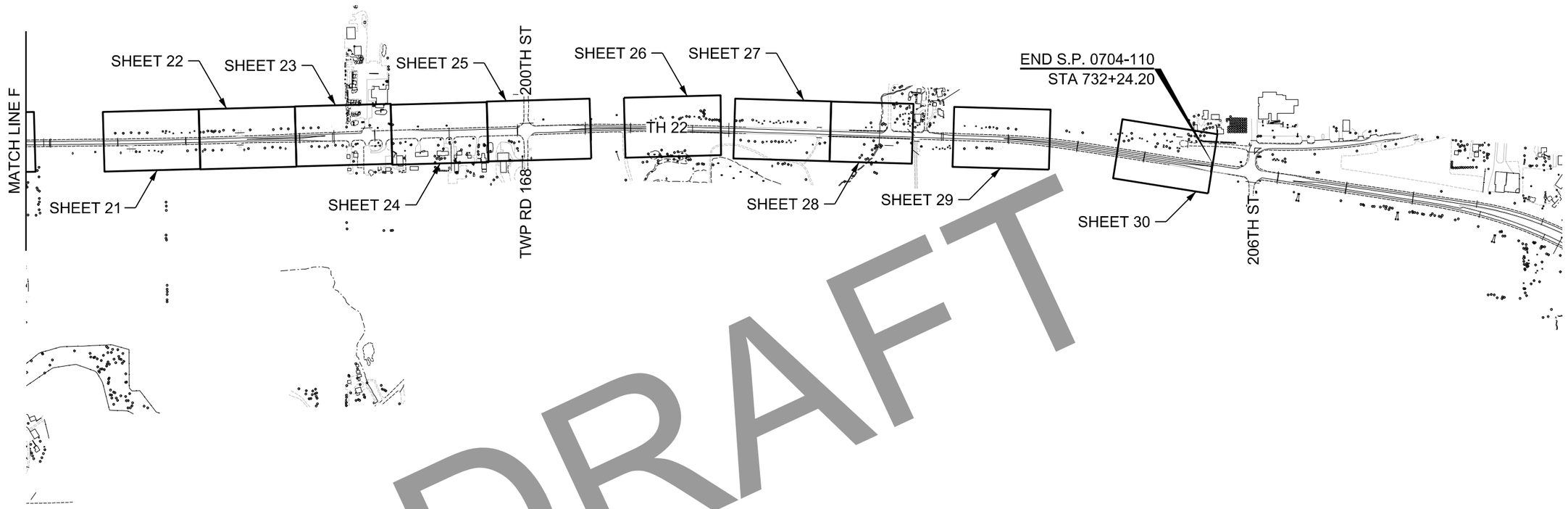

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SCALE IN FEET

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STATEMENT OF ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNITS	ESTIMATED S.P. 0704-110	ESTIMATED CITY OF MAPLETON
2021.501	MOBILIZATION	LUMP SUM		
2101.505	CLEARING	ACRE		
2101.502	CLEARING	TREE		
2101.524	GRUBBING	ACRE		
2101.524	GRUBBING	TREE		
2104.504	REMOVE CONCRETE PAVEMENT	SQ FT		
2104.504	REMOVE BITUMINOUS PAVEMENT	SQ FT		
2105.604	GEOTEXTILE WEED BARRIER FABRIC SPECIAL	SQ YD		
2105.504	GEOTEXTILE FABRIC TYPE III	SQ YD		
2105.504	GEOTEXTILE FABRIC TYPE IV	SQ YD		
2574.507	BOULEVARD TOPSOIL BORROW	CU YD		
2112.519	SUBGRADE PREPARATION	SQ YD		
2123.610	STREET SWEEPER (WITH PICKUP BROOM)	HOUR		
2301.504	CONCRETE PAVEMENT 4"	SQ YD		
2531.504	7" CONCRETE DRIVEWAY APRON PAVEMENT	SQ YD		
2502.502	6" PRECAST CONCRETE HEADWALL	EACH		
2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GAL		
2360.504	TYPE SP 12.5 WEARING COURSE MIXTURE (2,B) 2.0" THICK	SQ YD		
2360.504	TYPE SP 12.5 NON WEARING COURSE MIXTURE (2,B) 2"	SQ YD		
2411.604	CONSTRUCT STONE WALL (1)	SQ YD		
2451.609	GRANULAR BACKFILL	TON		
2502.503	6" PERF TP PIPE DRAIN	LIN FT		
2506.502	CONST DRAINAGE STRUCTURE DESIGN D1	EACH		
2506.502	CASTING ASSEMBLY	EACH		
2531.603	PRECAST CONCRETE CURB DESIGN SPECIAL	LIN FT		
2531.618	TRUNCATED DOMES	SQ FT		
2540.602	FLAGPOLE	EACH		
2540.601	STONE MONUMENT	LUMP SUM		
2540.603	CAST STONE CAP	EACH		
2540.603	LANDSCAPE EDGER	LIN FT		
2545.501	LIGHTING SYSTEM	LUMP SUM		
2563.601	TRAFFIC CONTROL	LUMP SUM		

UTILITIES TABULATION
COMPANY
BENCO ELECTRIC
GREATER MINNESOTA GAS
BLUE EARTH COUNTY
MAGELLAN MIDSTREAM PARTNERS
CHARTER COMMUNICATIONS
MIDCONTINENT COMMUNICATIONS
CITY OF MAPLETON
MNDOT
CONSOLIDATED COMMUNICATIONS
NORTHWEST GAS
FRONTIER COMMUNICATIONS
XCEL ENERGY

UTILITY NOTES:

1. NO UTILITIES WILL BE AFFECTED BY THIS PROJECT.
2. THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".
3. ALL POWERLINES ARE DISTRIBUTION UNLESS NOTED ON THE PLAN.

GENERAL NOTES:

1. ALL AREAS INDICATED ON REMOVAL PLANS FOR CLEARING OF VEGETATION (SHRUBS, PIONEER TREES AND HERBACEOUS VEGETATIONTO INCLUDE RESTORATION OF DISTURBED AREAS WITH MIX 35-241 WITH TYPE 3 FERTILIZER AND TYPE 3 MULCH AND BLANKET WITHIN 24 HOURS OF REMOVALS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. ALL AREAS INDICATED ON LANDSCAPE PLANS TO RECEIVE TYPE OR TYPE 2 SEED MIXTURE TO INCLUDE NECESSARY REMOVALS OF EXISTING HERBACEOUS VEGETATION PRIOR TO INSTALLATION OF SEED. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. ALL UTILITIES SHALL BE STAKED PRIOR TO COMMENCEMENT OF WORK. NO UTILITIES ARE ANTICIPATED TO BE AFFECTED BY THIS PROJECT.
4. ALL PROPOSED PLANTINGS SHALL BE STAKED FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT AND PROJECT ENGINEER AFTER ALL UTILITIES ARE MARKED BUT PRIOR TO APPLICATION OF HERBICIDE OR PLANTING BED PREPARATIONS FOR ADJUSTMENTS.
5. ALL AREAS DISTURBED BY CONTRACTOR OUTSIDE OF AREAS DESIGNATED ON PLAN SHEETS TO BE RESTORED AT CONTRACTOR'S EXPENSE, INCIDENTAL.
6. CONTRACTOR SHALL NOT BE ALLOWED WITHIN ANY EXISTING TREE DRIP LINES AND CHEMICALS SHALL NOT BE ALLOWED WITHIN 10 FEET OF EXISTING TREE DRIP LINES. ANY TREES DAMAGED TO BE REPLACED AT CONTRACTOR'S EXPENSE, INCIDENTAL.
7. CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL IN ACCORDANCE WITH MMUTCD FOR DURATION OF PROJECT.

PROJECT NOTES:

(1) TO BE KASOTA STONE OR APPROVED EQUIVALENT

DATE: 10/23/2017 TIME: 5:10:24 PM
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DRAWN BY: BAK
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SIGNATURE: _____
PRINTED NAME: CANDACE C. AMBERG
DATE: 10/23/2017 LIC. NO. 40646

DEPARTMENT OF TRANSPORTATION

MINNESOTA DEPARTMENT OF TRANSPORTATION
TH 22 LANDSCAPING FROM THE CITY OF MAPLETON TO MANKATO

WSB

ESTIMATED QUANTITIES

STATE PROJ. NO. 0704-110 (T.H. 22)

Sheet No. 6 of 112 Sheets

STATEMENT OF ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNITS	ESTIMATED S.P. 0704-110	ESTIMATED CITY OF MAPLETON
2582.503	4" SOLID LINE PAINT	LIN FT		
2582.518	PAVT MSSG PAINT	SQ FT		
2564.618	SIGN TYPE C (2)	SQ FT		
2502.602	6" PVC PIPE DRAIN CLEANOUT	SQ FT		
2503.503	6" PVC PIPE	LIN FT		
2215.509	AGGREGATE BASE	TON		
2571.524	CONIFEROUS TREE 6' HT B&B	TREE		
2571.524	CONIFEROUS TREE 8' HT B&B	TREE		
2571.524	DECIDUOUS TREE 1.5" CAL B&B	TREE		
2571.524	DECIDUOUS TREE 2" CAL B&B	TREE		
2571.524	DECIDUOUS TREE 4" CAL FIELD DUG	TREE		
2571.524	ORNAMENTAL TREE 5' HT BR	TREE		
2571.524	ORNAMENTAL TREE 6' HT BR	TREE		
2571.525	DECIDUOUS SHRUB NO 12" HT BR	SHRUB		
2571.525	DECIDUOUS SHRUB NO 18" HT BR	SHRUB		
2571.527	PERENNIAL 4" CONT	PLANT		
2571.527	ORNAMENTAL GRASS NO 1 CONT	PLANT		
2571.527	PERENNIAL PLUGS	PLANT		
2573.501	STORM DRAIN INLET PROTECTION	LUMP SUM		
2575.507	MULCH MATERIAL TYPE 6	CU YD		
2575.603	MULCH TYPE SPECIAL	CU YD		
2575.508	SEED MIXTURE 35-241	LB		
2575.608	SEED MIXTURE SPECIAL (TYPE 1)	LB		
2575.608	SEED MIXTURE SPECIAL (TYPE 2)	LB		

PROJECT NOTES:

(2) SIGN TO BE AN R7-8M SIGN

THE FOLLOWING STANDARD PLATES APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT:

MNDOT STANDARD PLATES	
PLATE NO.	DESCRIPTION
3131C	PRECAST CONCRETE HEADWALL FOR SUBSURFACE DRAINS
4025B	DROP INLETS OR CATCH BASINS - DESIGN DI

DATE: 10/23/2017 TIME: 5:10:26 PM
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DATE: 10/23/2017 LIC. NO. 40646

DEPARTMENT OF TRANSPORTATION

MINNESOTA DEPARTMENT OF TRANSPORTATION
TH 22 LANDSCAPING FROM THE CITY OF MAPLETON TO MANKATO

WSB

ESTIMATED QUANTITIES

STATE PROJ. NO. 0704-110 (T.H. 22)

PLANT STOCK TABULATION S.P. 0704-110 (T.H. 22)

KEY	SPECIES	MINIMUM ACCEPTABLE DIMENSIONS	UNITS	TOTAL QUANTITY
	CONIFEROUS TREE 6'HT B&B			
BLF_6'	FIR, BALSAM *ABIES BALSAMEA*		TREE	3
ERC_6'	CEDAR, EASTERN RED *JUNIPERUS VIRGINIANA*		TREE	14
NWS_6'	SPRUCE, NORWAY *PICEA ABIES*		TREE	20
	CONIFEROUS TREE 8'HT B&B			
BHS_8'	SPRUCE, BLACK HILLS *PICEA GLAUCA 'DENSATA'*		TREE	56
AUP_8'	PINE, AUSTRIAN *PINUS NIGRA*		TREE	14
	DECIDUOUS TREE 1.5" CAL B&B			
AHH_1.5"	HOPHORNBEAM, AMERICAN *OSTRYA VIRGINIANA*		TREE	29
	DECIDUOUS TREE 2" CAL B&B			
SIM_2"	MAPLE, SIENNA GLEN *ACER X FREEMANII 'SIENNA'*		TREE	13
SWO_2"	OAK, SWAMP WHITE *QUERCUS BICOLOR*		TREE	3
DSE_2"	ELM, DISCOVERY *ULMUS DAVIDIANA DISCOVERY*		TREE	14
CHB_2"	HACKBERRY, COMMON *CELTIS OCCIDENTALIS*		TREE	13
AGG_2"	GINKGO MAIDENHAIR TREE *GINKGO BILOBA 'AUTUMN GOLD' TM*		TREE	14
NAH_2"	HONEY LOCUST, NORTHERN ACCLAIM THORNLESS *GLEDITSIA TRICANTHOS INERMIS 'HARVE' TM*		TREE	26
KCT_2"	COFFEETREE, KENTUCKY *GYMNOCLADUS DIOICA*		TREE	22
	DECIDUOUS TREE 4" FIELD DUG			
ASM_4"	MAPLE, ARMSTRONG FREEMAN *ACER X FREEMANII 'ARMSTRONG'*		TREE	4
	ORNAMENTAL TREE 5' HT BR			
TCH_5'	HAWTHORN, THORNLESS *CRATAEGUS CRUS-GALI 'INERMIS'*		TREE	72
FFC_5'	CRABAPPLE, FIREBIRD *MALUS SARGENTII 'SELECTA'*		TREE	5
ARC_5'	CRABAPPLE, ADIRONDACK *MALUS X 'ADIRONDACK'*		TREE	30
PRC_5'	CRABAPPLE, PRAIRIFIRE *MALUS X 'PRAIRIFIRE'*		TREE	94
	ORNAMENTAL TREE 6' HT BR			
ABS_6'	SERVICEBERRY, AUTUMN BRILLIANCE *AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE'*		TREE	69
MAG_6'	MAGNOLIA *MAGNOLIA X STELLATA (ROYAL STAR)*		TREE	1
ISL_6'	LILAC, IVORY SILK JAPANESE TREE *SYRINGA RETICULATA 'IVORY SILK'*		TREE	53

PLANT STOCK TABULATION S.P. 0704-110 (T.H. 22)

KEY	SPECIES	MINIMUM ACCEPTABLE DIMENSIONS	UNITS	TOTAL QUANTITY
	DECIDUOUS SHRUB 12" HT BR			
FSI_12"	FALSE INDIGO, PURPLE SMOKE *BAPTISIA X 'PURPLE SMOKE'*		SHRUB	54
	DECIDUOUS SHRUB 18" HT BR			
ABH_18"	HYDRANGEA, ANNABELLE *HYDRANGEA ARBORESCENS 'ANNABELLE'*		SHRUB	98
SBV_18"	*SNOWBALL VIBUNUM* *VIBURNUM OPULUS 'ROSEUM'*		SHRUB	21
	PERENNIAL 4" CONT			
FPPC_4"	CONEFLOWER, PURPLE *ECHINACEA PURPUREA*		PLANT	589
FSSD_4"	DAYLILY, STELLA SUPREME *HEMEROCALLIS X 'STELLA SUPREME'*		PLANT	48
FSHD_4"	DAISY, SHASTA *LEUCANTHEMUM X SUPERBUM*		PLANT	581
FSGF_4"	GAYFEATHER, SPIKE *LIATRIS SPICATA 'KOBOLD'*		PLANT	44
FCDF_4"	CARDINAL FLOWER *LOBELIA CARDINALIS*		PLANT	44
FRBB_4"	RED BEE BALM *MONDARDA FISTULOSA*		PLANT	44
FBES_4"	BLACK-EYED SUSAN *RUDBECKIA HIRTA*		PLANT	597
	ORNAMENTAL GRASSES NO 1 CONT			
GBLG_NO 1	BLUE GRAMA *BOUTELOUA GRACILIS 'BLONDE AMBITION'*		PLANT	42
GFRG_NO 1	GRASS, FEATHER REED *CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'*		PLANT	184
GPRD_NO 1	DROPSEED, PRAIRIE *SPOROBOLUS HETEROLEPSIS*		PLANT	48

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BEGIN S.P. 0704-110
(TH. 22) STA. 70+00

CLEARING AND GRUBBING TREE (1)

MATCH LINE STA. 70+00

MATCH LINE STA. 77+00

T.H. 22 NB

73

75

CLEARZONE

ROW

LEGEND

- RIGHT OF WAY
- CLEAR ZONE
- X — CLEARING & GRUBBING (1 TREE)
- CLEARING & GRUBBING (0 ACRES)

50
SCALE IN FEET

TIME:
DATE:
FILENAME:

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DEPARTMENT OF TRANSPORTATION

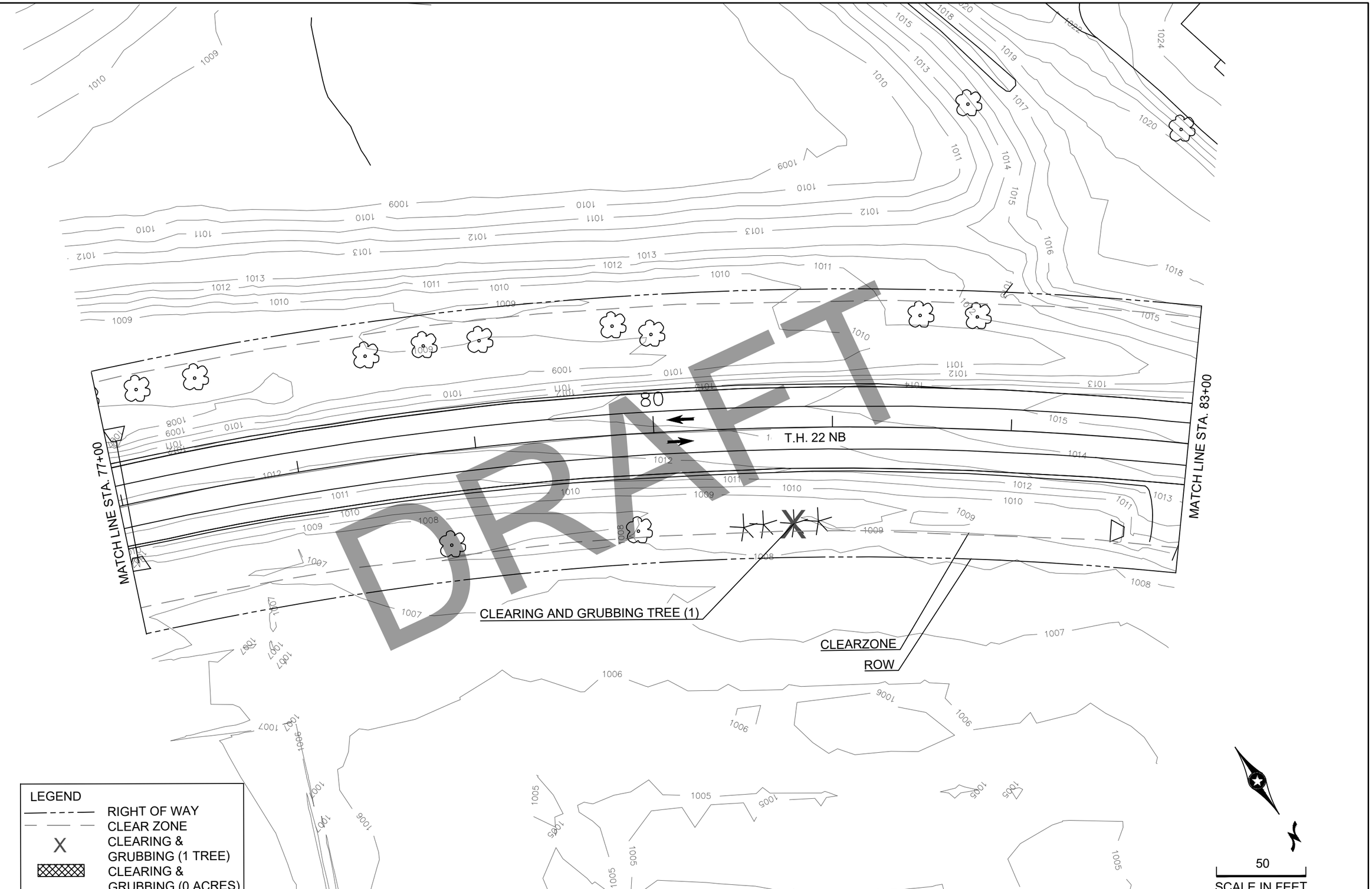
MINNESOTA DEPARTMENT OF TRANSPORTATION
TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

WSB

REMOVALS

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 9 of 112 Sheets



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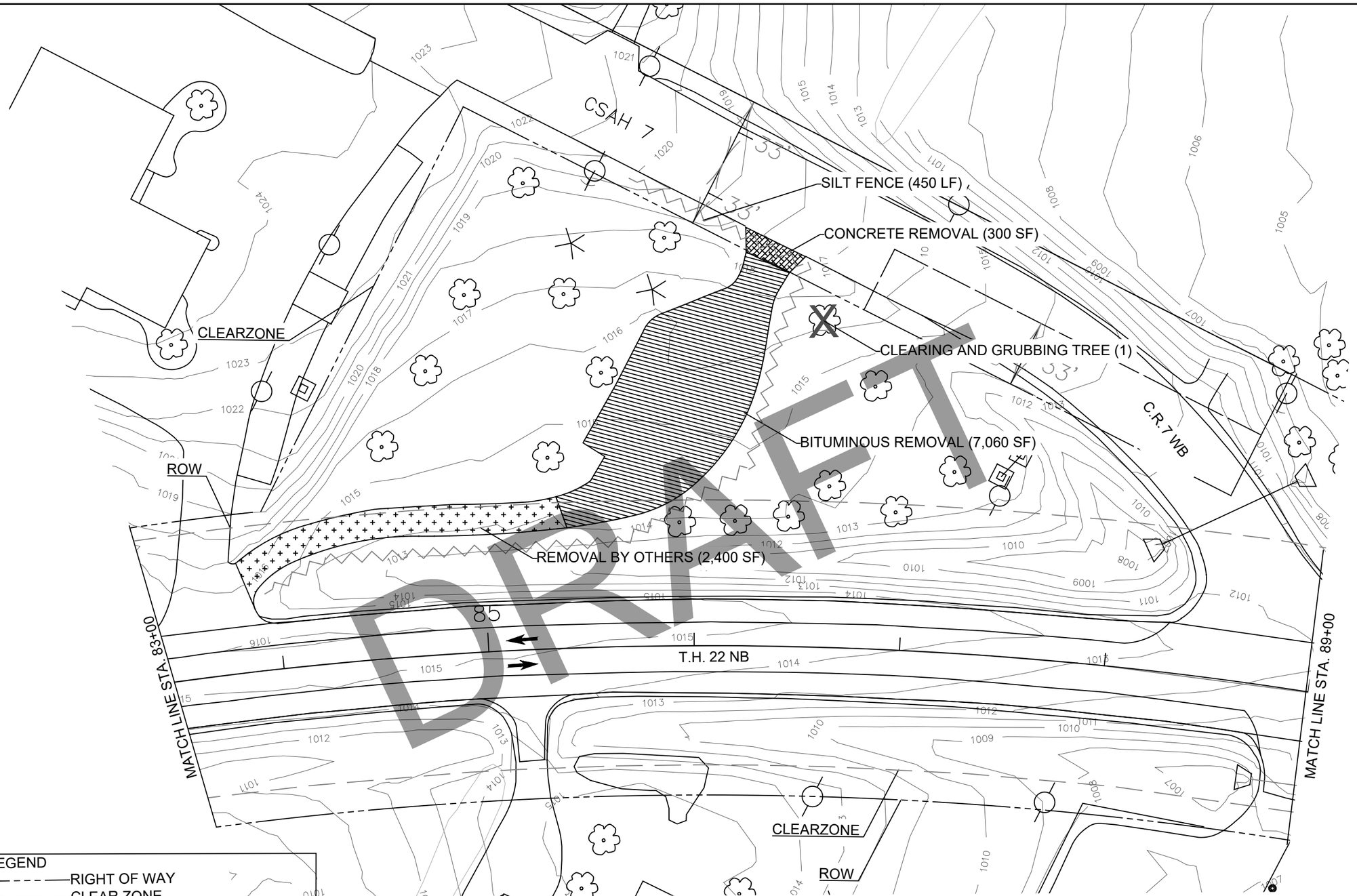
DESIGNED BY: CCA		PRINTED NAME: CANDACE C. AMBERG			Sheet No. 10 of 112 Sheets
CHECKED BY: CCA		DATE: 09/22/2017 LIC. NO. 40646			



LEGEND

- RIGHT OF WAY
- CLEAR ZONE
- SILT FENCE (450 LF)
- X — CLEARING & GRUBBING (1 TREE)
- CLEARING & GRUBBING (0 ACRES)
- CONCRETE REMOVAL (300 SF)
- BITUMINOUS REMOVAL (7,060 SF)
- REMOVAL BY OTHERS (2,400 SF)

50
SCALE IN FEET

TIME:
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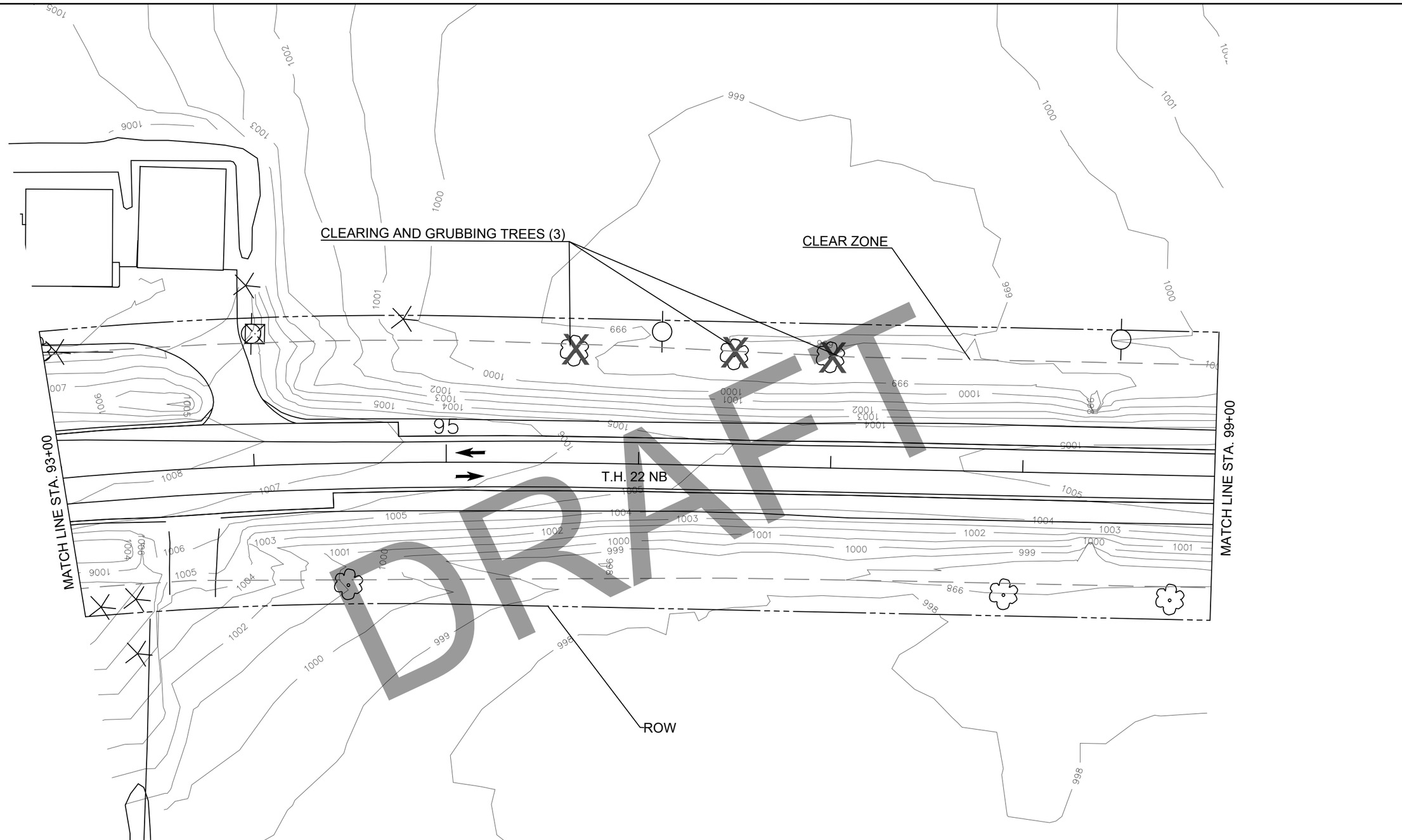
TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

WSB

REMOVALS

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 11 of 112 Sheets



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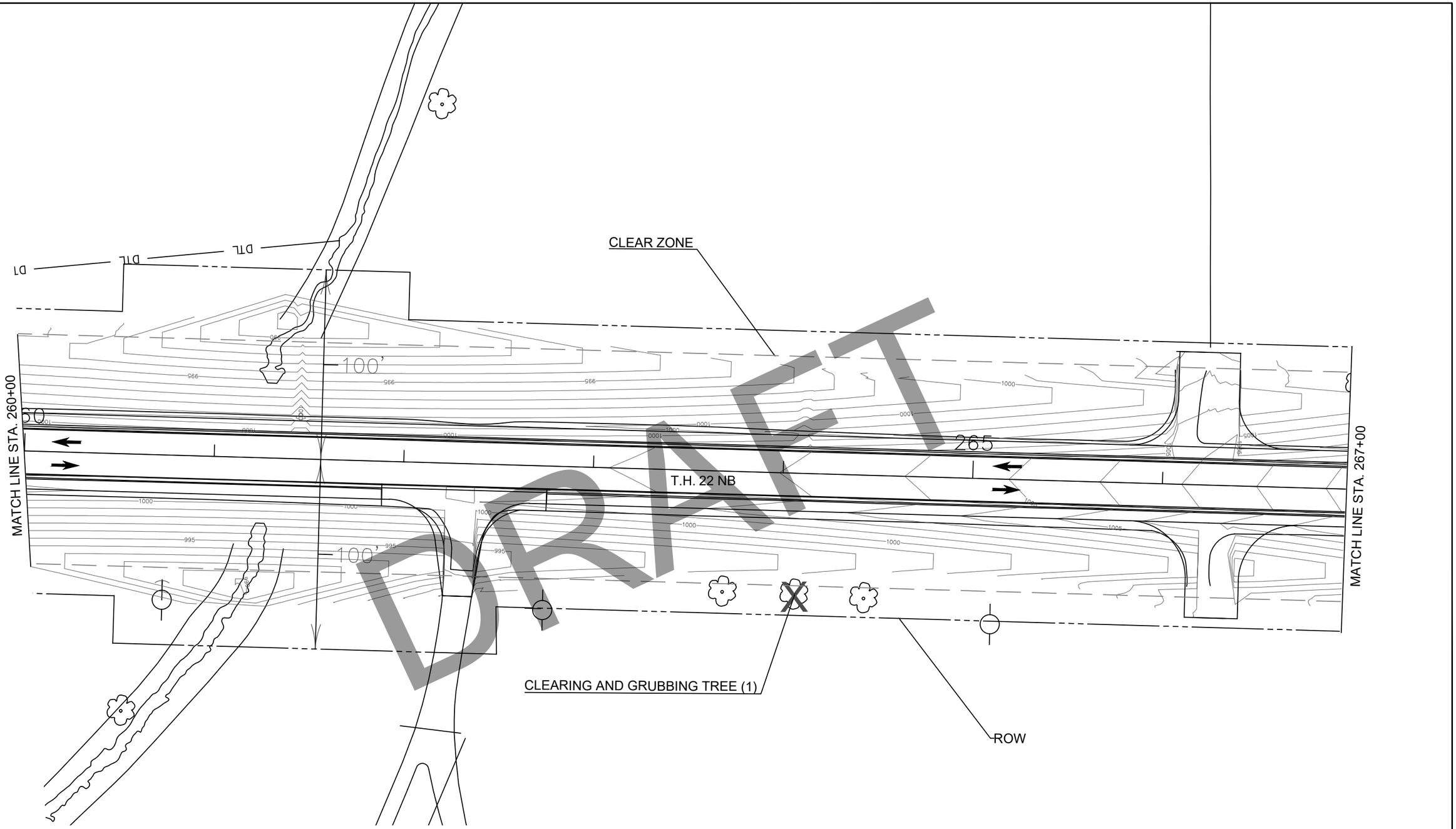
DATE:
FILENAME:

DRAWN BY: BAK	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED REGISTERED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.	SIGNATURE:	MINNESOTA DEPARTMENT OF TRANSPORTATION TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15	REMOVALS	STATE PROJ.NO. 0704-110(T.H. 22)
DESIGNED BY: CCA		PRINTED NAME: CANDACE C. AMBERG			
CHECKED BY: CCA		DATE: 09/22/2017 LIC. NO. 40646			Sheet No. 12 of 112 Sheets



LEGEND

- RIGHT OF WAY
- CLEAR ZONE
- X — CLEARING & GRUBBING (1 TREE)
- CLEARING & GRUBBING (0 ACRES)

50

SCALE IN FEET

TIME:

DATE:
FILENAME:

DRAWN BY: BAK DESIGNED BY: CCA CHECKED BY: CCA	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED REGISTERED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: PRINTED NAME: CANDACE C. AMBERG DATE: 09/22/2017 LIC. NO. 40646	DEPARTMENT OF TRANSPORTATION	MINNESOTA DEPARTMENT OF TRANSPORTATION TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15	WSB	REMOVALS	STATE PROJ.NO. 0704-110(T.H. 22) Sheet No. 13 of 112 Sheets

CLEARING AND GRUBBING TREE (1)

CLEARING AND GRUBBING
BRUSH MATERIAL (.03 ACRES)

CLEARING AND GRUBBING TREE (1)

MATCH LINE STA. 621+00

MATCH LINE STA. 628+00

625

T.H. 22 NB

CLEARING AND GRUBBING
BRUSH MATERIAL (.04 ACRES)

ROW

LEGEND

- RIGHT OF WAY
- CLEAR ZONE
- X — CLEARING & GRUBBING (2 TREE)
- CLEARING & GRUBBING (.07 ACRES)

50

SCALE IN FEET

TIME:

DATE:
FILENAME:

DRAWN BY: BAK
DESIGNED BY: CCA
CHECKED BY: CCA

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED REGISTERED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE:
PRINTED NAME: CANDACE C. AMBERG
DATE: 09/22/2017 LIC. NO. 40646

DEPARTMENT OF TRANSPORTATION

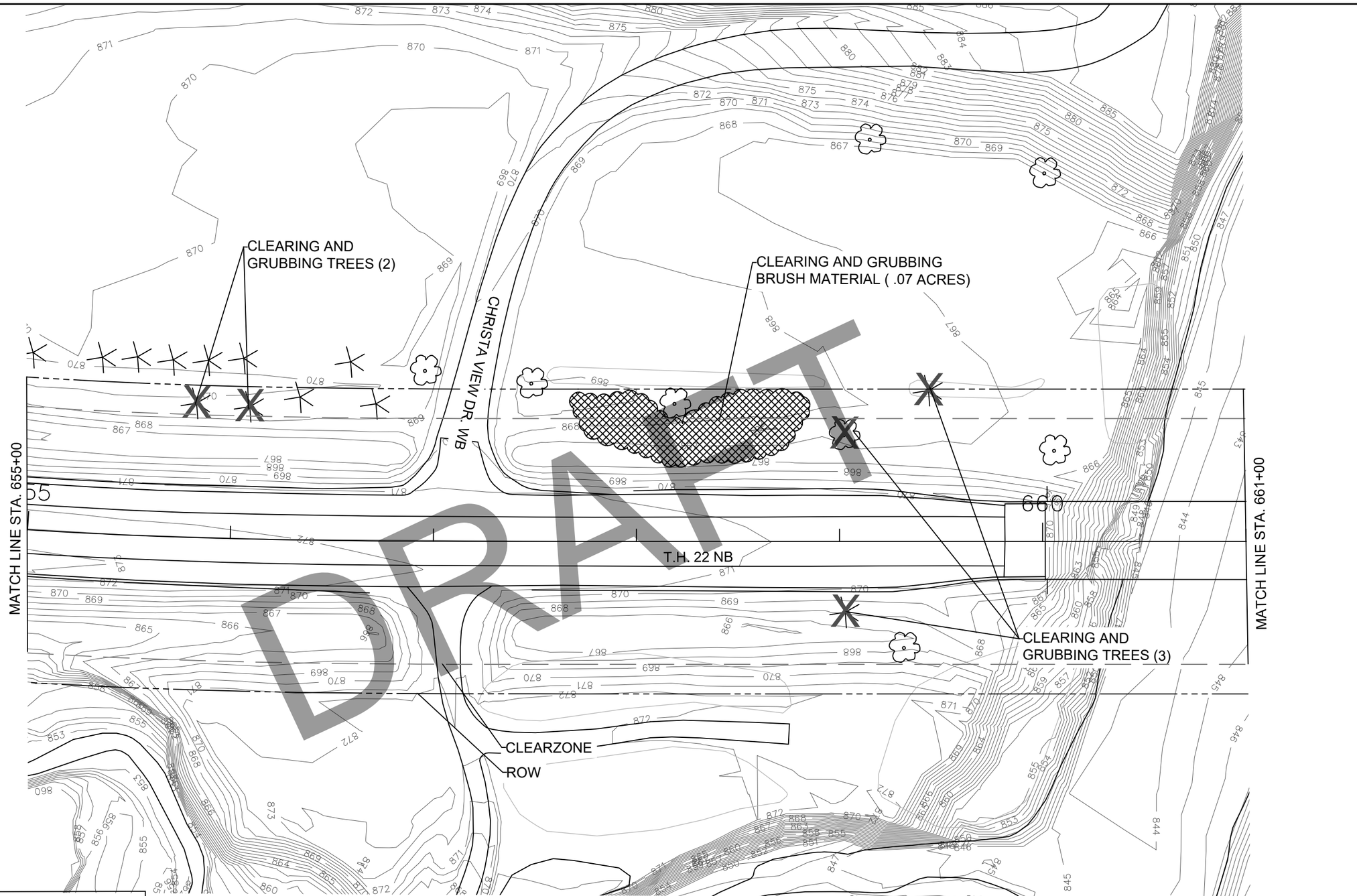
MINNESOTA DEPARTMENT OF TRANSPORTATION
TH 22 RECONSTRUCTION FROM THE
CITY OF MAPLETON TO COUNTY ROAD 15

WSB

REMOVALS

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 14 of 112 Sheets



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DATE:
FILENAME:

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19196 MN-22
MANKATO, MN 56001

CLEARING AND
GRUBBING TREES (2)

CLEARING AND
GRUBBING TREES (3)

690

695

MATCH LINE STA. 689+00

MATCH LINE STA. 696+00

T.H. 22 NB

CLEARZONE

ROW

CLEARING AND GRUBBING
BRUSH MATERIAL (.01 ACRES)

LEGEND

- RIGHT OF WAY
- CLEAR ZONE
- X — CLEARING & GRUBBING (5 TREE)
- CLEARING & GRUBBING (.01 ACRES)

50
SCALE IN FEET

TIME:
DATE:
FILENAME:

DRAWN BY: BAK
DESIGNED BY: CCA
CHECKED BY: CCA

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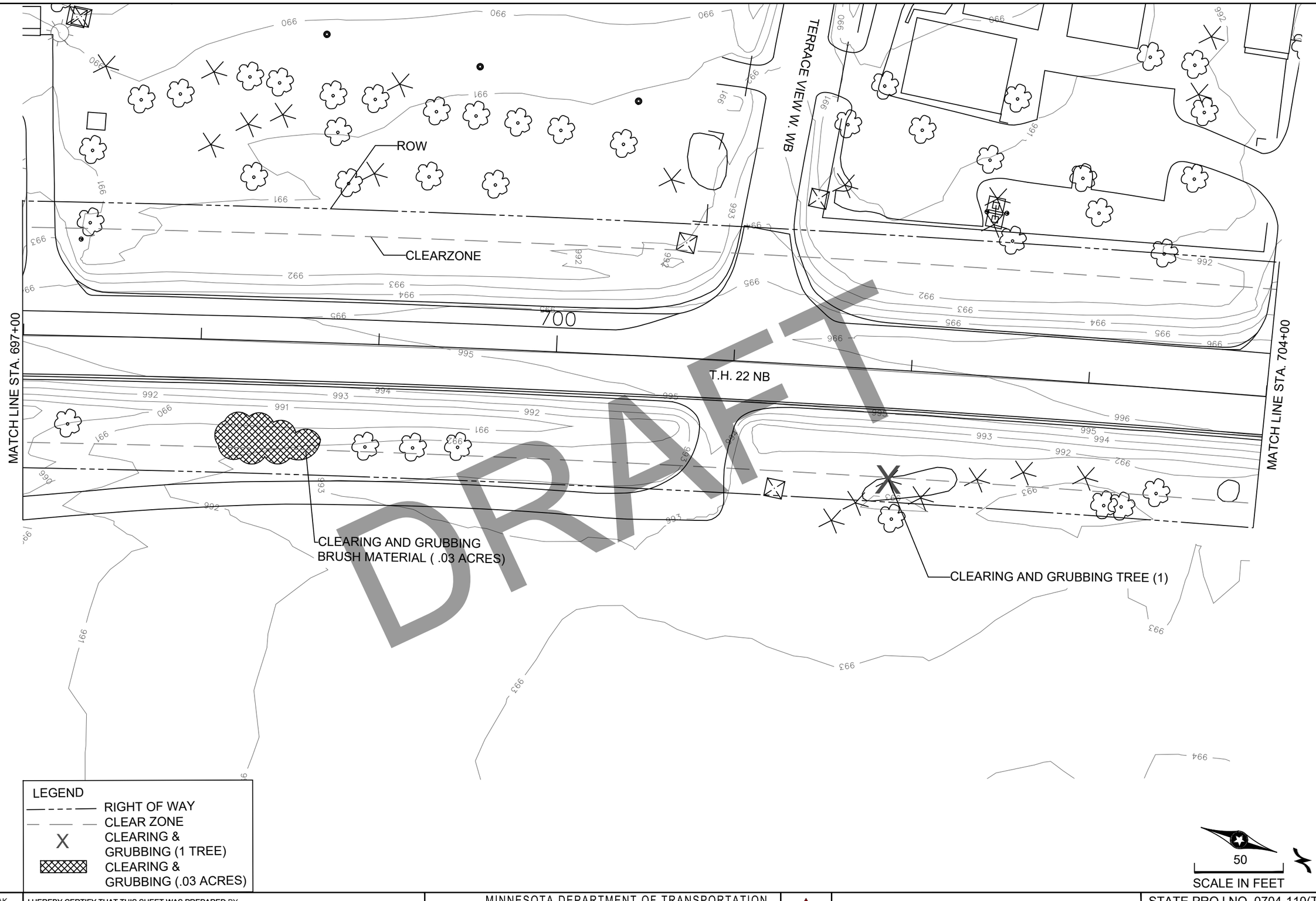
MINNESOTA DEPARTMENT OF TRANSPORTATION
TH 22 RECONSTRUCTION FROM THE
CITY OF MAPLETON TO COUNTY ROAD 15

WSB

REMOVALS

STATE PROJ.NO. 0704-110(T.H. 22)



TIME:
DATE:
FILENAME:

DRAWN BY: BAK DESIGNED BY: CCA CHECKED BY: CCA	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED REGISTERED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: _____ PRINTED NAME: CANDACE C. AMBERG DATE: 09/22/2017 LIC. NO. 40646	DEPARTMENT OF TRANSPORTATION	MINNESOTA DEPARTMENT OF TRANSPORTATION TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15	WSB	REMOVALS	STATE PROJ.NO. 0704-110(T.H. 22) Sheet No. 17 of 112 Sheets

EDENVALE NURSERY

K & G
GYMNASTICS

TERRACE VIEW
GOLF COURSE

CLEARING AND GRUBBING TREES (4)

CLEARING AND GRUBBING TREES (2)

705

710

T.H. 22 NB

TERRACE VIEW EB

MATCH LINE STA. 704+00

MATCH LINE STA. 711+00

LEGEND

- RIGHT OF WAY
- CLEAR ZONE
- X — CLEARING & GRUBBING (6 TREE)
- CLEARING & GRUBBING (0 ACRES)

50

SCALE IN FEET

TIME:

DATE:
FILENAME:

DRAWN BY: BAK
DESIGNED BY: CCA
CHECKED BY: CCA

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DEPARTMENT OF TRANSPORTATION

MINNESOTA DEPARTMENT OF TRANSPORTATION
TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

WSB

REMOVALS

STATE PROJ.NO. 0704-110(T.H. 22)

TERRACE VIEW
GOLF COURSE

MATCH LINE STA. 711+00

MATCH LINE STA. 718+00

715

T.H. 22 NB

CLEARING AND GRUBBING TREES (1)

TERRACE VIEW EB

193RD LN E.B.

LEGEND

- RIGHT OF WAY
- CLEAR ZONE
- X — CLEARING & GRUBBING (1 TREE)
- CLEARING & GRUBBING (0 ACRES)

50

SCALE IN FEET

TIME:

DATE:
FILENAME:

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DESIGNED BY: CCA		PRINTED NAME: CANDACE C. AMBERG			Sheet No. 19 of 112 Sheets
CHECKED BY: CCA		DATE: 09/22/2017 LIC. NO. 40646			

CLEARING AND GRUBBING TREES (1)

CLEARING AND GRUBBING TREES (4)

MATCH LINE STA. 638+00

MATCH LINE STA. 645+00

T.H. 22 NB

197TH LN EB

640

LEGEND

- RIGHT OF WAY
- CLEAR ZONE
- X — CLEARING & GRUBBING (4 TREE)
- CLEARING & GRUBBING (0 ACRES)

50

SCALE IN FEET

TIME:

DATE:

FILENAME:

DRAWN BY: BAK

DESIGNED BY: CCA

CHECKED BY: CCA

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PRINTED NAME: CANDACE C. AMBERG

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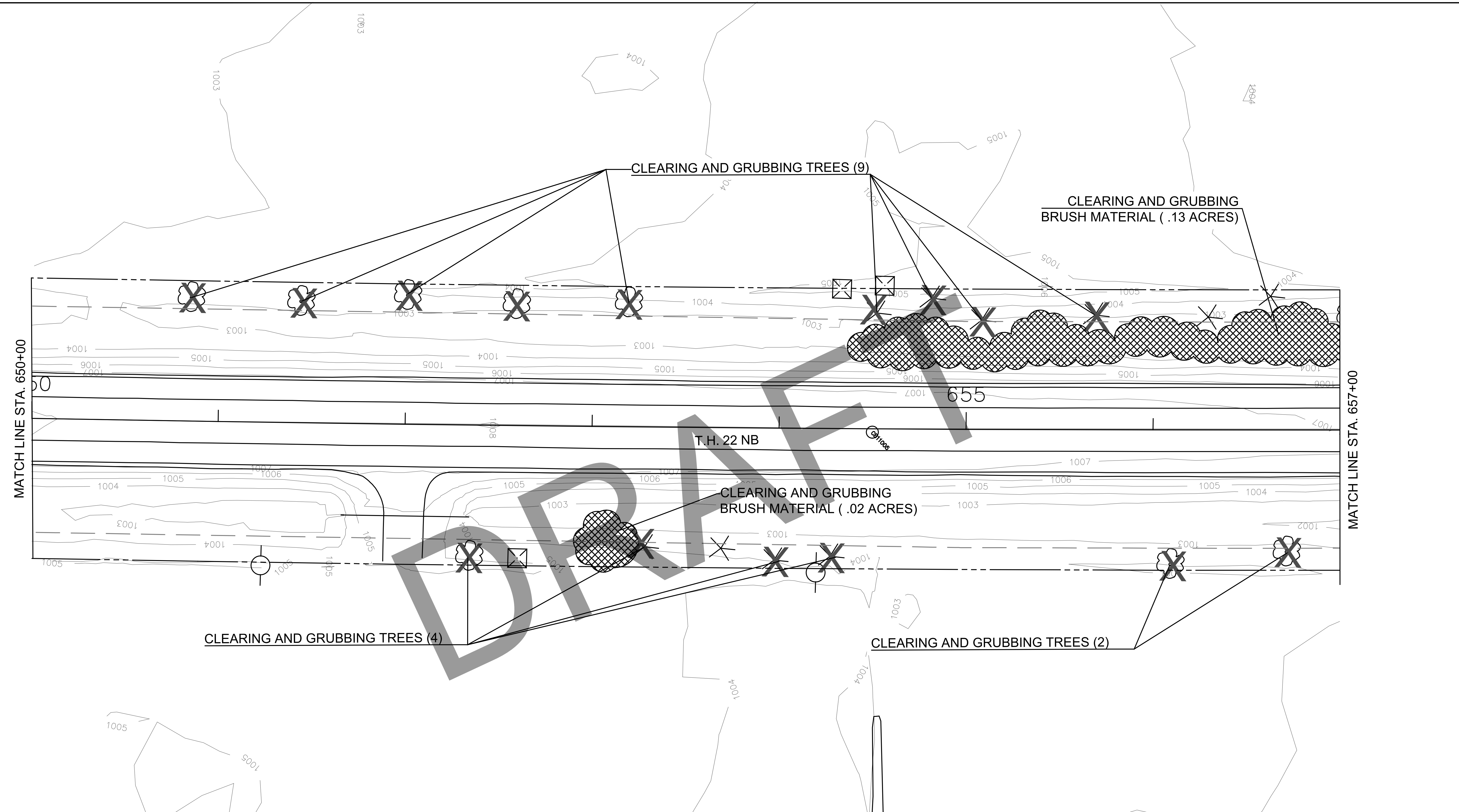
MINNESOTA DEPARTMENT OF TRANSPORTATION
TH 22 RECONSTRUCTION FROM THE
CITY OF MAPLETON TO COUNTY ROAD 15

WSB

REMOVALS

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 20 of 112 Sheets



LEGEND

- RIGHT OF WAY
- CLEAR ZONE
- X CLEARING & GRUBBING (15 TREE)
- CLEARING & GRUBBING (.15 ACRES)

TIME:
DATE:
FILENAME:

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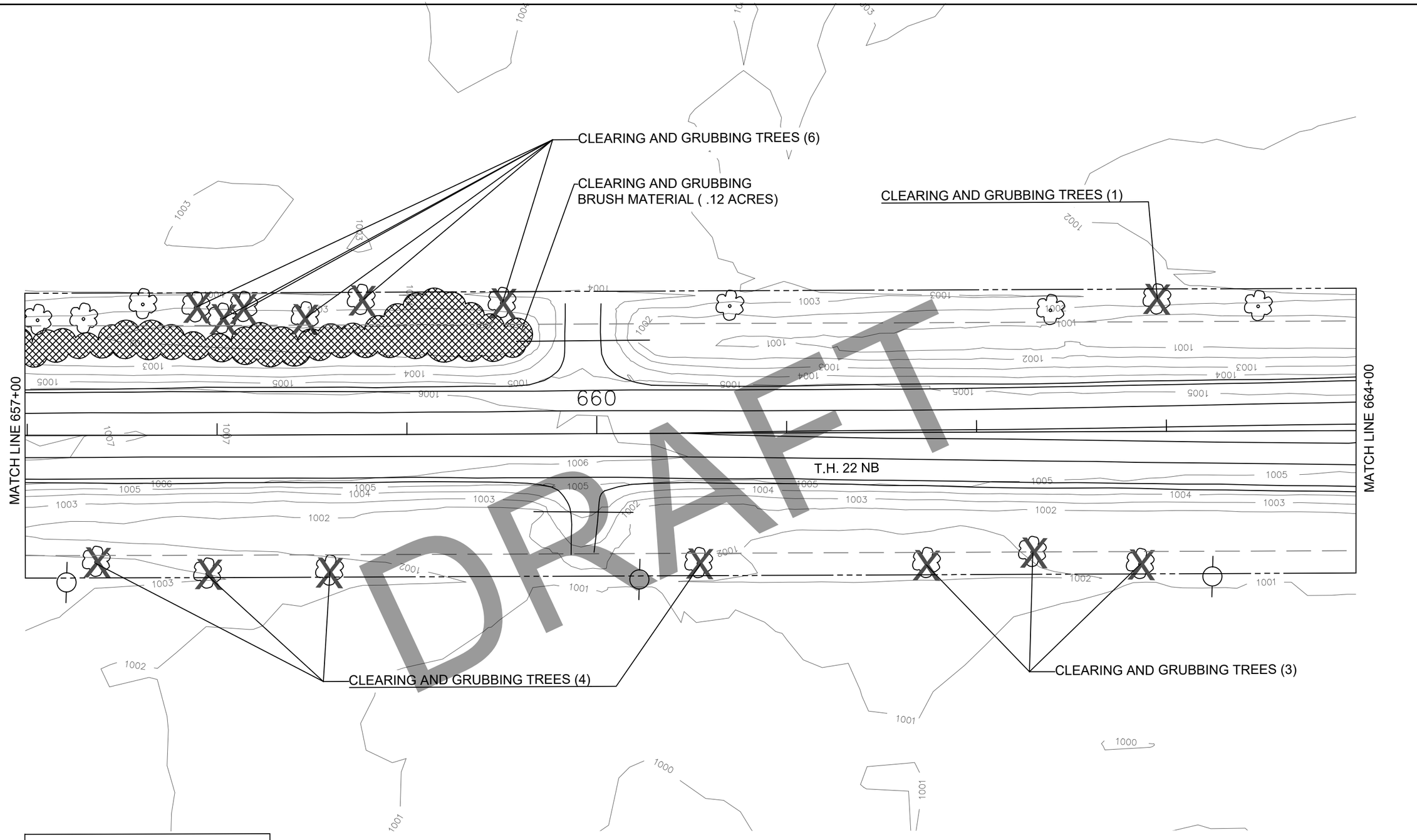
DESIGNED BY: CCA		PRINTED NAME: CANDACE C. AMBERG	
CHECKED BY: CCA		DATE: 09/22/2017	LIC. NO. 40646

MINNESOTA DEPARTMENT OF TRANSPORTATION
TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

REMOVALS

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 21 of 112 Sheets



LEGEND

- RIGHT OF WAY
- CLEAR ZONE
- X — CLEARING & GRUBBING (14 TREE)
- CLEARING & GRUBBING (.12 ACRES)

50

SCALE IN FEET

TIME:

DATE:

FILENAME:

DRAWN BY: BAK	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED REGISTERED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: PRINTED NAME: CANDACE C. AMBERG DATE: 09/22/2017 LIC. NO. 40646	DEPARTMENT OF TRANSPORTATION	MINNESOTA DEPARTMENT OF TRANSPORTATION TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15	WSB	REMOVALS	STATE PROJ.NO. 0704-110(T.H. 22)
DESIGNED BY: CCA					Sheet No. 22 of 112 Sheets
CHECKED BY: CCA					

CLEARING AND GRUBBING TREES (1)

PETROLEUM
EQUIPMENT COMPANY

CLEARING AND GRUBBING TREES (1)

MATCH LINE STA. 664+00

665

670

MATCH LINE STA. 671+00

T.H. 22 NB

CLEARING AND GRUBBING TREES (5)

JOSH KLEINSHMIDT
CONSTRUCTION & CONCRETE

LEGEND

- RIGHT OF WAY
- CLEAR ZONE
- X — CLEARING & GRUBBING (7 TREE)
- CLEARING & GRUBBING (0 ACRES)

50
SCALE IN FEET

TIME:
DATE:
FILENAME:

DRAWN BY: BAK
DESIGNED BY: CCA
CHECKED BY: CCA

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DEPARTMENT OF TRANSPORTATION

MINNESOTA DEPARTMENT OF TRANSPORTATION
TH 22 RECONSTRUCTION FROM THE
CITY OF MAPLETON TO COUNTY ROAD 15

WSB

REMOVALS

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 23 of 112 Sheets

CLEARING AND GRUBBING
BRUSH MATERIAL (.01 ACRES)

CLEARING AND GRUBBING
BRUSH MATERIAL (.03 ACRES)

675

T.H. 22 NB

MATCH LINE STA. 671+00

MATCH LINE STA. 678+00

CLEARING AND GRUBBING TREES (2)

LEGEND

- RIGHT OF WAY
- CLEAR ZONE
- X — CLEARING & GRUBBING (2 TREE)
- CLEARING & GRUBBING (.04 ACRES)

50

SCALE IN FEET

TIME:

DATE:
FILENAME:

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MATCH LINE STA. 678+00

MATCH LINE STA. 685+00

200th ST WB

CLEARING AND GRUBBING TREES (1)

680

685

T.H. 22 NB

MANKATO INDUSTRIAL COATINGS

LEGEND

- RIGHT OF WAY
- CLEAR ZONE
- X — CLEARING & GRUBBING (1 TREE)
- CLEARING & GRUBBING (0 ACRES)

50

SCALE IN FEET

TIME:

DATE:

FILENAME:

DRAWN BY: BAK

DESIGNED BY: CCA

CHECKED BY: CCA

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PRINTED NAME: CANDACE C. AMBERG

DATE: 09/22/2017 LIC. NO. 40646

DEPARTMENT OF TRANSPORTATION

MINNESOTA DEPARTMENT OF TRANSPORTATION
TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

WSB

REMOVALS

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 25 of 112 Sheets

CLEARING AND GRUBBING TREES (3)

CLEARING AND GRUBBING TREES (3)

CLEARING AND GRUBBING
BRUSH MATERIAL (.09 ACRES)

CLEARING AND GRUBBING
BRUSH MATERIAL (.18 ACRES)

MATCH LINE 688+00

MATCH LINE 695+00

690

T.H. 22 NB

LEGEND

- RIGHT OF WAY
- CLEAR ZONE
- X — CLEARING & GRUBBING (6 TREE)
- CLEARING & GRUBBING (.27 ACRES)

50

SCALE IN FEET

TIME:

DATE:

FILENAME:

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CLEARING AND GRUBBING
BRUSH MATERIAL (.19 ACRES)

CLEARING AND GRUBBING TREES (1)

CLEARING AND GRUBBING
BRUSH MATERIAL (.04 ACRES)

MATCH LINE STA. 696+00

MATCH LINE STA. 703+00

700

T.H. 22 NB

CLEARING AND GRUBBING
BRUSH MATERIAL (.32 ACRES)

CLEARING AND GRUBBING TREES (2)

CLEARING AND GRUBBING
BRUSH MATERIAL (.03 ACRES)

LEGEND

- RIGHT OF WAY
- CLEAR ZONE
- X — CLEARING & GRUBBING (3 TREE)
- CLEARING & GRUBBING (.58 ACRES)

50

SCALE IN FEET

TIME:

DATE:
FILENAME:

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DESIGNED BY: CCA
CHECKED BY: CCA

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DEPARTMENT OF TRANSPORTATION

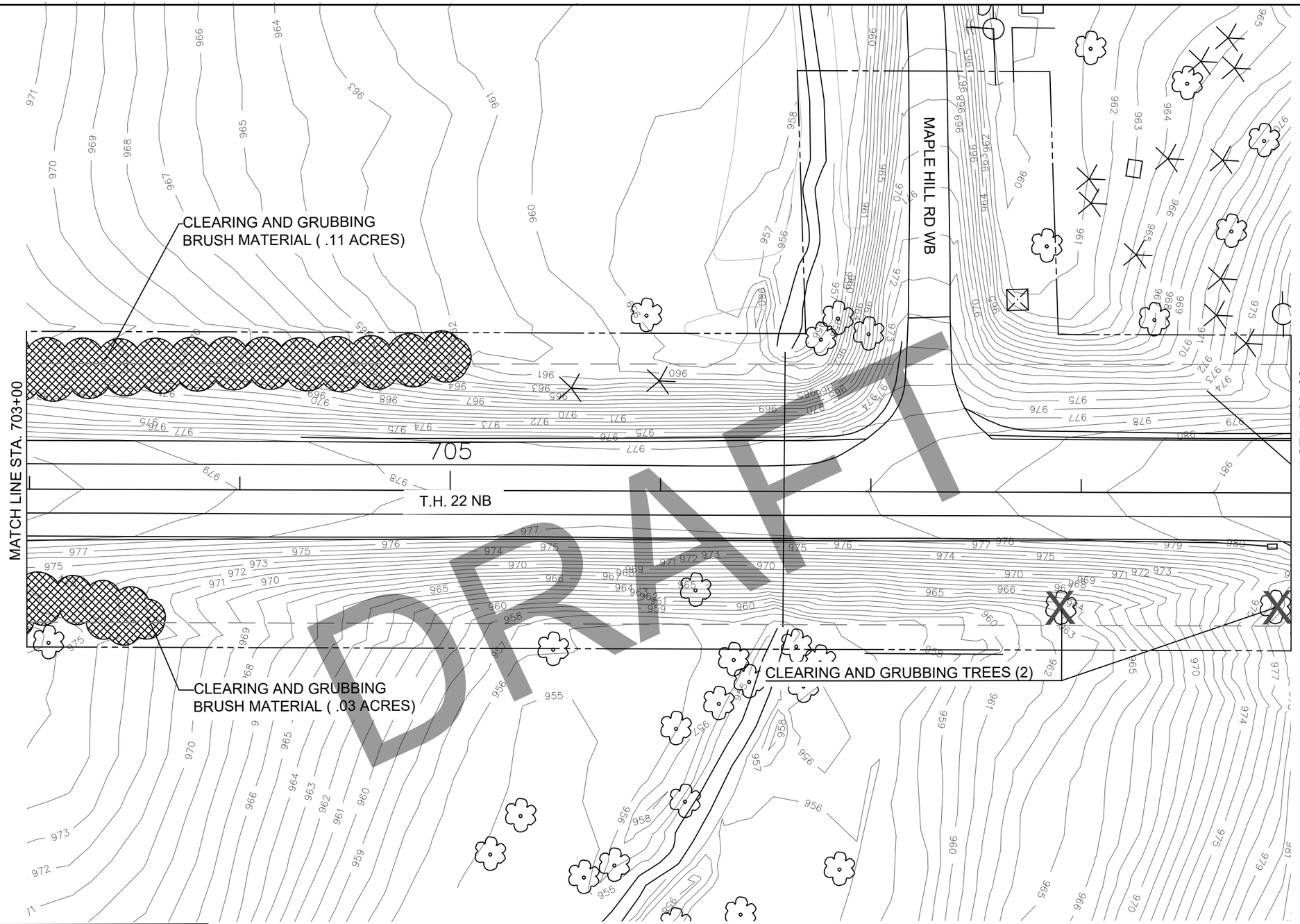
MINNESOTA DEPARTMENT OF TRANSPORTATION
TH 22 RECONSTRUCTION FROM THE
CITY OF MAPLETON TO COUNTY ROAD 15

WSB

REMOVALS

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 27 of 112 Sheets



LEGEND

- RIGHT OF WAY
- CLEAR ZONE
- X — CLEARING & GRUBBING (2 TREE)
- CLEARING & GRUBBING (.14 ACRES)

50

SCALE IN FEET

TIME:

DATE:
FILENAME:

DRAWN BY: BAK
DESIGNED BY: CCA
CHECKED BY: CCA

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DEPARTMENT OF TRANSPORTATION

MINNESOTA DEPARTMENT OF TRANSPORTATION
TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

WSB

REMOVALS

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 28 of 112 Sheets

CLEARING AND GRUBBING
BRUSH MATERIAL (.25 ACRES)

CLEARING AND GRUBBING
BRUSH MATERIAL (.04 ACRES)

MATCH LINE STA. 713+00

MATCH LINE STA. 720+00

715

T.H. 22 NB

CLEARING AND GRUBBING TREES (4)

CLEARING AND GRUBBING
BRUSH MATERIAL (.2 ACRES)

LEGEND

- RIGHT OF WAY
- CLEAR ZONE
- X — CLEARING & GRUBBING (4 TREE)
- CLEARING & GRUBBING (.49 ACRES)

50
SCALE IN FEET

TIME:
DATE:
FILENAME:

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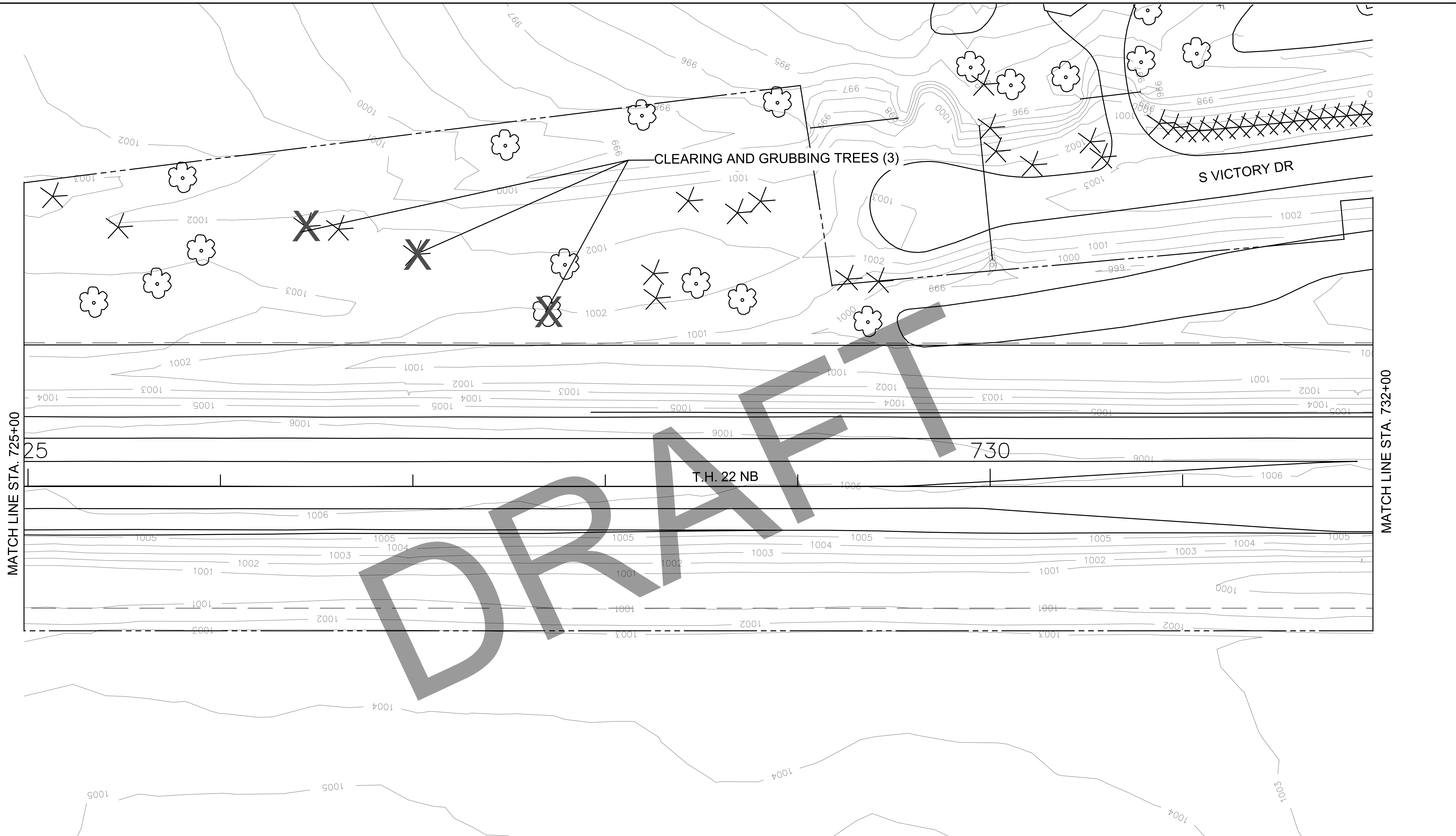
DESIGNED BY: CCA		PRINTED NAME: CANDACE C. AMBERG			Sheet No. 29 of 112 Sheets
CHECKED BY: CCA		DATE: 09/22/2017 LIC. NO. 40646			



TIME:

DATE:
FILENAME:

LEGEND

- RIGHT OF WAY
- CLEAR ZONE
- X CLEARING & GRUBBING (3 TREE)
- CLEARING & GRUBBING (0 ACRES)

50
SCALE IN FEET

DRAWN BY: BAK DESIGNED BY: CCA CHECKED BY: CCA	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED REGISTERED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.	SIGNATURE: PRINTED NAME: CANDACE C. AMBERG DATE: 09/22/2017 LIC. NO. 40646	mn DEPARTMENT OF TRANSPORTATION MINNESOTA DEPARTMENT OF TRANSPORTATION TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15	WSB	REMOVALS	STATE PROJ.NO. 0704-110(T.H. 22) Sheet No. 30 of 112 Sheets

KEY	SPECIES	QUANT.	SPACING
BLF_6'	FIR, BALSAM	3	AS SHOWN
MAG_6'	MAGNOLIA TREE	1	AS SHOWN
ABH_12"	HYDRANGEEA, ANNABELLE SMOOTH	7	AS SHOWN

COUNTY ROAD 7 SB

NO PARKING

CLEARZONE

T.H. 22 NB

5 MILITARY SERVICE STONE COLUMNS (BY OTHERS)

(1) MAG_6` Ht._B.R.

(7) ABH_18" Ht._B.R.

4" DEPTH SHREDDED HARDWOOD MULCH

(3) BLF_6` Ht._B&B

ROW

LEGEND

RIGHT OF WAY

CLEAR ZONE

DTL DRAINTILE

SCALE IN FEET

20

TIME:

DATE:

FILENAME:

DRAWN BY: BAK

DESIGNED BY: CCA

CHECKED BY: CCA

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DEPARTMENT OF TRANSPORTATION

MINNESOTA DEPARTMENT OF TRANSPORTATION
TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

WSB

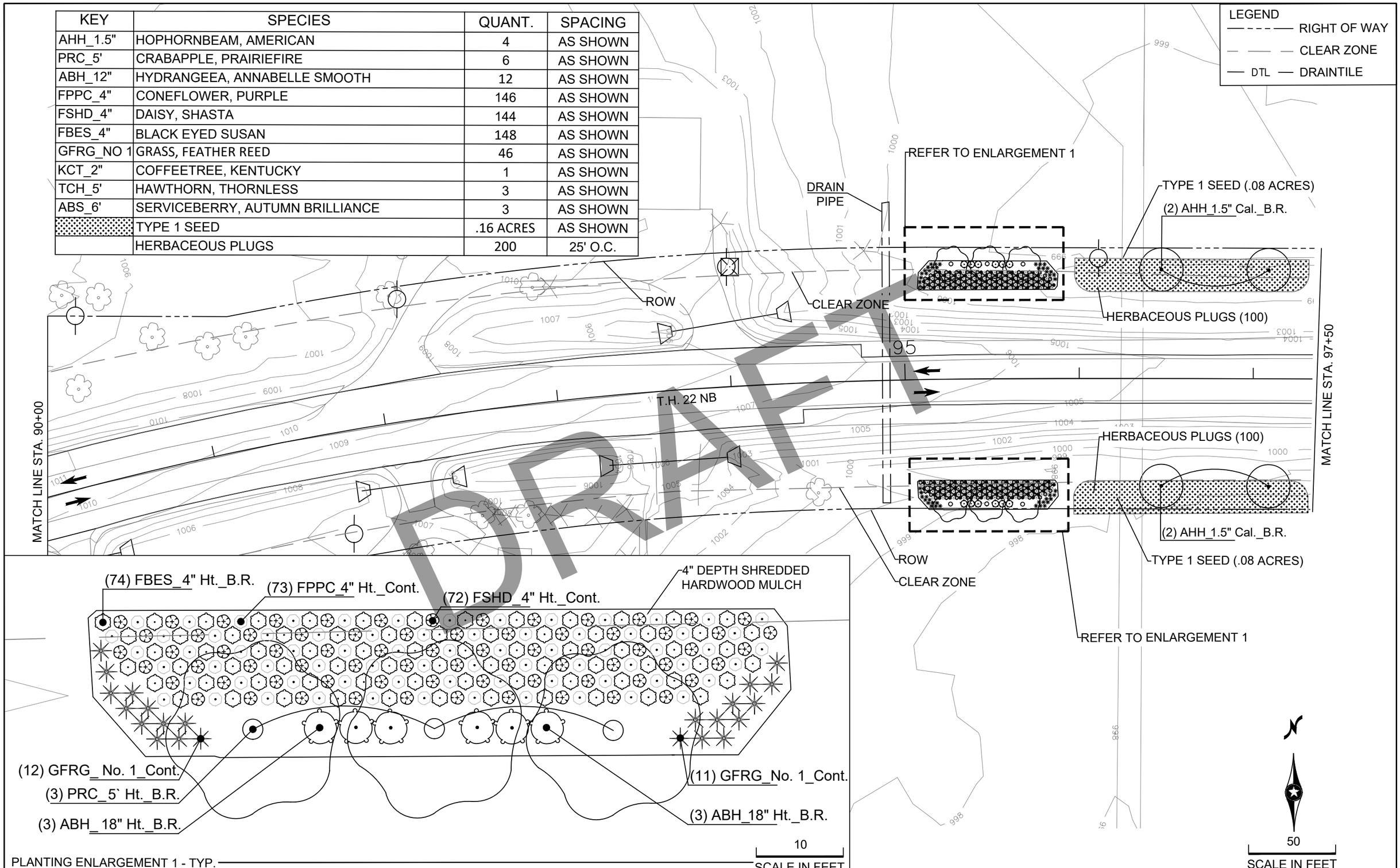
LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 31 of 112 Sheets

KEY	SPECIES	QUANT.	SPACING
AHH_1.5"	HOPHORNBEAM, AMERICAN	4	AS SHOWN
PRC_5'	CRABAPPLE, PRAIRIEFIRE	6	AS SHOWN
ABH_12"	HYDRANGEEA, ANNABELLE SMOOTH	12	AS SHOWN
FPPC_4"	CONEFLOWER, PURPLE	146	AS SHOWN
FSHD_4"	DAISY, SHASTA	144	AS SHOWN
FBES_4"	BLACK EYED SUSAN	148	AS SHOWN
GFRG_NO 1	GRASS, FEATHER REED	46	AS SHOWN
KCT_2"	COFFEETREE, KENTUCKY	1	AS SHOWN
TCH_5'	HAWTHORN, THORNLESS	3	AS SHOWN
ABS_6'	SERVICEBERRY, AUTUMN BRILLIANCE	3	AS SHOWN
	TYPE 1 SEED	.16 ACRES	AS SHOWN
	HERBACEOUS PLUGS	200	25' O.C.

LEGEND
- RIGHT OF WAY
- CLEAR ZONE
- DTL DRAINTILE



PLANTING ENLARGEMENT 1 - TYP.

TIME:
DATE:
FILENAME:

DRAWN BY: BAK
DESIGNED BY: CCA
CHECKED BY: CCA

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SIGNATURE:
PRINTED NAME: CANDACE C. AMBERG
DATE: 09/22/2017 LIC. NO. 40646

DEPARTMENT OF TRANSPORTATION

MINNESOTA DEPARTMENT OF TRANSPORTATION
TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

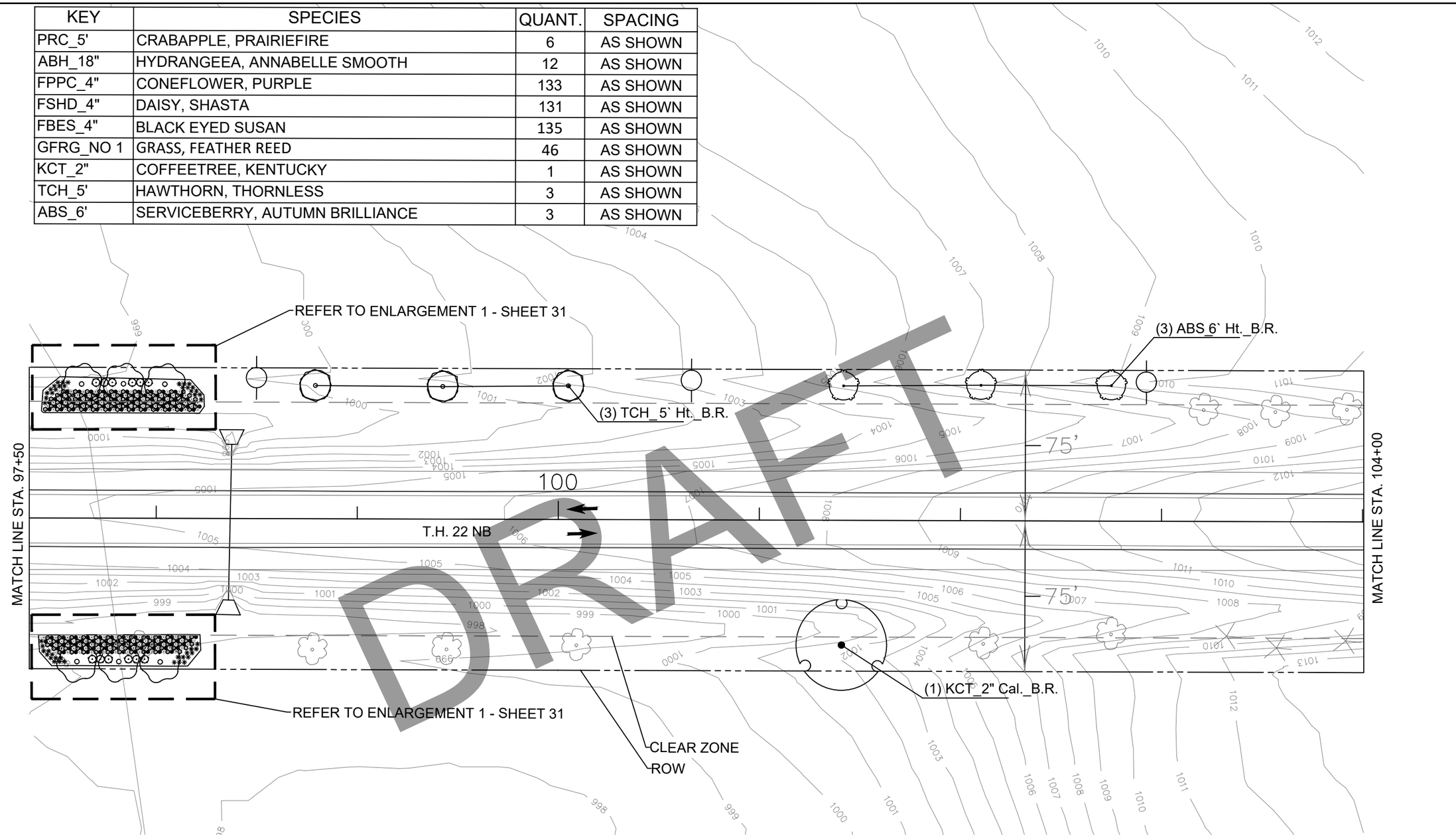
WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 32 of 112 Sheets

KEY	SPECIES	QUANT.	SPACING
PRC_5'	CRABAPPLE, PRAIRIEFIRE	6	AS SHOWN
ABH_18"	HYDRANGEEA, ANNABELLE SMOOTH	12	AS SHOWN
FPPC_4"	CONEFLOWER, PURPLE	133	AS SHOWN
FSHD_4"	DAISY, SHASTA	131	AS SHOWN
FBES_4"	BLACK EYED SUSAN	135	AS SHOWN
GFRG_NO 1	GRASS, FEATHER REED	46	AS SHOWN
KCT_2"	COFFEETREE, KENTUCKY	1	AS SHOWN
TCH_5'	HAWTHORN, THORNLESS	3	AS SHOWN
ABS_6'	SERVICEBERRY, AUTUMN BRILLIANCE	3	AS SHOWN



LEGEND
- RIGHT OF WAY
- CLEAR ZONE
- DTL DRAINTILE

50
SCALE IN FEET

TIME:
DATE:
FILENAME:

DRAWN BY: BAK
DESIGNED BY: CCA
CHECKED BY: CCA

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED REGISTERED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE:
PRINTED NAME: CANDACE C. AMBERG
DATE: 09/22/2017 LIC. NO. 40646

DEPARTMENT OF TRANSPORTATION

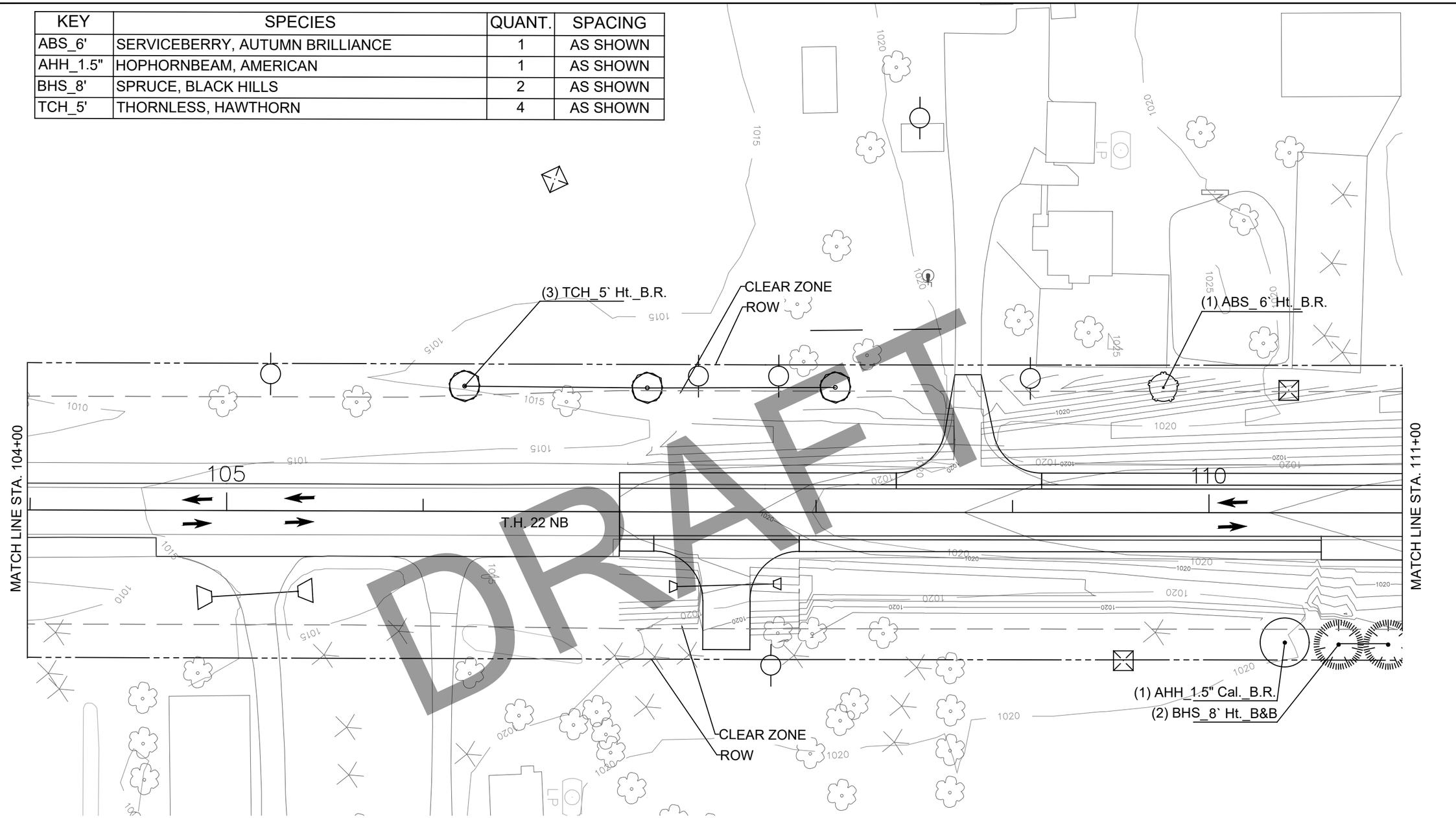
MINNESOTA DEPARTMENT OF TRANSPORTATION
TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
ABS_6'	SERVICEBERRY, AUTUMN BRILLIANCE	1	AS SHOWN
AHH_1.5"	HOPHORNBEAM, AMERICAN	1	AS SHOWN
BHS_8'	SPRUCE, BLACK HILLS	2	AS SHOWN
TCH_5'	THORNLESS, HAWTHORN	4	AS SHOWN



LEGEND
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- CLEAR ZONE
- DTL DRAINTILE

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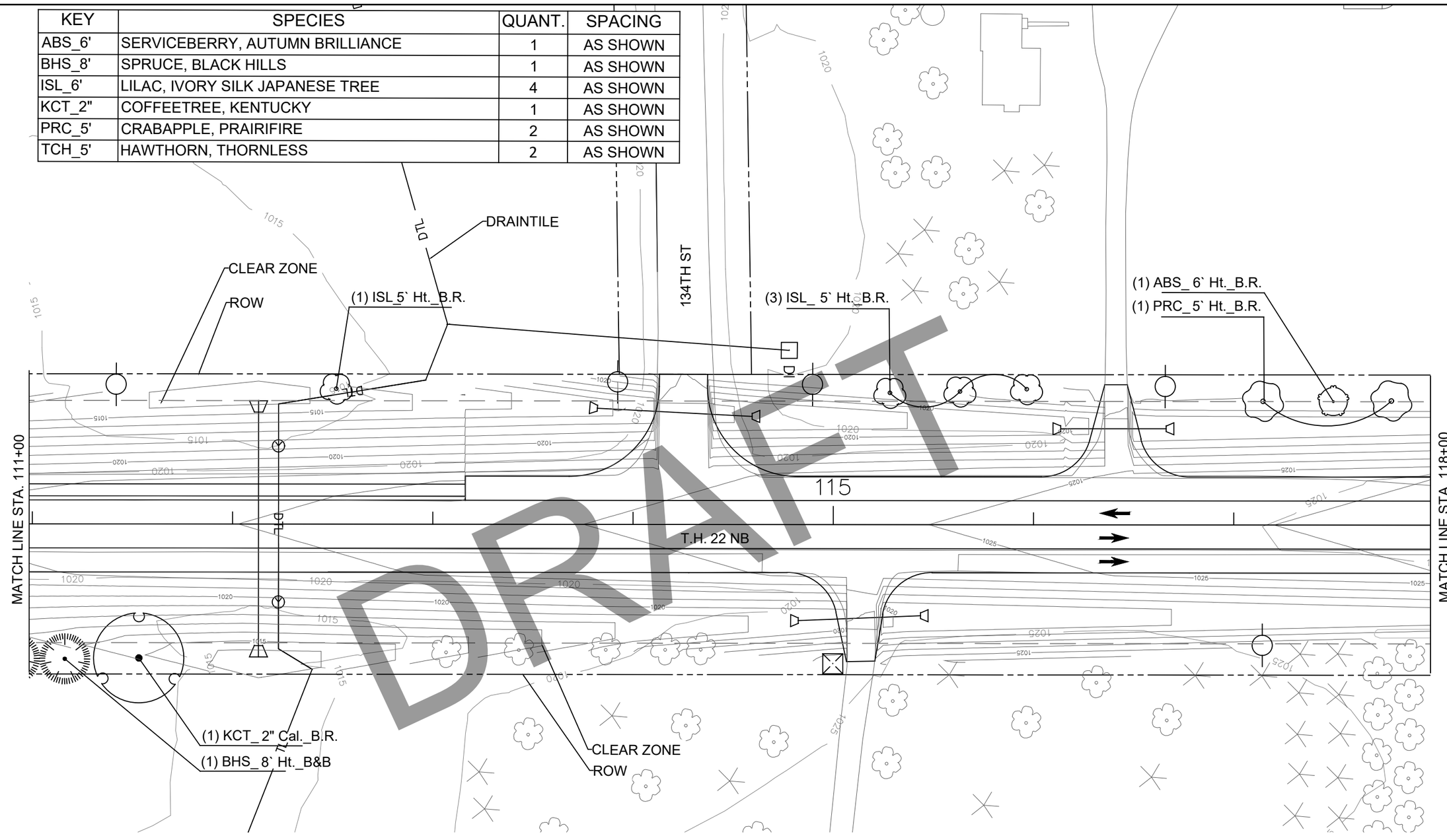
TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
ABS_6'	SERVICEBERRY, AUTUMN BRILLIANCE	1	AS SHOWN
BHS_8'	SPRUCE, BLACK HILLS	1	AS SHOWN
ISL_6'	LILAC, IVORY SILK JAPANESE TREE	4	AS SHOWN
KCT_2"	COFFEETREE, KENTUCKY	1	AS SHOWN
PRC_5'	CRABAPPLE, PRAIRIFIRE	2	AS SHOWN
TCH_5'	HAWTHORN, THORNLESS	2	AS SHOWN



LEGEND
- RIGHT OF WAY
- CLEAR ZONE
- DTL — DRAINTILE

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DATE:
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TH 22 RECONSTRUCTION FROM THE
CITY OF MAPLETON TO COUNTY ROAD 15

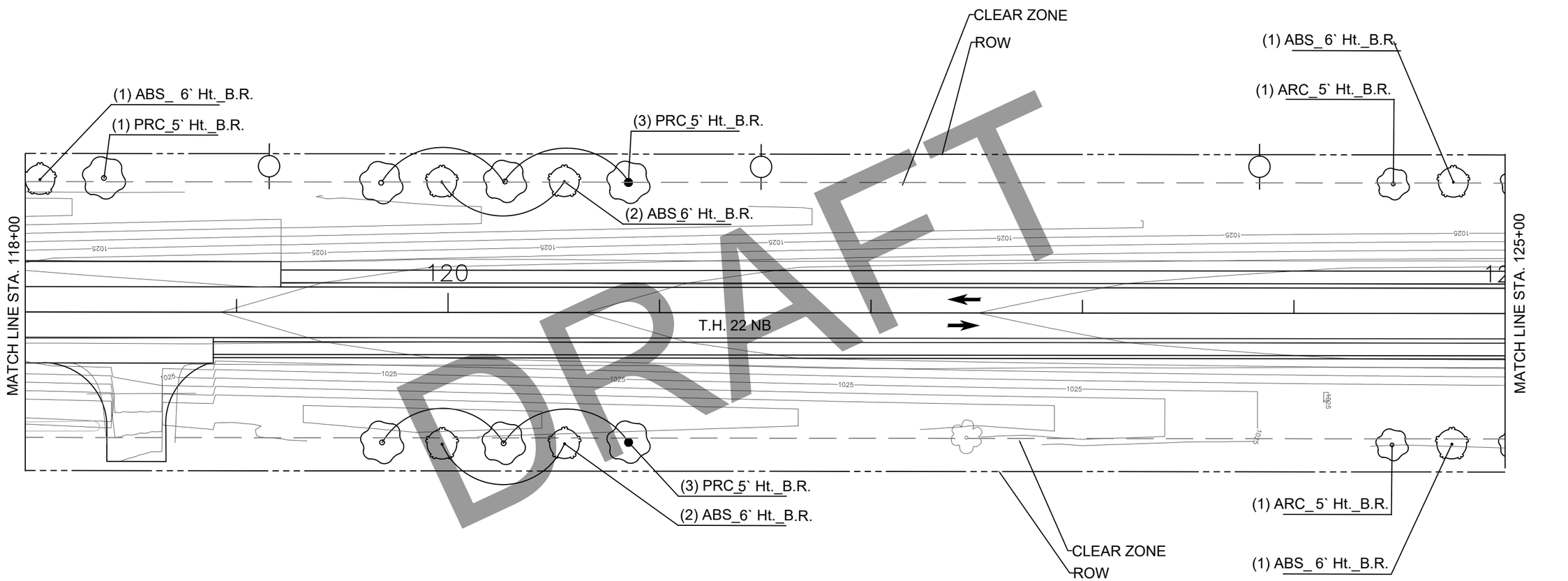
WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 35 of 112 Sheets

KEY	SPECIES	QUANT.	SPACING
ABS_6'	HOPHORNBEAM, AMERICAN	7	AS SHOWN
ARC_5'	CRABAPPLE, ADIRONDAK	2	AS SHOWN
PRC_5'	CRABAPPLE, PRAIRIFIRE	7	AS SHOWN



TIME:
DATE:
FILENAME:

LEGEND
RIGHT OF WAY
CLEAR ZONE
DTL DRAINTILE

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SCALE IN FEET

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CHECKED BY: CCA

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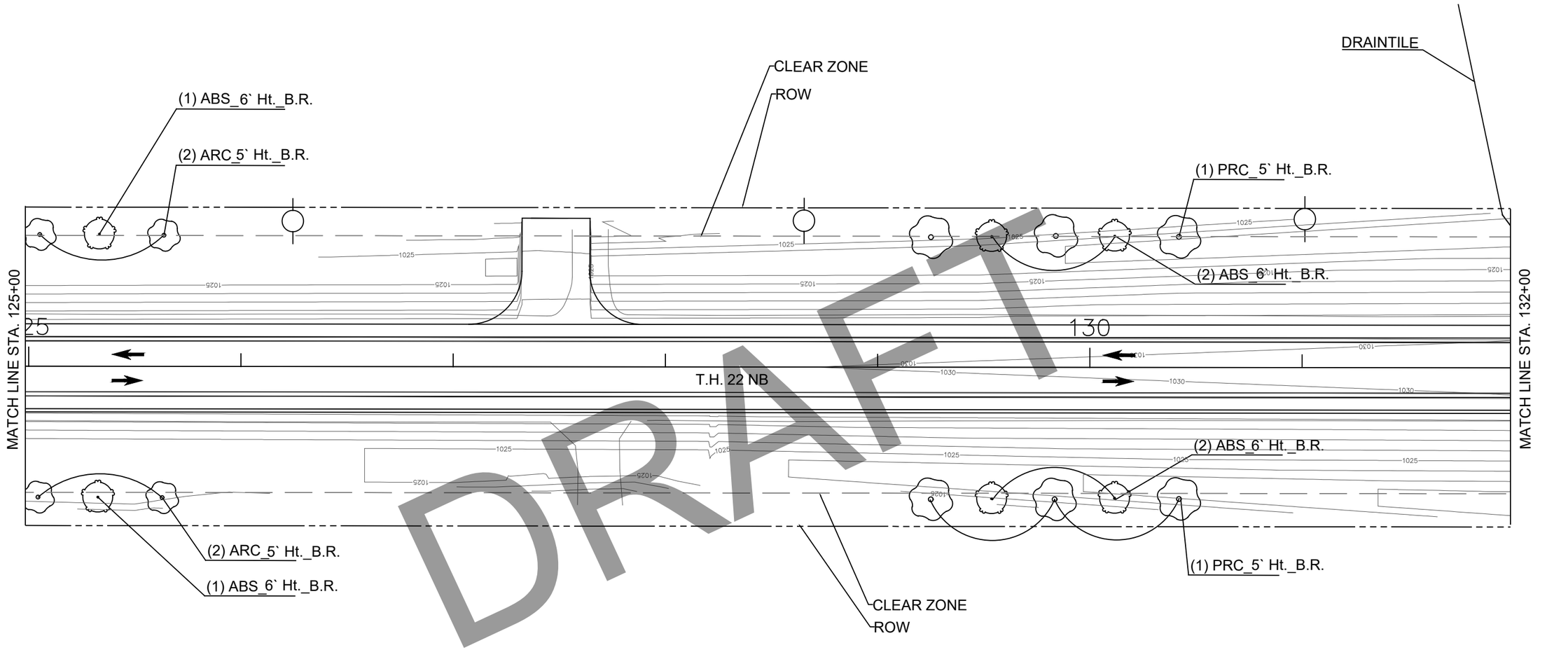
MINNESOTA DEPARTMENT OF TRANSPORTATION
TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
ABS_6'	SERVICEBERRY, AUTUMN BRILLIANCE	6	AS SHOWN
ARC_5'	CRABAPPLE, ADIRONDAK	4	AS SHOWN
PRC_5'	CRABAPPLE, PRAIRIEFIRE	6	AS SHOWN



TIME:

DATE:
FILENAME:

LEGEND
- RIGHT OF WAY
- CLEAR ZONE
- DTL — DRAINTILE

50
SCALE IN FEET

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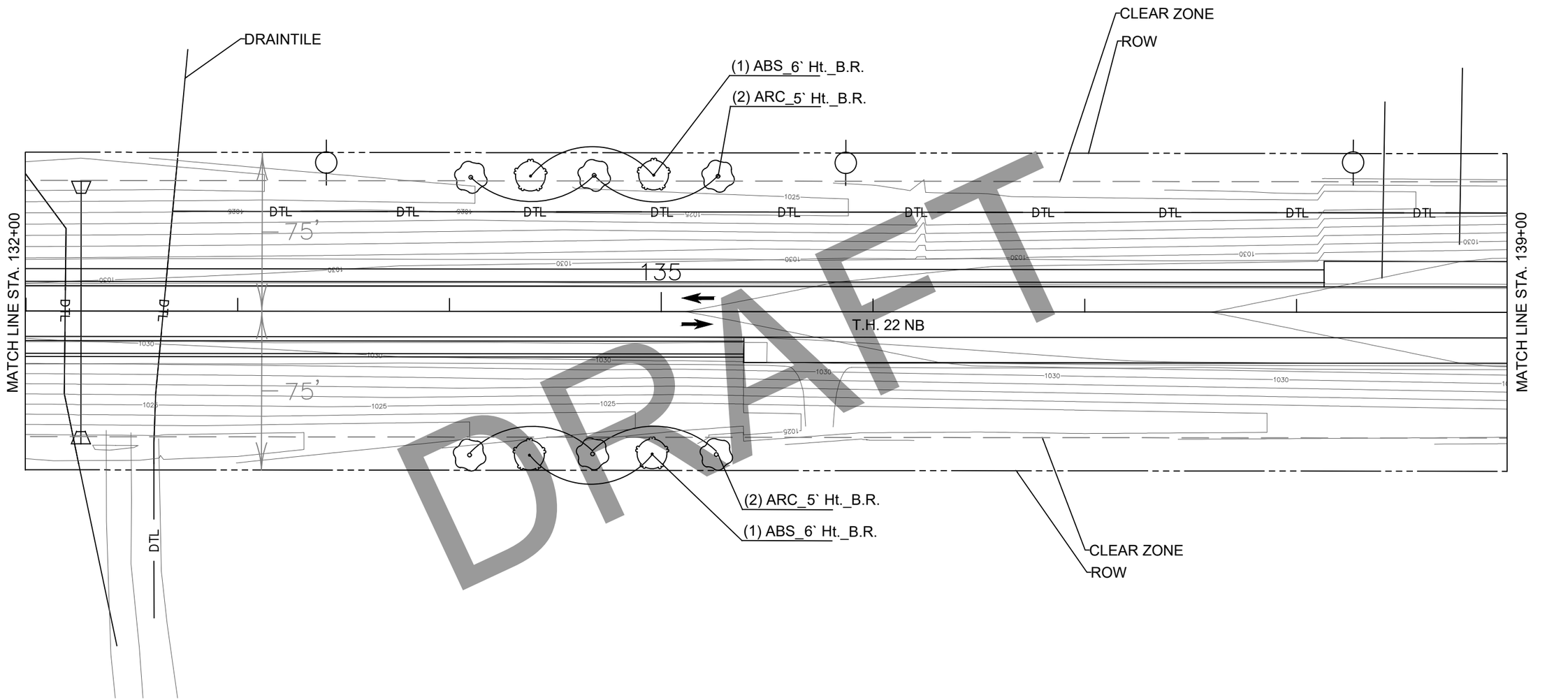
KEY	SPECIES	QUANT.	SPACING
ABS_6'	SERVICEBERRY, AUTUMN BRILLIANCE	4	AS SHOWN
ARC_5'	CRABAPPLE, ADIRONDAK	6	AS SHOWN



LEGEND
RIGHT OF WAY
CLEAR ZONE
DTL DRAINTILE

50
SCALE IN FEET

TIME:
DATE:
FILENAME:

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MINNESOTA DEPARTMENT OF TRANSPORTATION
TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

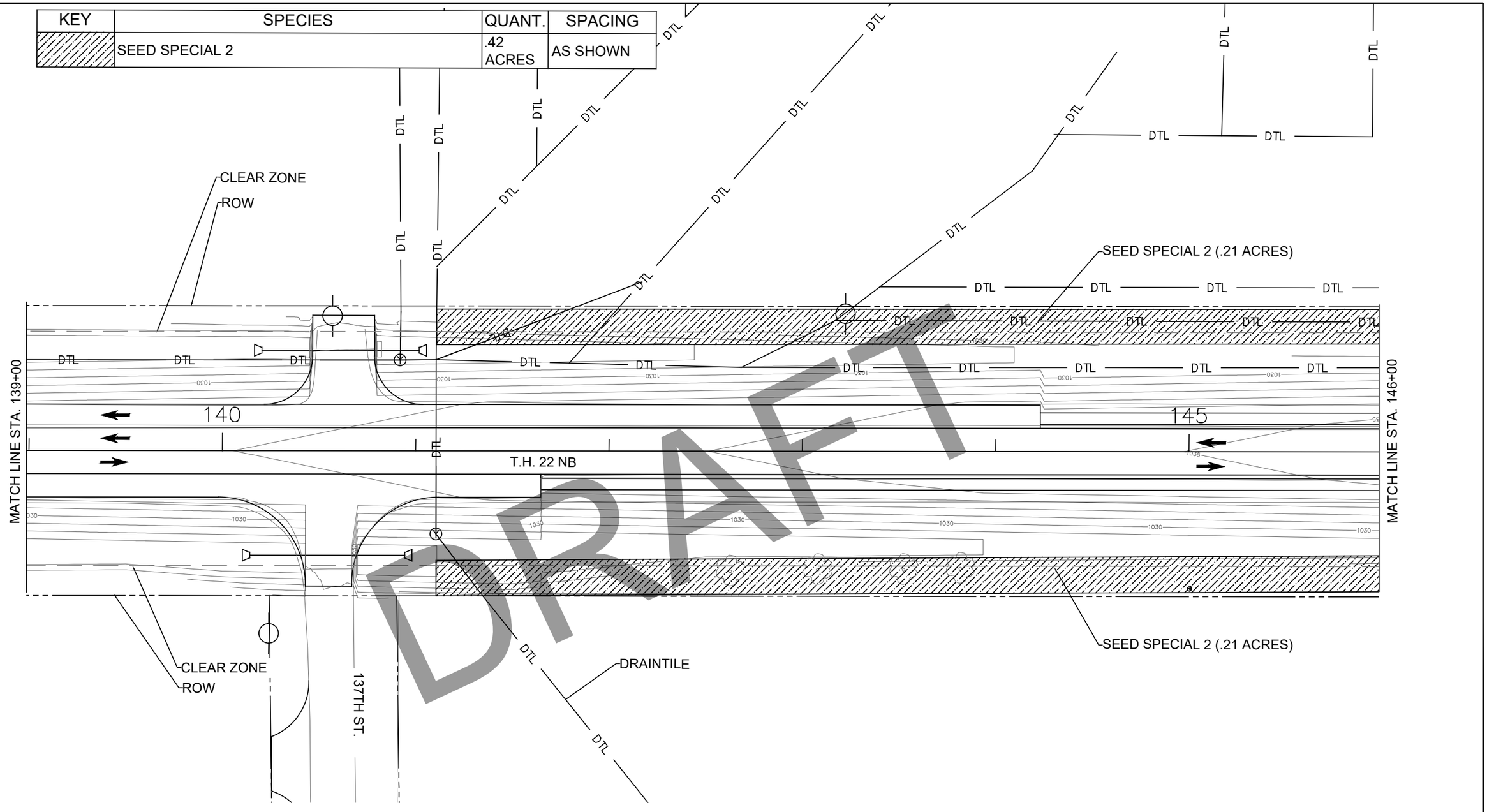
WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 38 of 112 Sheets

KEY	SPECIES	QUANT.	SPACING
	SEED SPECIAL 2	.42 ACRES	AS SHOWN



LEGEND
- RIGHT OF WAY
- CLEAR ZONE
- DTL — DRAINTILE

50
SCALE IN FEET

TIME:
DATE:
FILENAME:

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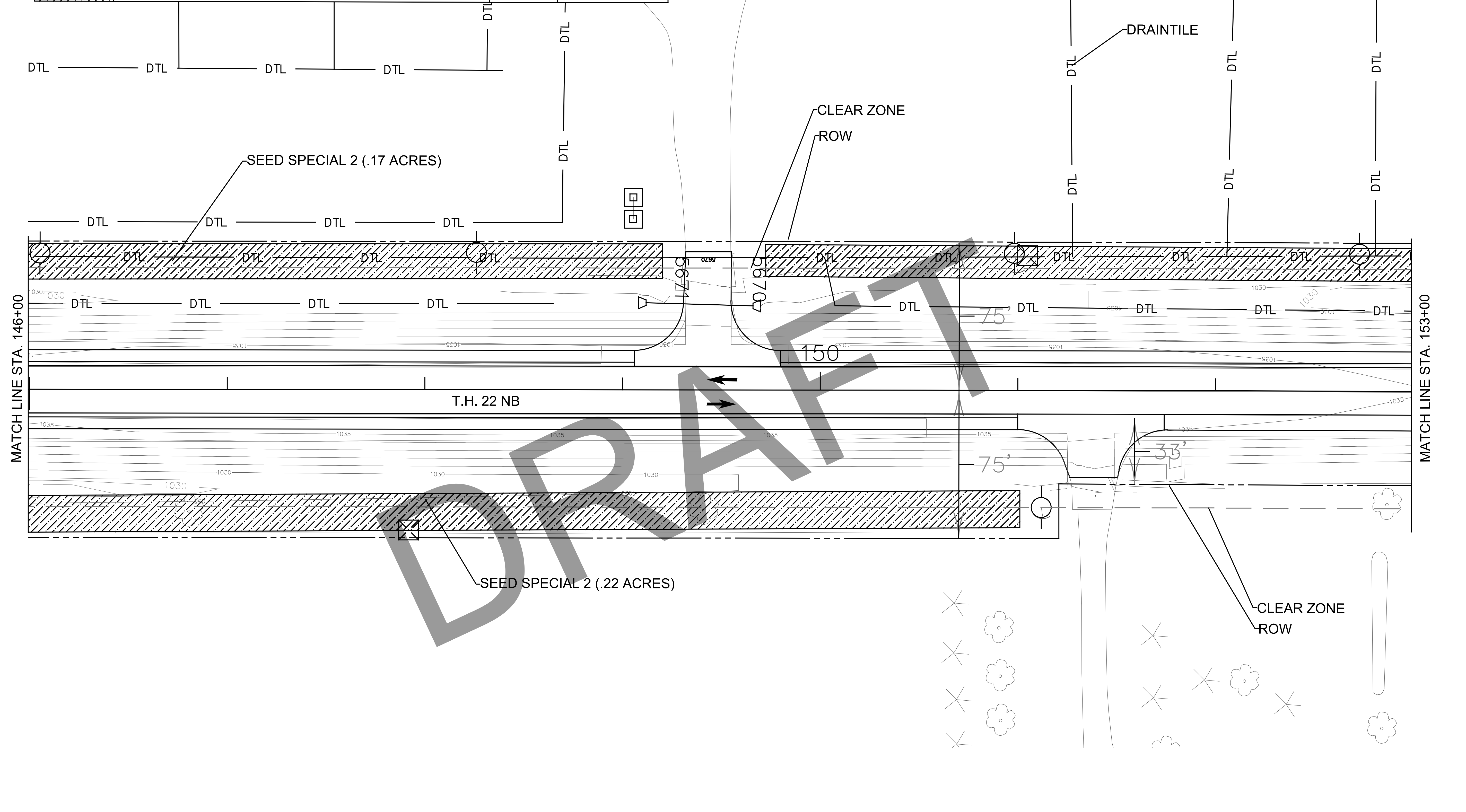
TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
(hatched)	SEED SPECIAL 2	0.51 ACRES	AS SHOWN



LEGEND
- RIGHT OF WAY
- CLEAR ZONE
- DTL — DRAINTILE

50
SCALE IN FEET

TIME:
DATE:
FILENAME:

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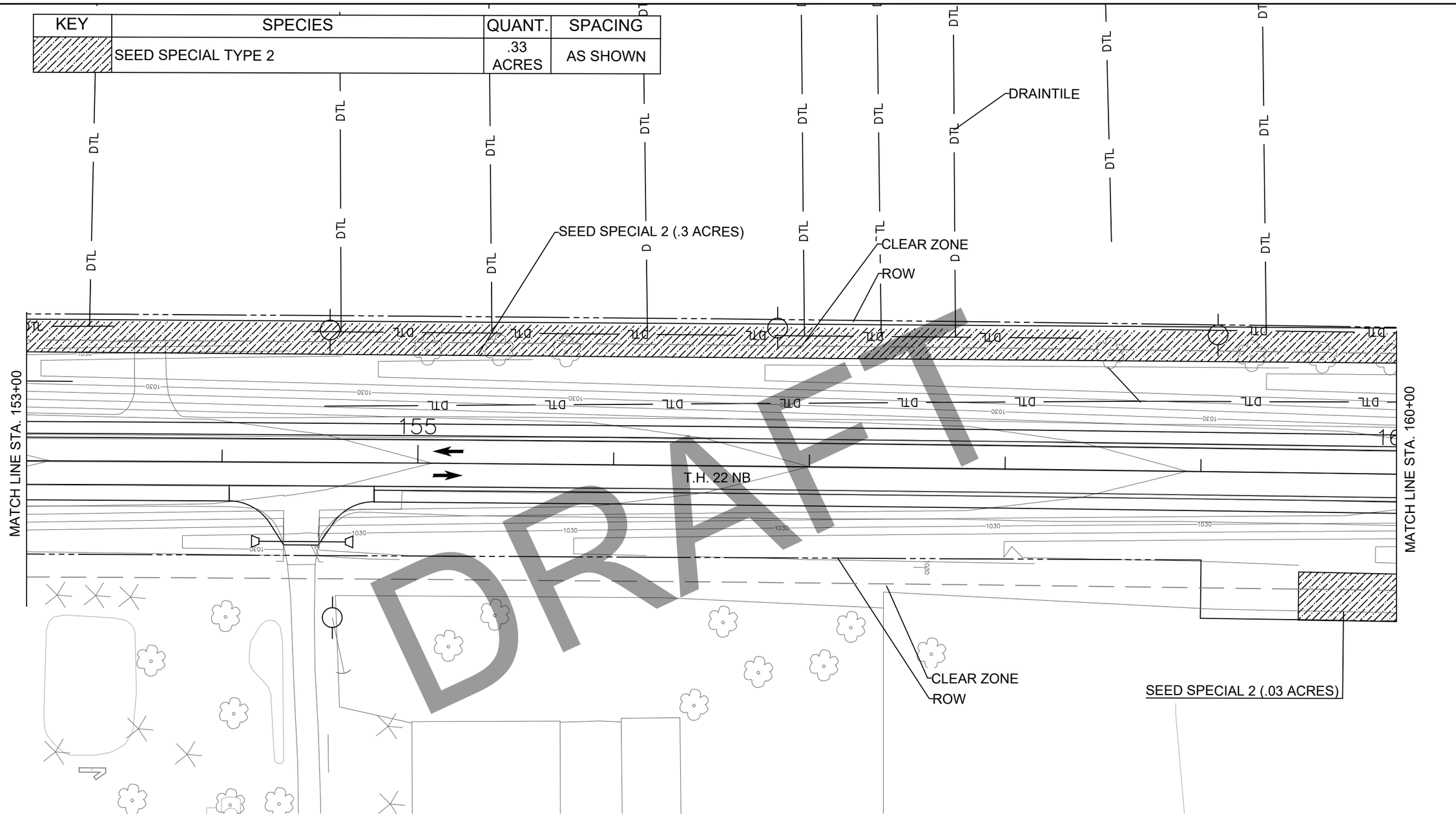
KEY	SPECIES	QUANT.	SPACING
	SEED SPECIAL TYPE 2	.33 ACRES	AS SHOWN



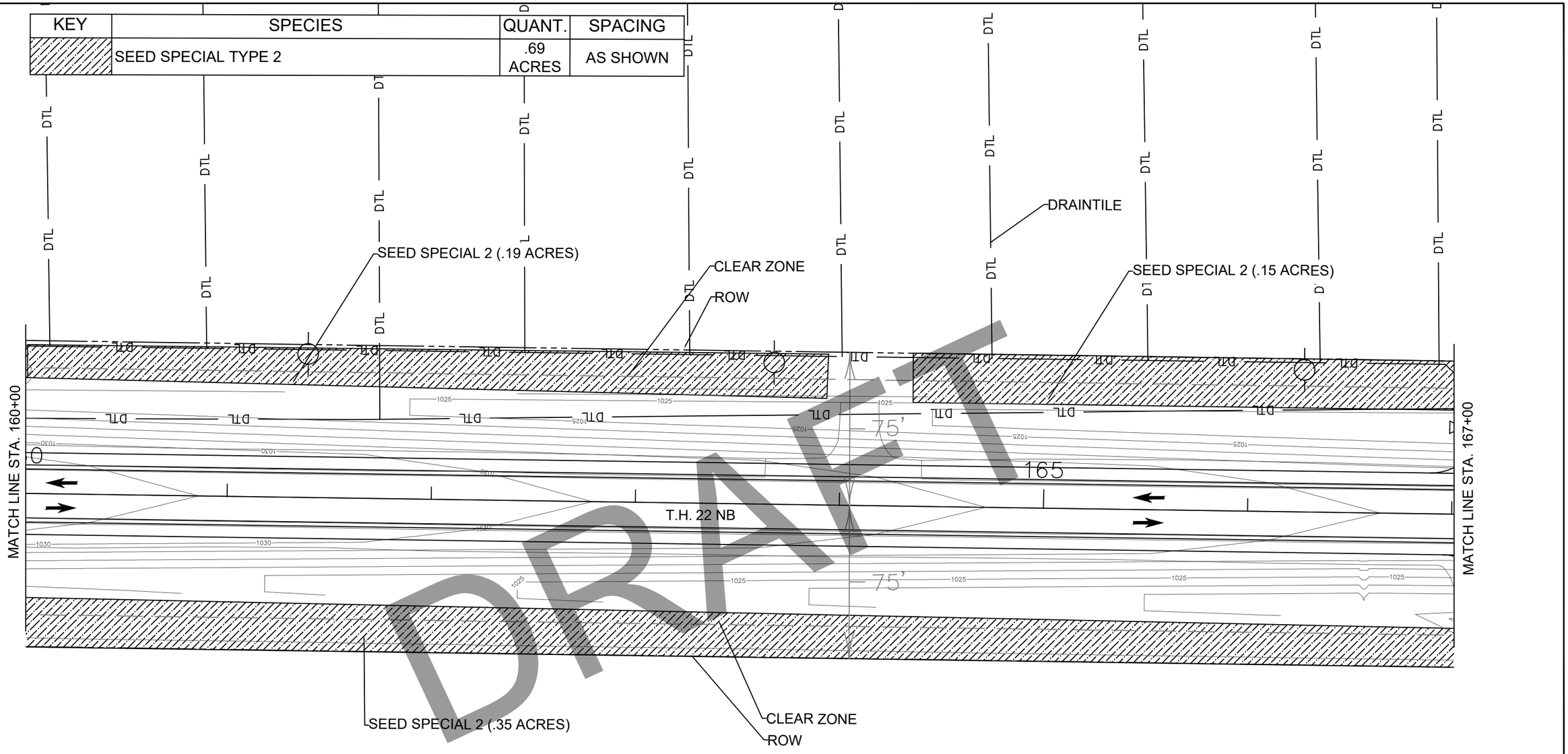
LEGEND
RIGHT OF WAY
CLEAR ZONE
DTL DRAINTILE

50
SCALE IN FEET

TIME:
DATE:
FILENAME:

DRAWN BY: BAK DESIGNED BY: CCA CHECKED BY: CCA	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED REGISTERED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.	SIGNATURE: PRINTED NAME: CANDACE C. AMBERG DATE: 09/22/2017 LIC. NO. 40646	DEPARTMENT OF TRANSPORTATION	MINNESOTA DEPARTMENT OF TRANSPORTATION TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15	LANDSCAPE PLAN	STATE PROJ.NO. 0704-110(T.H. 22) Sheet No. 41 of 112 Sheets

KEY	SPECIES	QUANT.	SPACING
	SEED SPECIAL TYPE 2	.69 ACRES	AS SHOWN



TIME:

DATE:
FILENAME:

LEGEND
- RIGHT OF WAY
- CLEAR ZONE
- DTL — DRAINTILE

50
SCALE IN FEET

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DEPARTMENT OF TRANSPORTATION

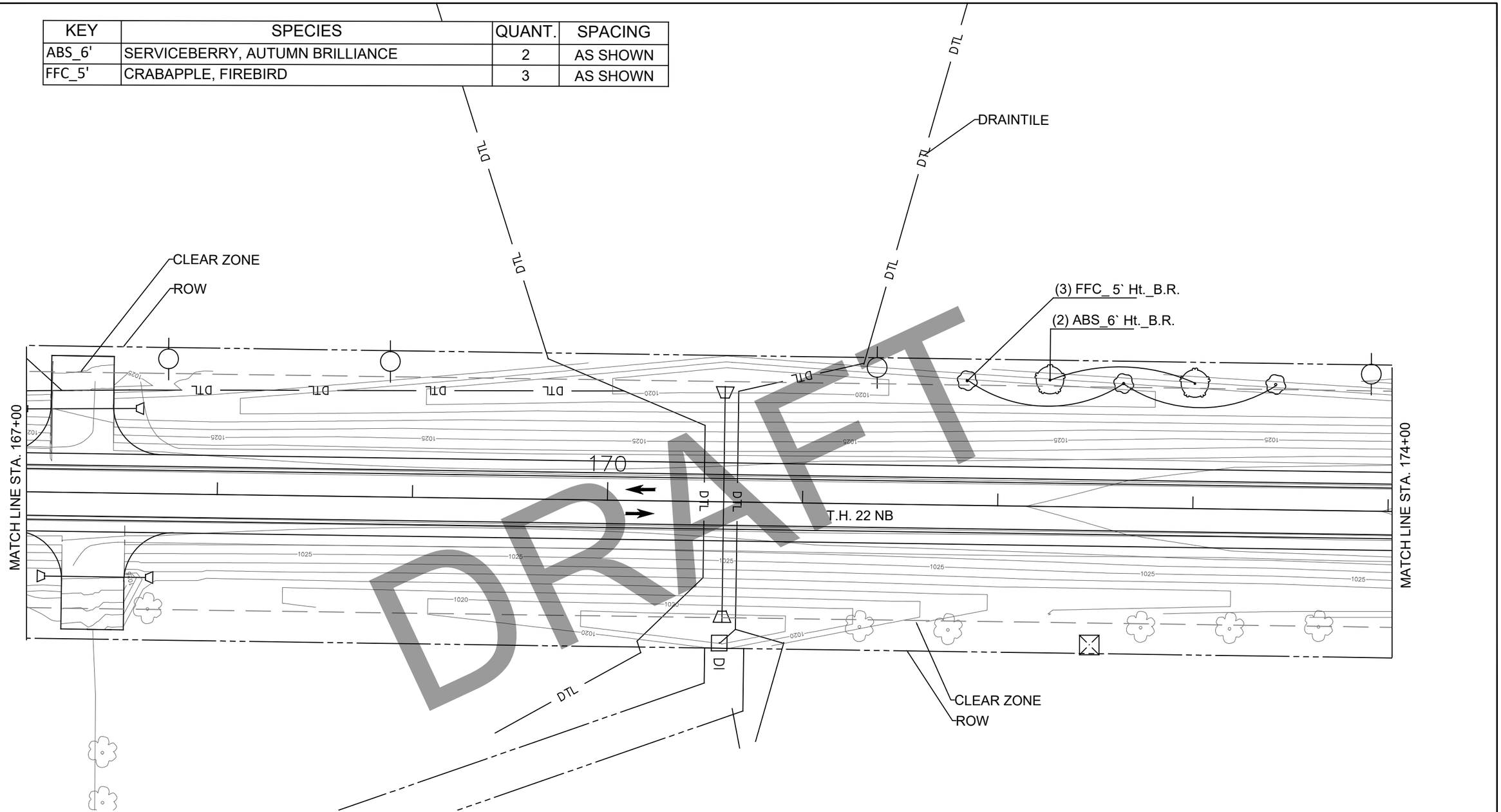
MINNESOTA DEPARTMENT OF TRANSPORTATION
TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
ABS_6'	SERVICEBERRY, AUTUMN BRILLIANCE	2	AS SHOWN
FFC_5'	CRABAPPLE, FIREBIRD	3	AS SHOWN



LEGEND
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- CLEAR ZONE
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SCALE IN FEET

TIME:
DATE:
FILENAME:

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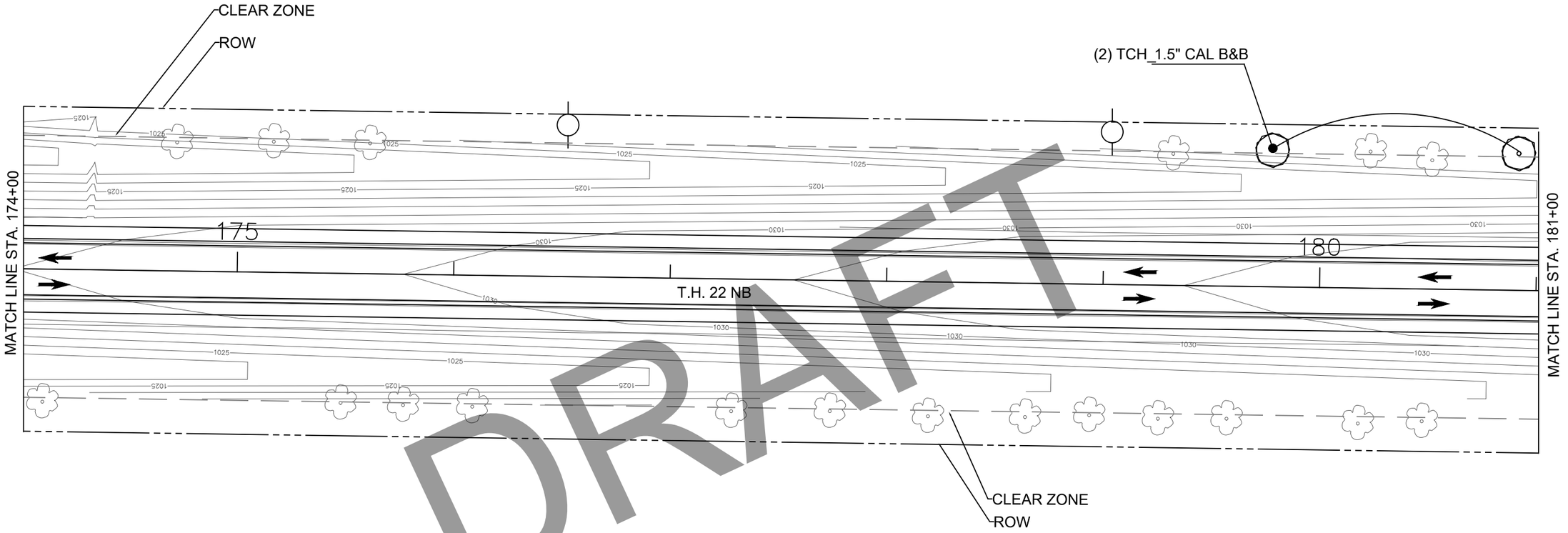
KEY	SPECIES	QUANT.	SPACING
TCH_5'	HAWTHORN, THORNLESS	2	AS SHOWN



TIME:

DATE:
FILENAME:

LEGEND
- RIGHT OF WAY
- CLEAR ZONE
- DTL DRAINTILE

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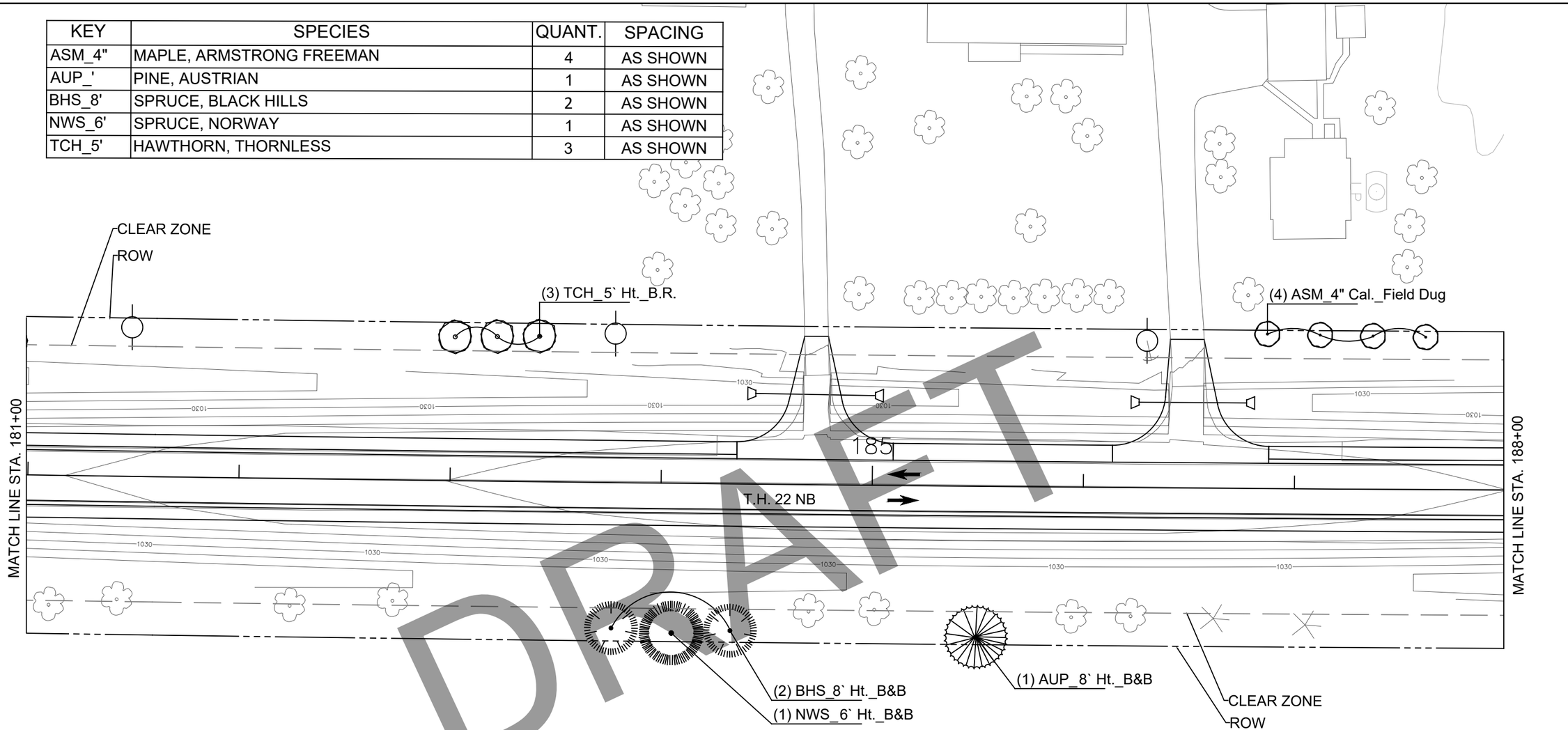
TH 22 RECONSTRUCTION FROM THE
CITY OF MAPLETON TO COUNTY ROAD 15

WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
ASM_4"	MAPLE, ARMSTRONG FREEMAN	4	AS SHOWN
AUP_'	PINE, AUSTRIAN	1	AS SHOWN
BHS_8'	SPRUCE, BLACK HILLS	2	AS SHOWN
NWS_6'	SPRUCE, NORWAY	1	AS SHOWN
TCH_5'	HAWTHORN, THORNLESS	3	AS SHOWN



TIME:
DATE:
FILENAME:

LEGEND
RIGHT OF WAY
CLEAR ZONE
DTL DRAINTILE

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TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

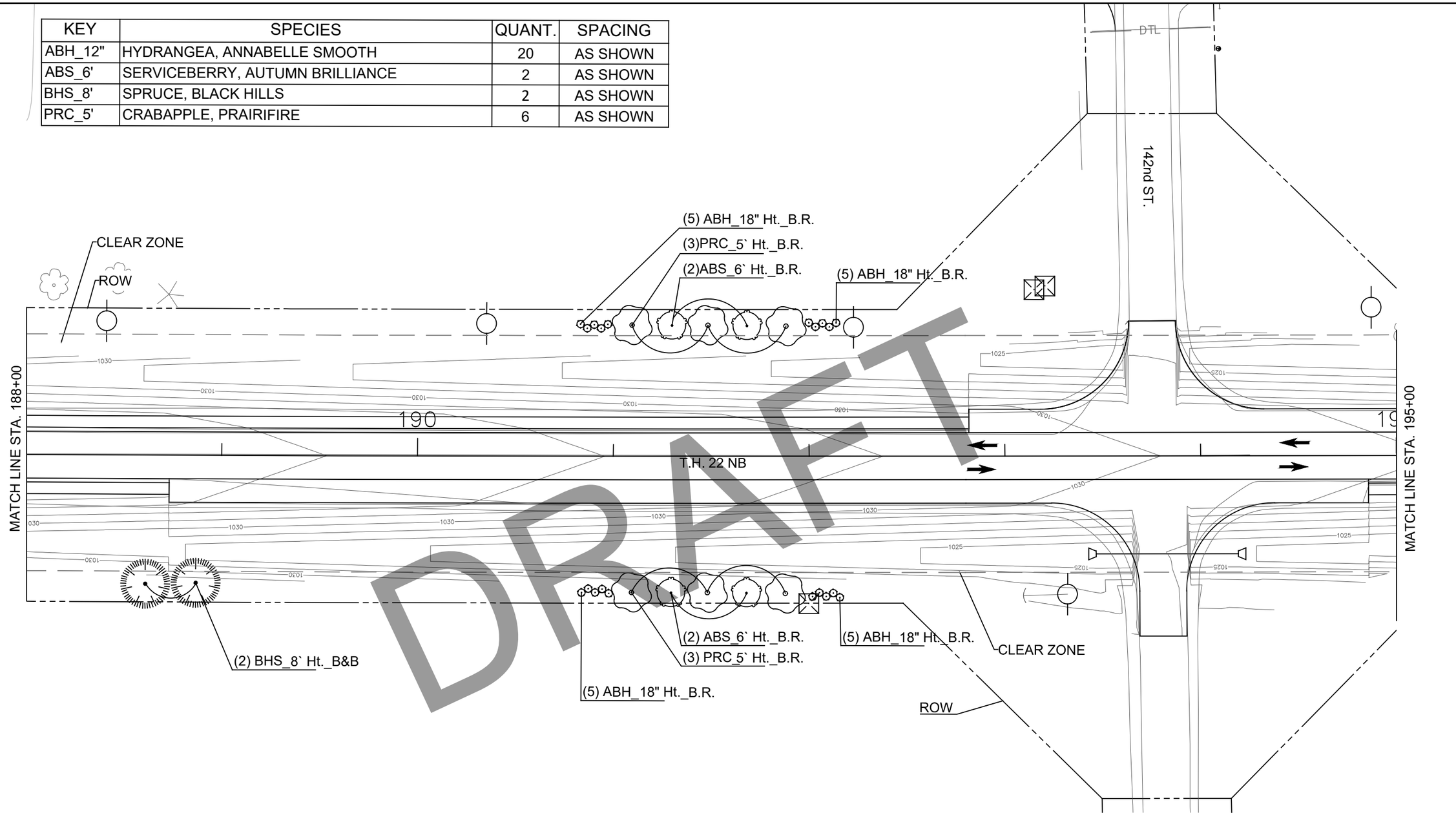
WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 45 of 112 Sheets

KEY	SPECIES	QUANT.	SPACING
ABH_12"	HYDRANGEA, ANNABELLE SMOOTH	20	AS SHOWN
ABS_6'	SERVICEBERRY, AUTUMN BRILLIANCE	2	AS SHOWN
BHS_8'	SPRUCE, BLACK HILLS	2	AS SHOWN
PRC_5'	CRABAPPLE, PRAIRIFIRE	6	AS SHOWN



LEGEND
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- CLEAR ZONE
- DTL DRAINTILE

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FILENAME:

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TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

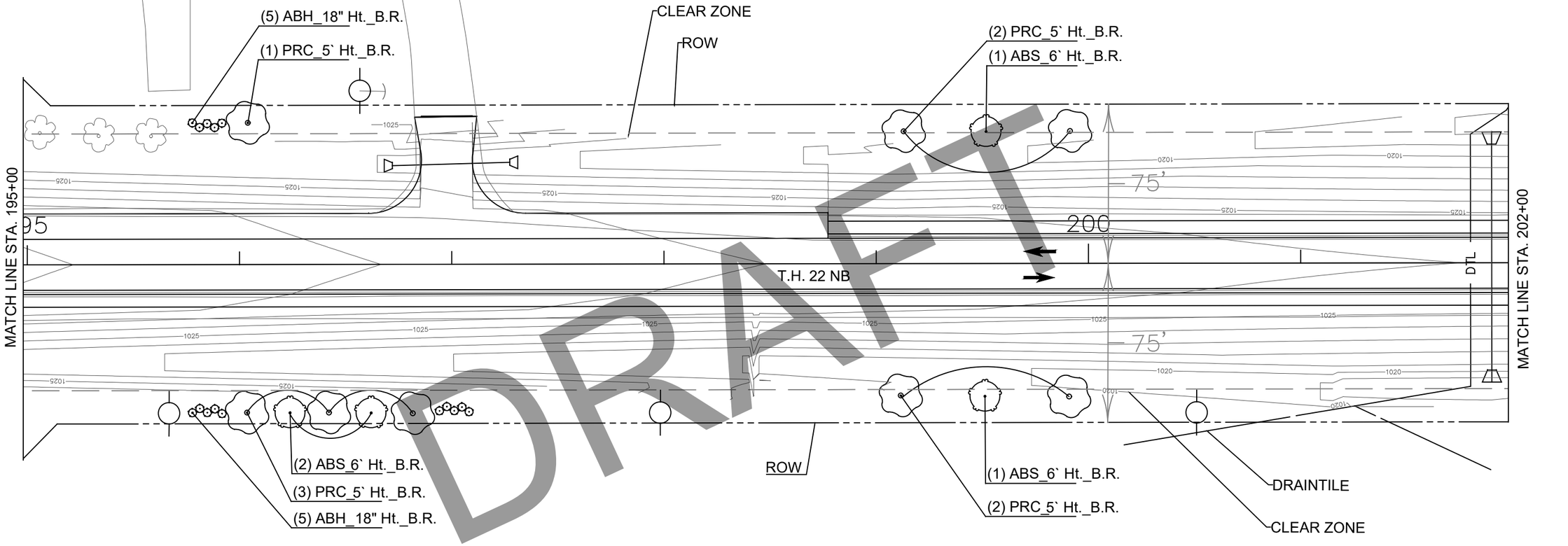
WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 46 of 112 Sheets

KEY	SPECIES	QUANT.	SPACING
ABH_12"	HYDRANGEA, ANNABELLE SMOOTH	15	AS SHOWN
ABS_6'	SERVICEBERRY, AUTUMN BRILLIANCE	4	AS SHOWN
PRC_5'	CRABAPPLE, PRAIRIFIRE	8	AS SHOWN



TIME:

DATE:
FILENAME:

LEGEND
- RIGHT OF WAY
- CLEAR ZONE
- DTL DRAINTILE

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SCALE IN FEET

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CHECKED BY: CCA

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TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

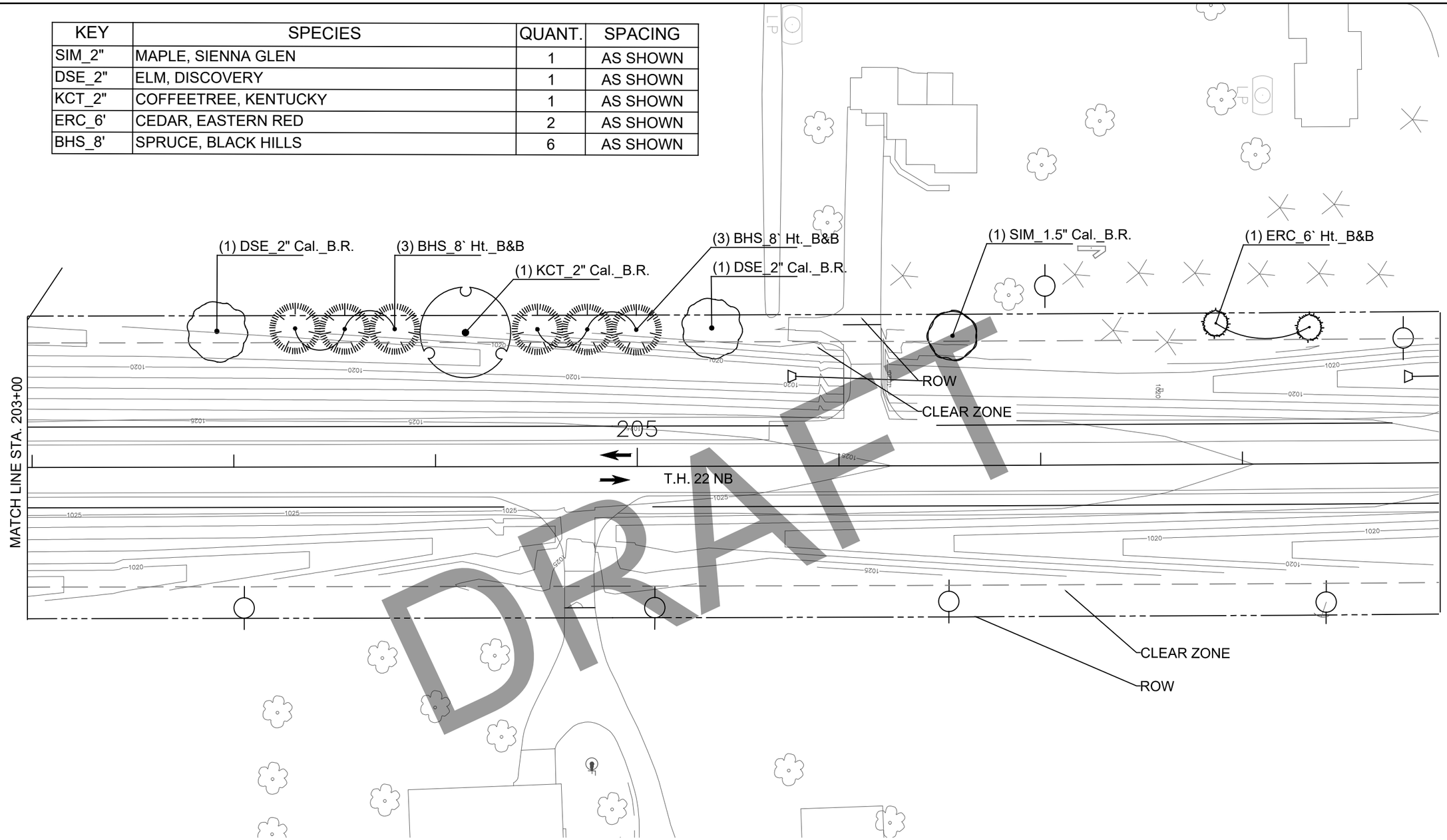
WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 47 of 112 Sheets

KEY	SPECIES	QUANT.	SPACING
SIM_2"	MAPLE, SIENNA GLEN	1	AS SHOWN
DSE_2"	ELM, DISCOVERY	1	AS SHOWN
KCT_2"	COFFEETREE, KENTUCKY	1	AS SHOWN
ERC_6'	CEDAR, EASTERN RED	2	AS SHOWN
BHS_8'	SPRUCE, BLACK HILLS	6	AS SHOWN



TIME:
DATE:
FILENAME:

LEGEND
- RIGHT OF WAY
- CLEAR ZONE
- DTL DRAINTILE

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SCALE IN FEET

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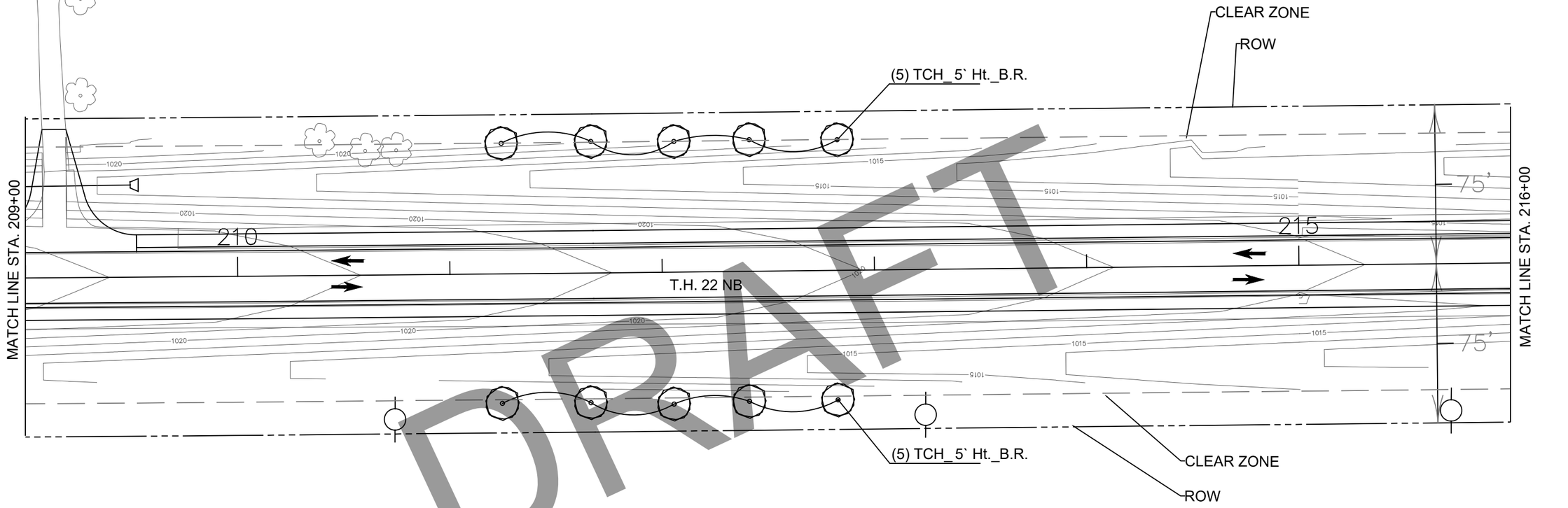
KEY	SPECIES	QUANT.	SPACING
TCH_5'	HAWTHORN, THORNLESS	10	AS SHOWN



TIME:

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FILENAME:

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- CLEAR ZONE
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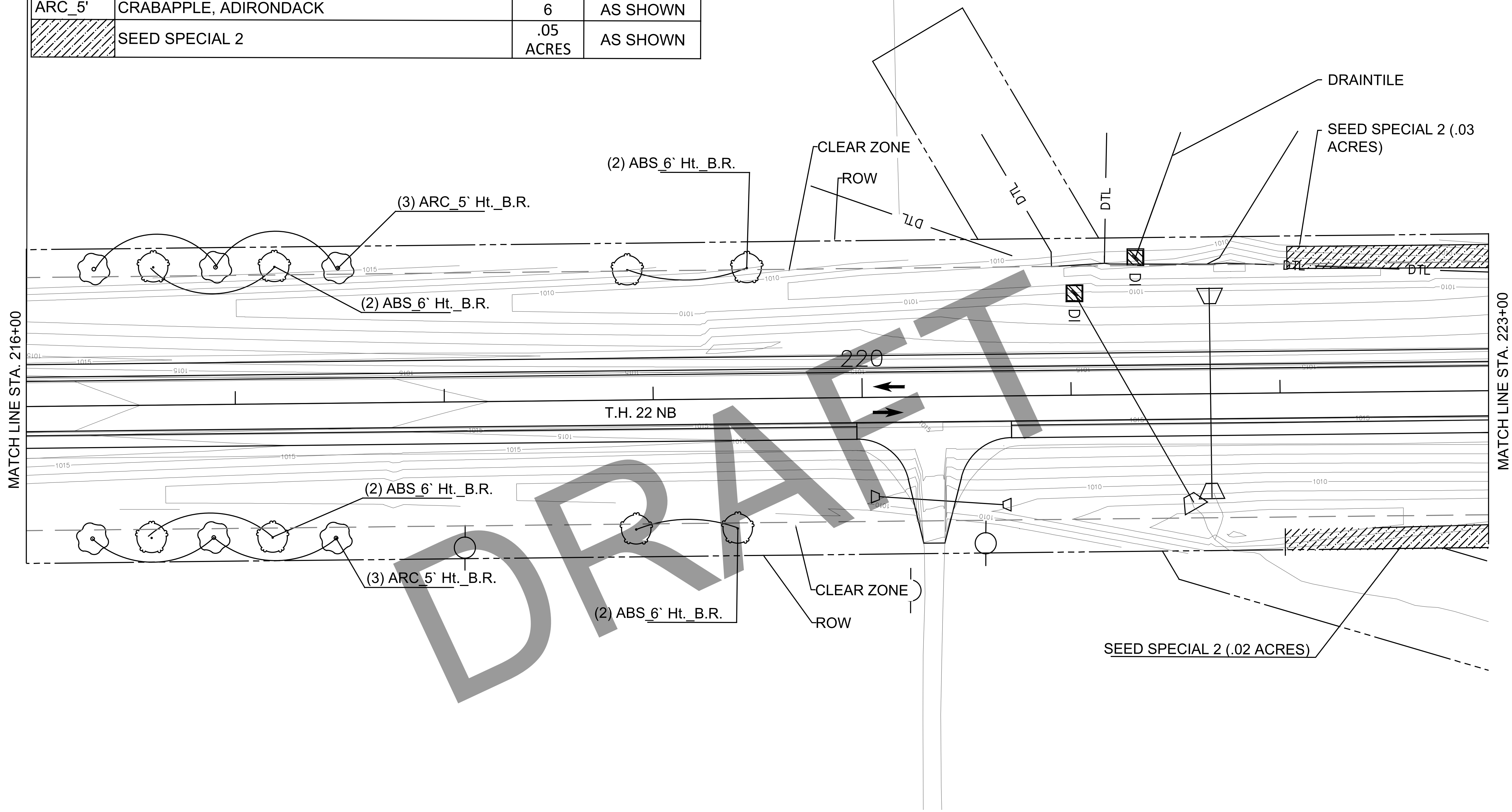
TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
ABS_6'	SERVICEBERRY, AUTUMN BRILLIANCE	8	AS SHOWN
ARC_5'	CRABAPPLE, ADIRONDACK	6	AS SHOWN
(hatched)	SEED SPECIAL 2	.05 ACRES	AS SHOWN



LEGEND
RIGHT OF WAY
CLEAR ZONE
DTL DRAINTILE

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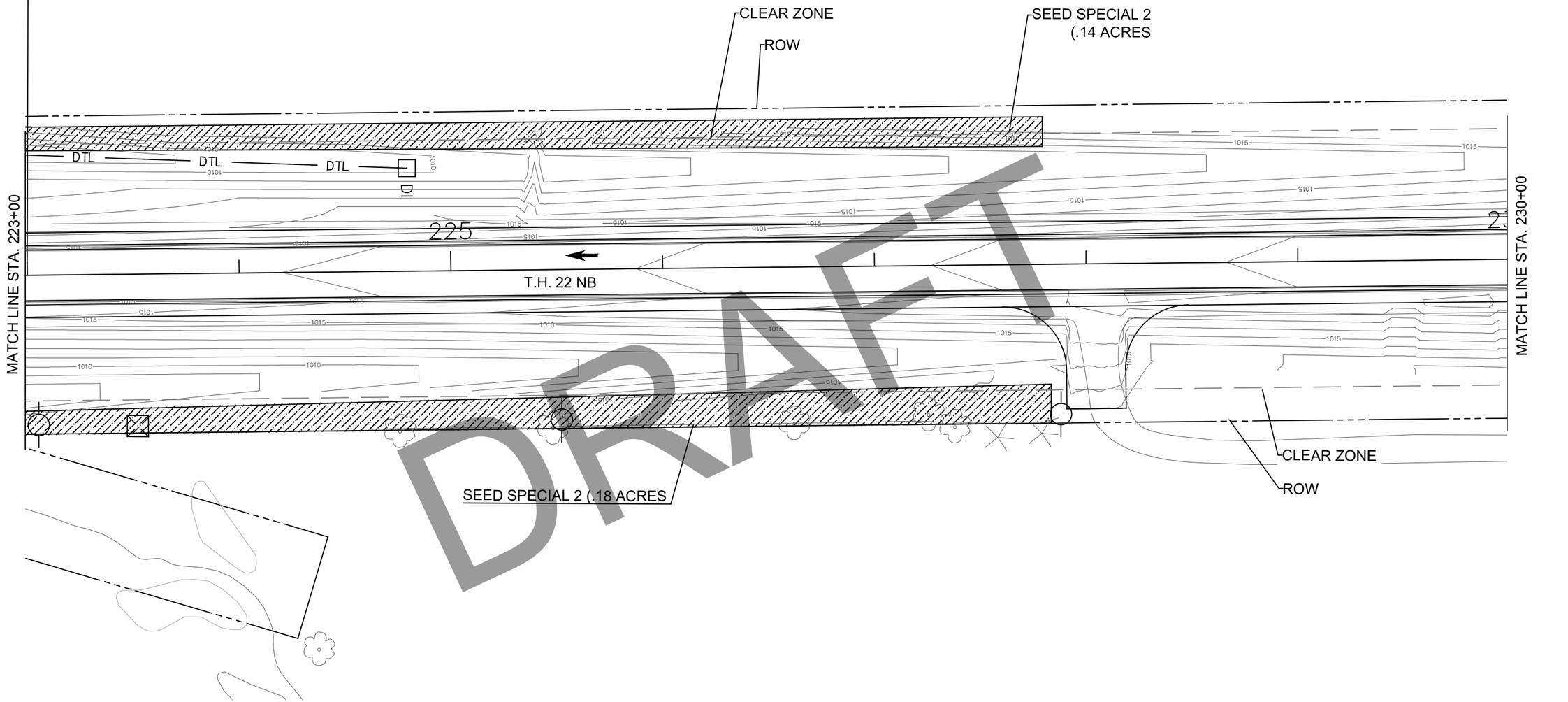
DATE:
FILENAME:

DRAWN BY: BAK DESIGNED BY: CCA CHECKED BY: CCA	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED REGISTERED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.	SIGNATURE: PRINTED NAME: CANDACE C. AMBERG DATE: 09/22/2017 LIC. NO. 40646	DEPARTMENT OF TRANSPORTATION MINNESOTA DEPARTMENT OF TRANSPORTATION TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15	WSB
LANDSCAPE PLAN	STATE PROJ.NO. 0704-110(T.H. 22)	Sheet No. 50 of 112 Sheets		

KEY	SPECIES	QUANT.	SPACING
	SEED SPECIAL 2	.22 ACRES	AS SHOWN



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LEGEND
- RIGHT OF WAY
- CLEAR ZONE
- DTL — DRAINTILE

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SCALE IN FEET

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TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

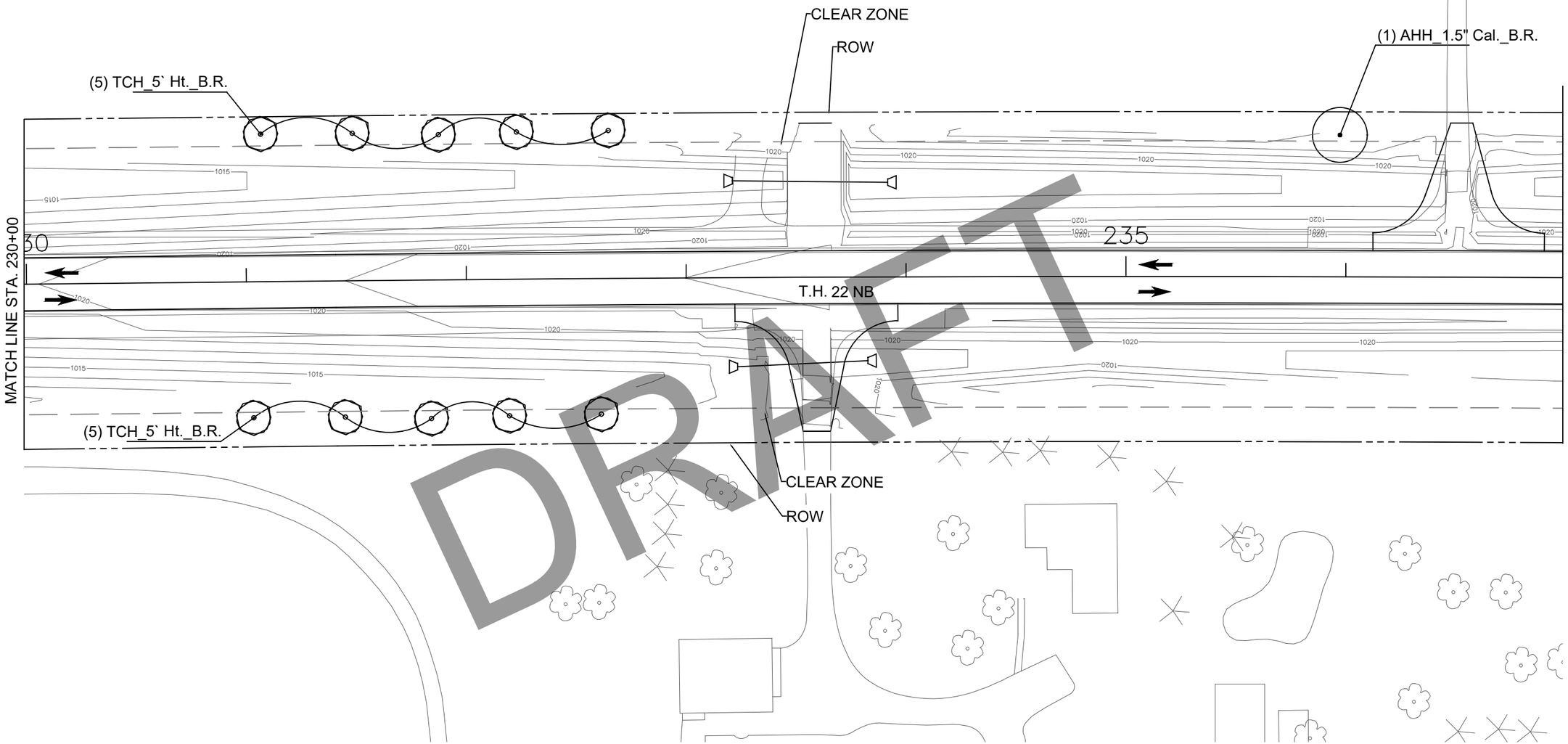
WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 51 of 112 Sheets

KEY	SPECIES	QUANT.	SPACING
AHH_1.5"	HOPHORNBEAM, AMERICAN	1	AS SHOWN
TCH_5'	HAWTHORN, THORNLESS	10	AS SHOWN



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TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

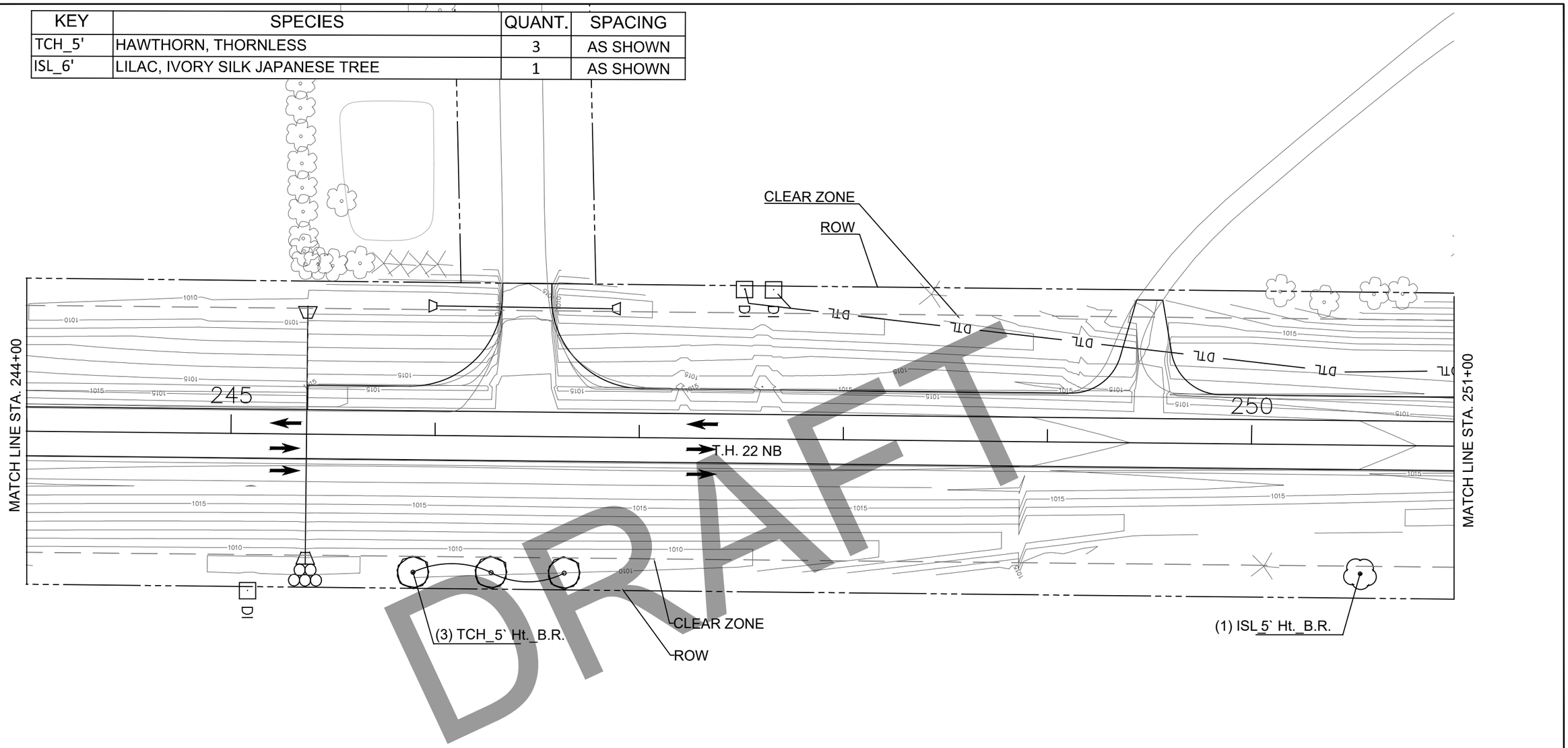
WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 52 of 112 Sheets

KEY	SPECIES	QUANT.	SPACING
TCH_5'	HAWTHORN, THORNLESS	3	AS SHOWN
ISL_6'	LILAC, IVORY SILK JAPANESE TREE	1	AS SHOWN



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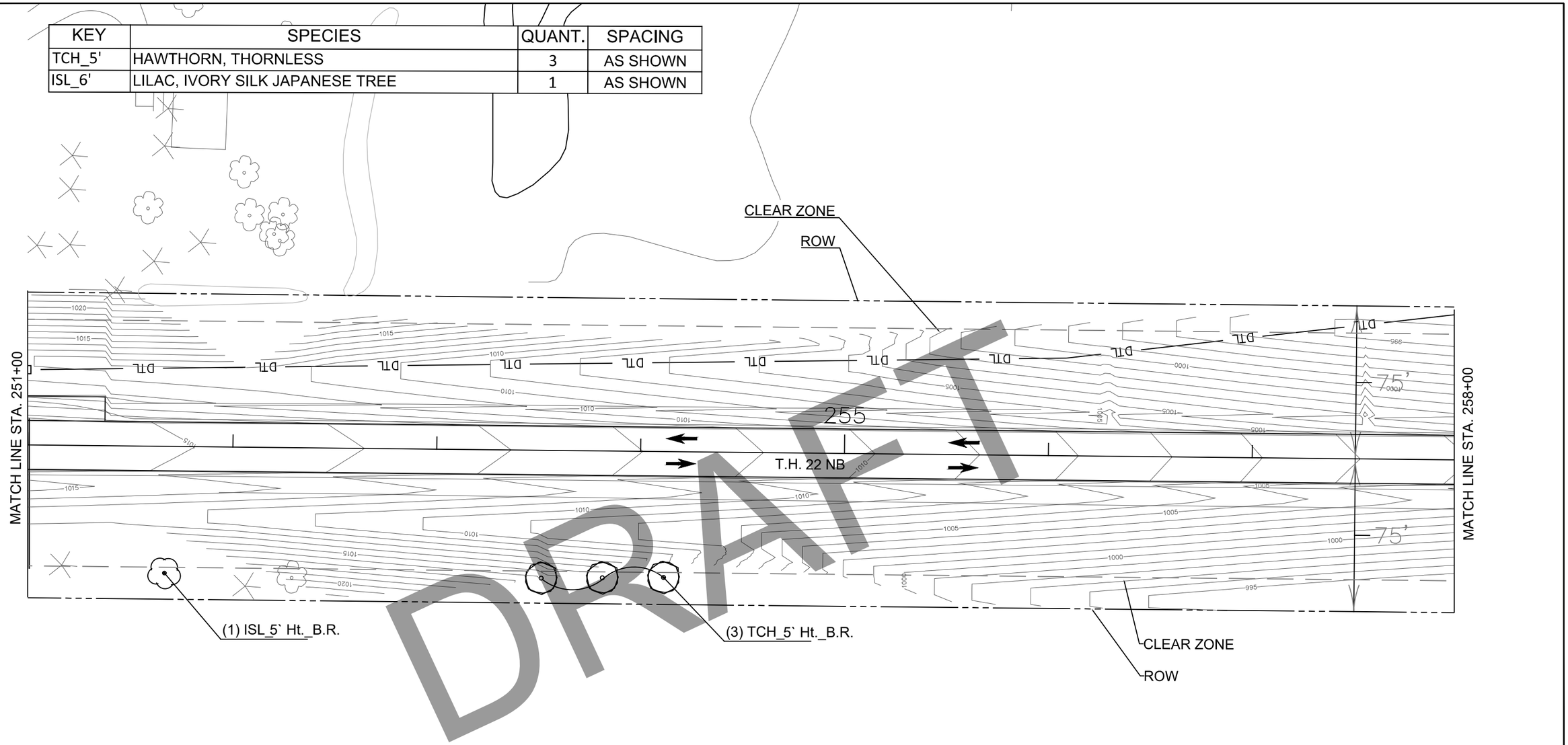
TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
TCH_5'	HAWTHORN, THORNLESS	3	AS SHOWN
ISL_6'	LILAC, IVORY SILK JAPANESE TREE	1	AS SHOWN



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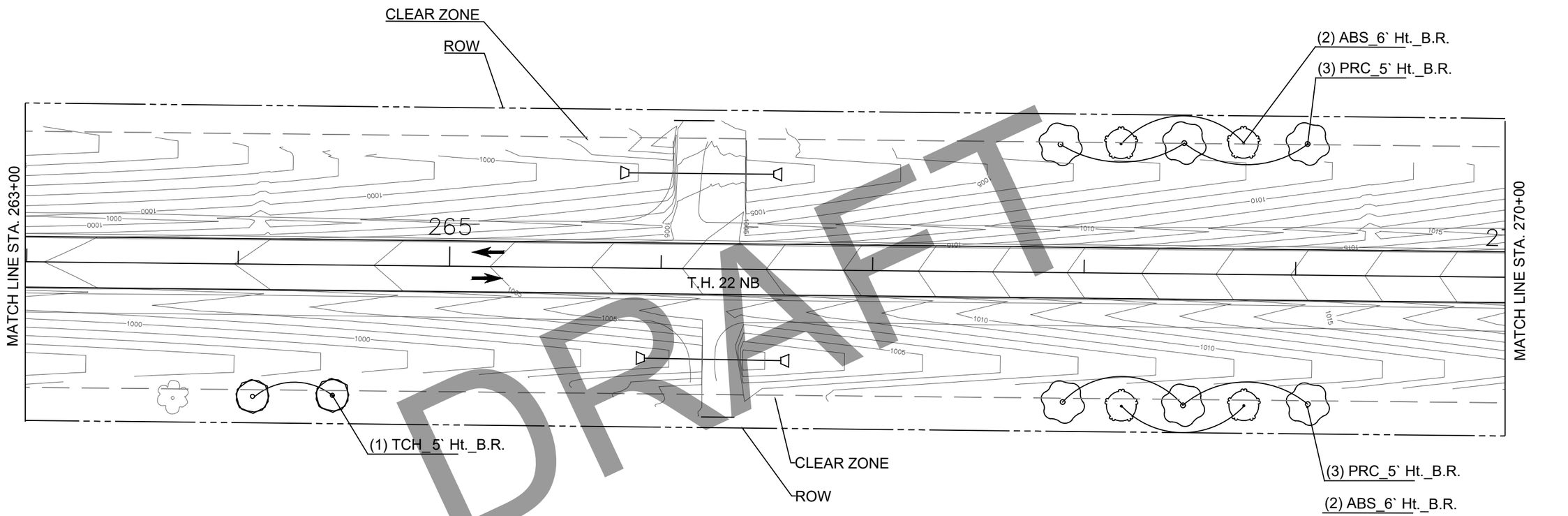
WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 54 of 112 Sheets

KEY	SPECIES	QUANT.	SPACING
ABS_6'	SERVICEBERRY, AUTUMN BRILLIANCE	4	AS SHOWN
PRC_5'	CRABAPPLE, PRAIRIFIRE	6	AS SHOWN
TCH_5'	HAWTHORN, THORNLESS	2	AS SHOWN



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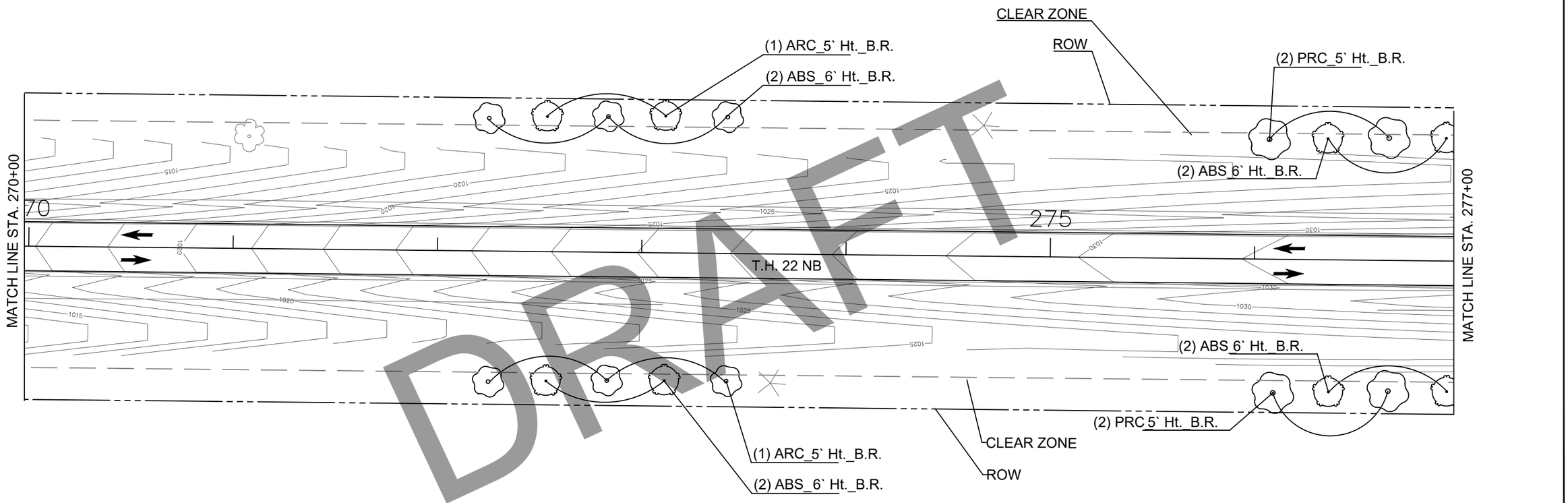
LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
ABS_6'	SERVICEBERRY, AUTUMN BRILLIANCE	4	AS SHOWN
PRC_5'	CRABAPPLE, PRAIRIFIRE	4	AS SHOWN
ARC_5'	CRABAPPLE, ADIRONDACK	3	AS SHOWN



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TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

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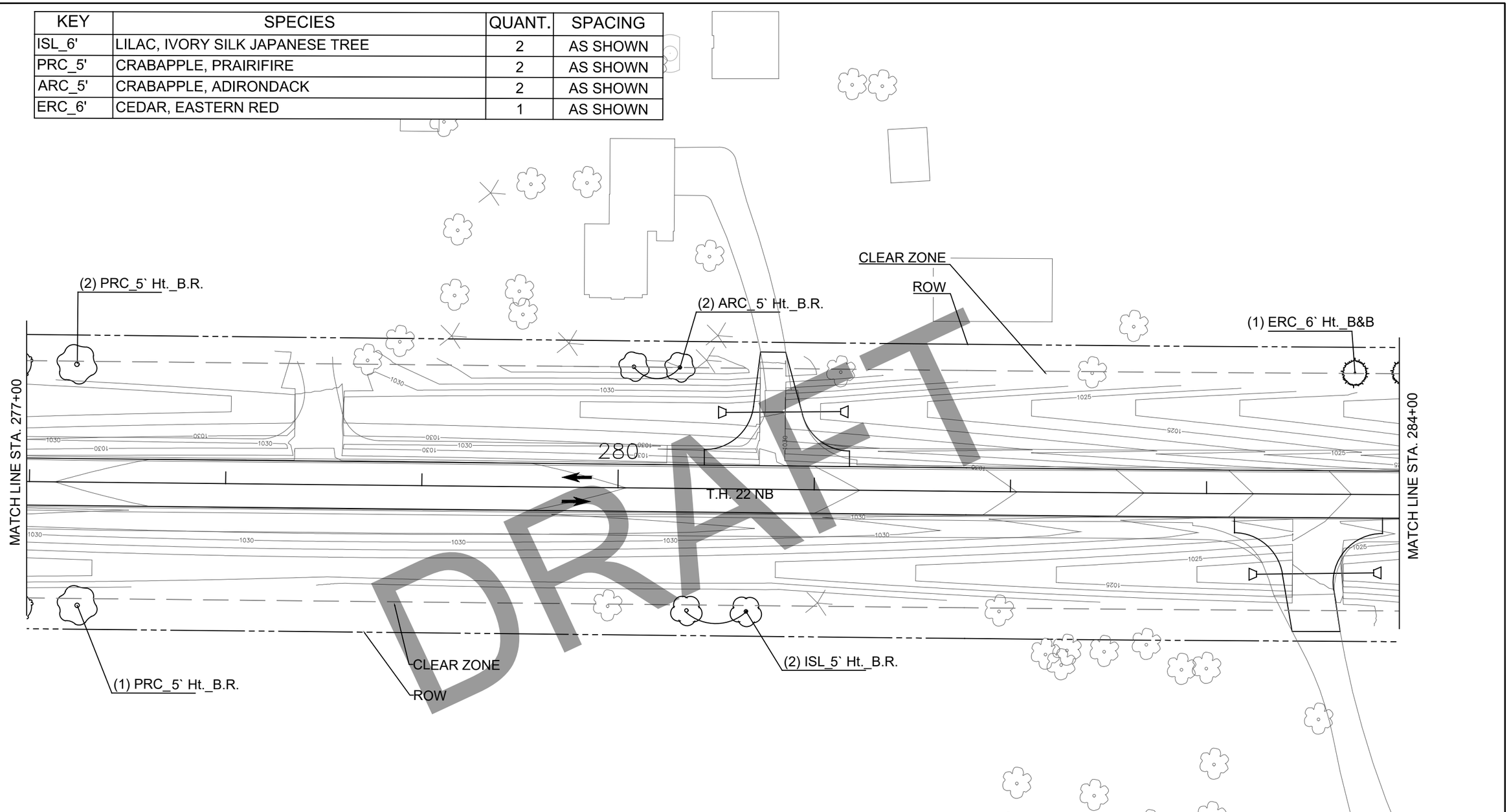
LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
ISL_6'	LILAC, IVORY SILK JAPANESE TREE	2	AS SHOWN
PRC_5'	CRABAPPLE, PRAIRIFIRE	2	AS SHOWN
ARC_5'	CRABAPPLE, ADIRONDACK	2	AS SHOWN
ERC_6'	CEDAR, EASTERN RED	1	AS SHOWN



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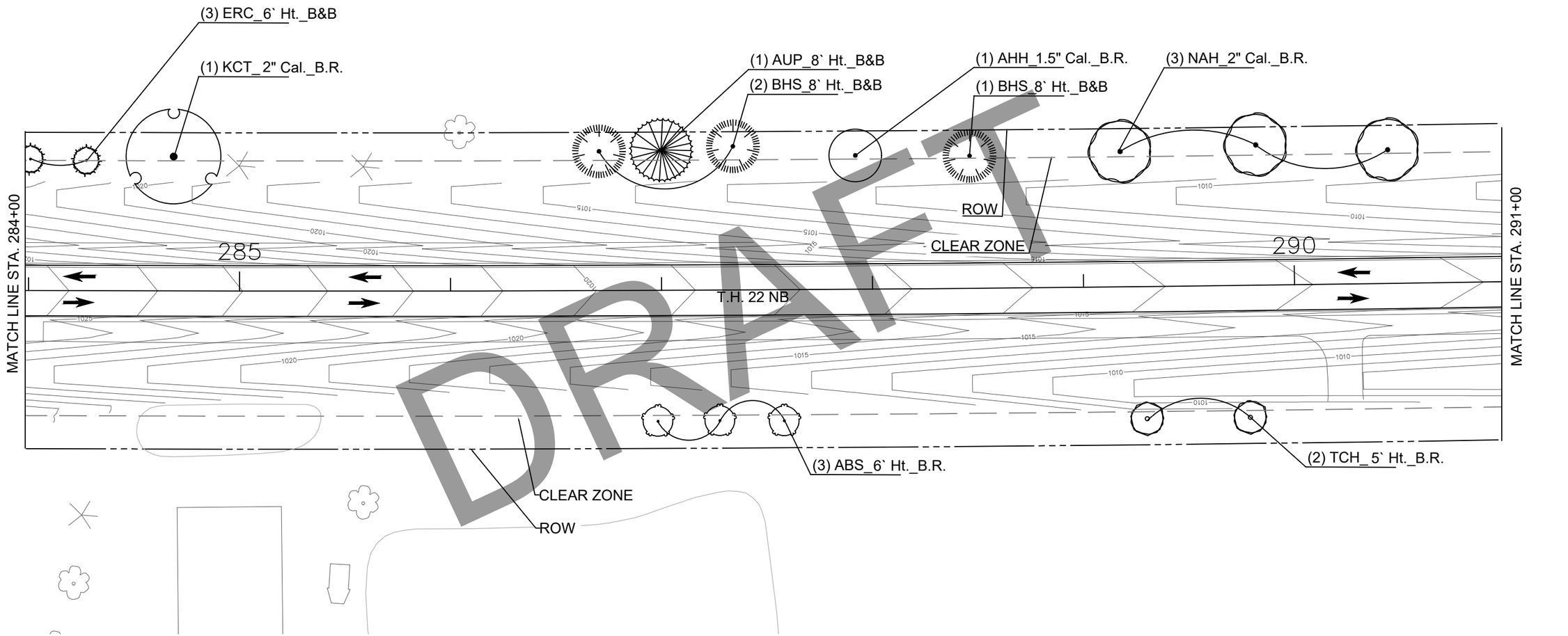
WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
NAH_2"	LILAC, IVORY SILK JAPANESE TREE	2	AS SHOWN
AHH_1.5"	CRABAPPLE, PRAIRIFIRE	2	AS SHOWN
BHS_8'	CRABAPPLE, ADIRONDACK	2	AS SHOWN
AUP_8'	CEDAR, EASTERN RED	1	AS SHOWN
ABS_6'	SERVICEBERRY, AUTUMN BRILLIANCE	3	AS SHOWN
ERC_6'	CEDAR, EASTERN RED	2	AS SHOWN
TCH_5'	HAWTHORN, THORNLESS	2	AS SHOWN
KCT_2"	COFFEETREE, KENTUCKY	1	AS SHOWN



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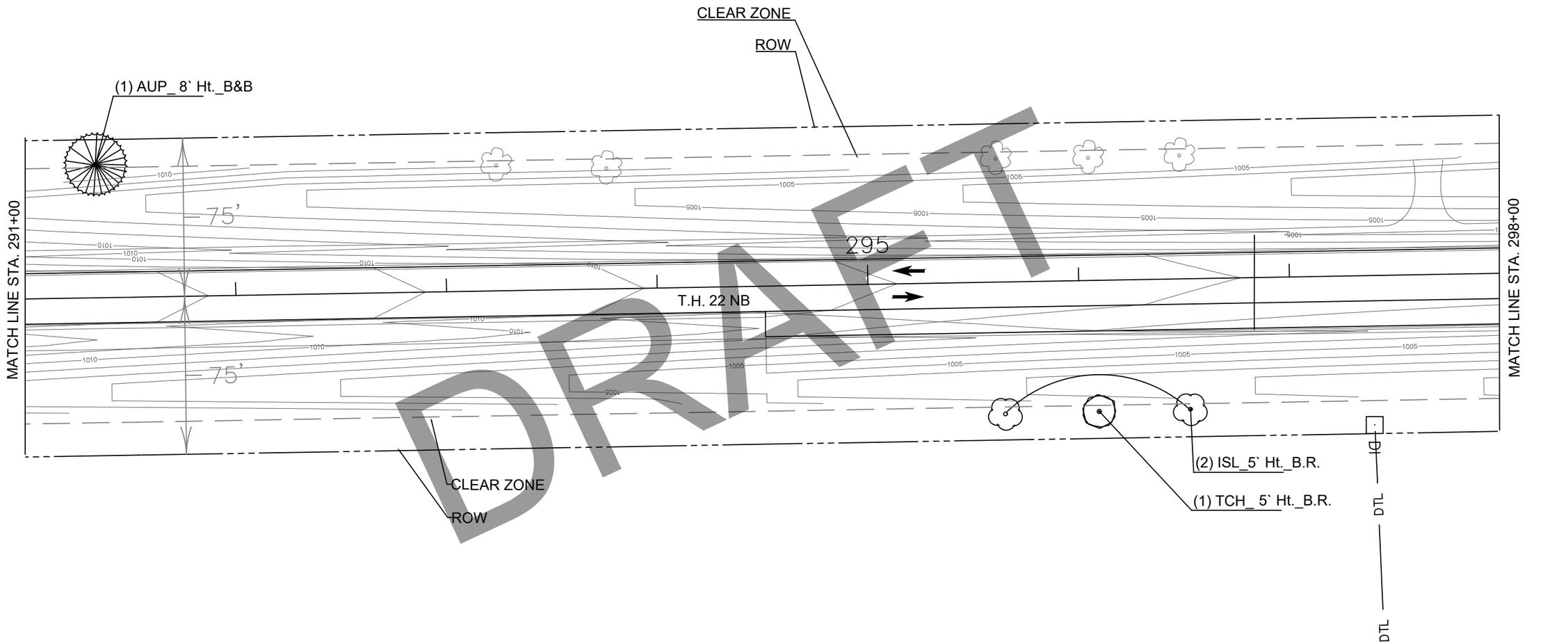
KEY	SPECIES	QUANT.	SPACING
ISL_6'	LILAC, IVORY SILK JAPANESE TREE	2	AS SHOWN
AUP_8'	CEDAR, EASTERN RED	1	AS SHOWN
TCH_5'	HAWTHORN, THORNLESS	1	AS SHOWN



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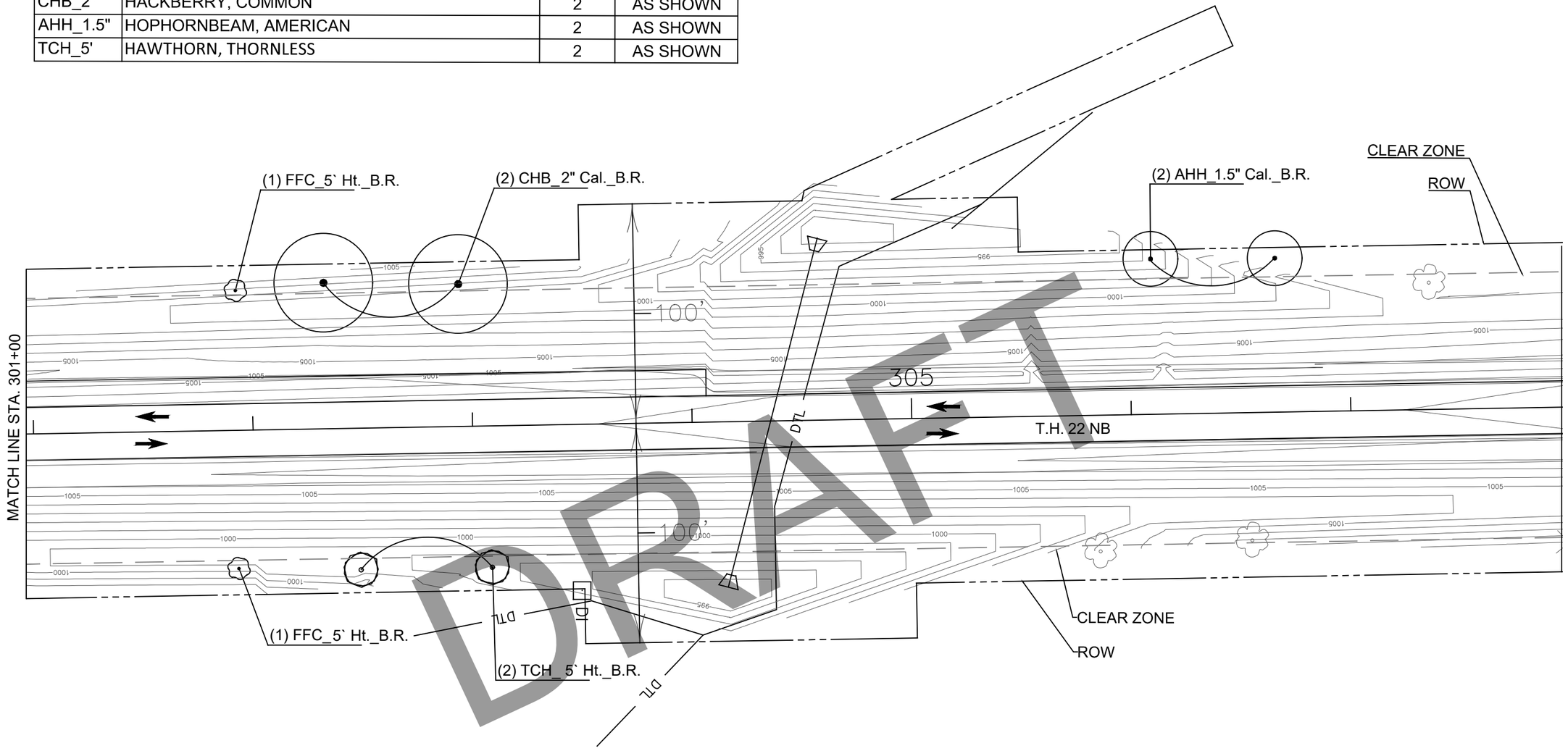
LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
FFC_5'	CRABAPPLE, FIREBIRD	2	AS SHOWN
CHB_2"	HACKBERRY, COMMON	2	AS SHOWN
AHH_1.5"	HOPHORNBEAM, AMERICAN	2	AS SHOWN
TCH_5'	HAWTHORN, THORNLESS	2	AS SHOWN



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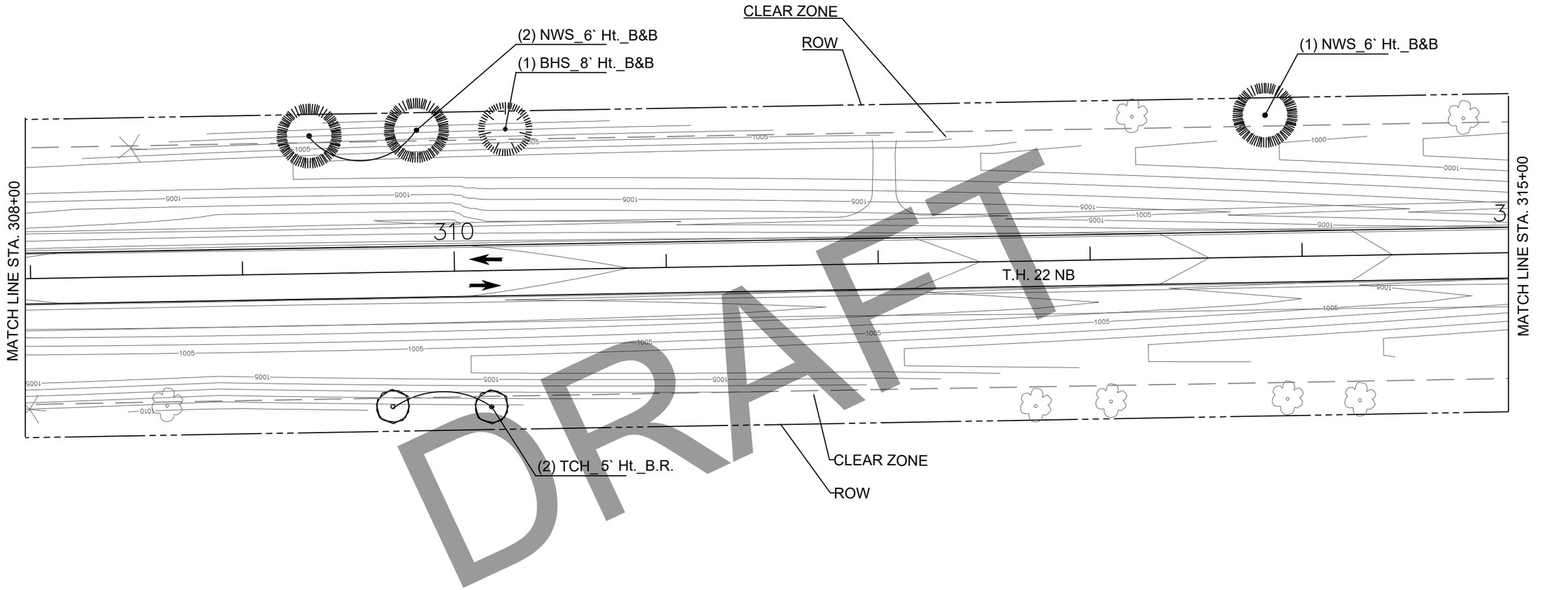
WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
BHS_8'	SPRUCE, BLACK HILLS	1	AS SHOWN
NWS_6'	SPRUCE, NORWAY	3	AS SHOWN
TCH_5'	HAWTHORN, THORNLESS	2	AS SHOWN



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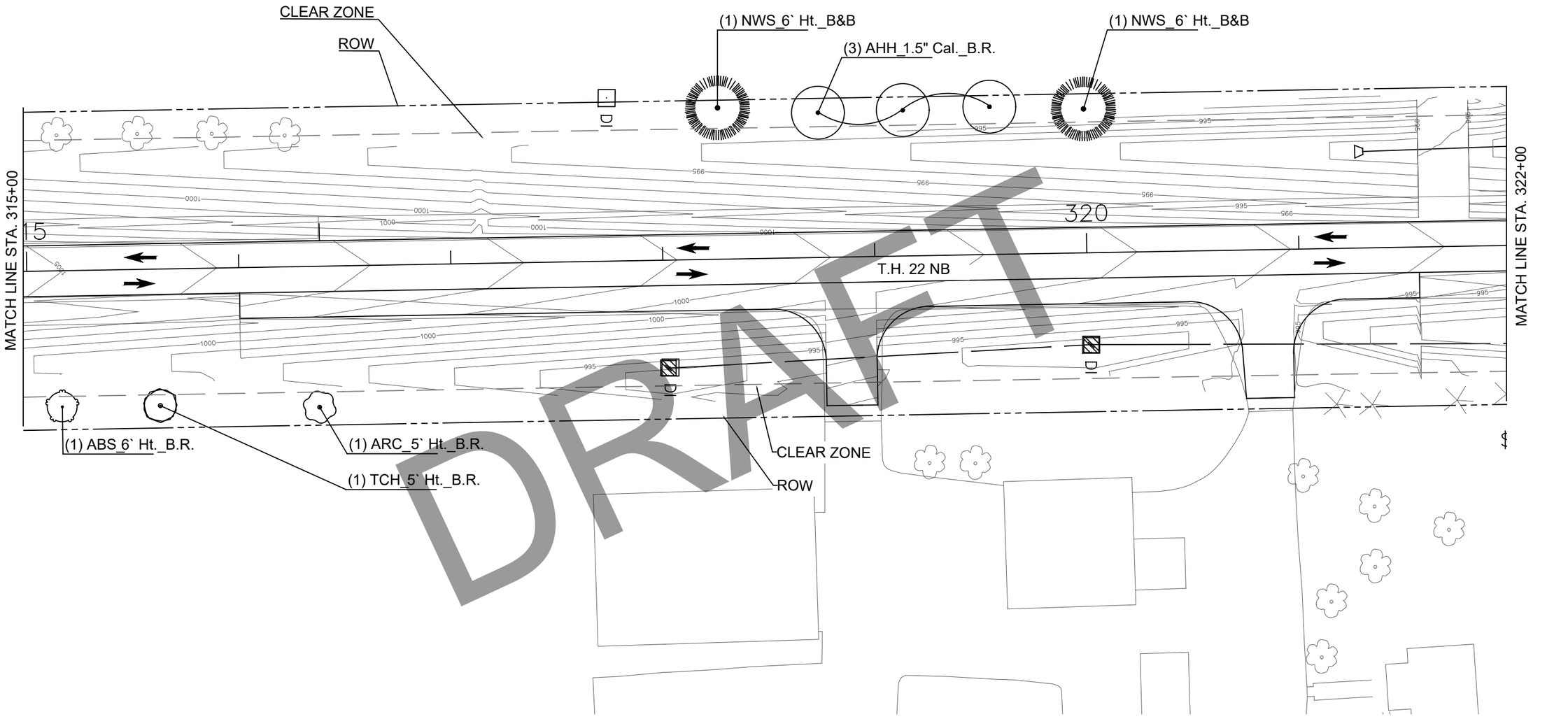
LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
AHH_1.5"	HOPHORNBEAM, AMERICAN	3	AS SHOWN
NWS_6'	SPRUCE, NORWAY	2	AS SHOWN
TCH_5'	HAWTHORN, THORNLESS	1	AS SHOWN
ABS_6'	SERVICEBERRY, AUTUMN BRILLIANCE	1	AS SHOWN
ARC_5'	CRABAPPLE, ADIRONDACK	1	AS SHOWN



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TH 22 RECONSTRUCTION FROM THE
CITY OF MAPLETON TO COUNTY ROAD 15

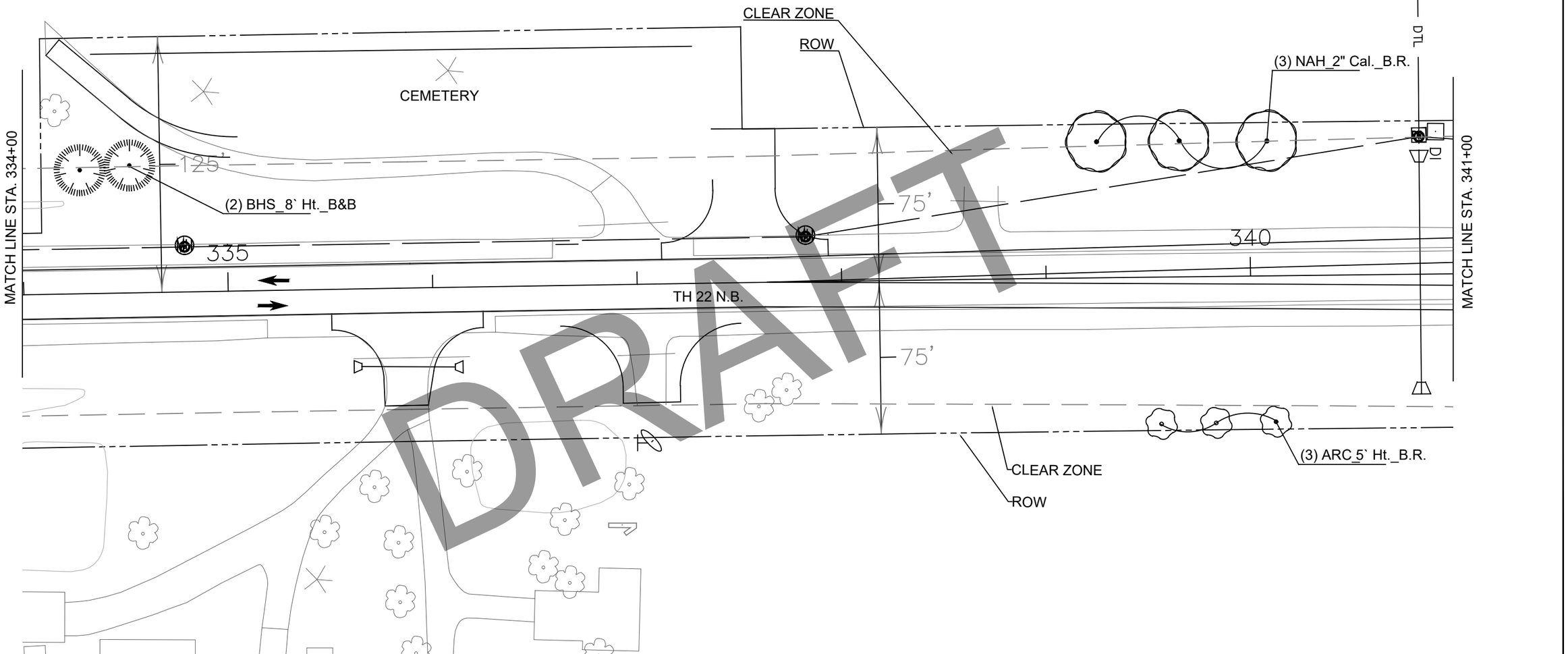
WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 62 of 112 Sheets

KEY	SPECIES	QUANT.	SPACING
AHH_1.5"	HOPHORNBEAM, AMERICAN	3	AS SHOWN
NWS_6'	SPRUCE, NORWAY	2	AS SHOWN
BHS_6'	SPRUCE, BLACK HILLS	2	AS SHOWN
NAH_2"	HONEY LOCUST, NORTHERN ACCLAIM THORNLESS	3	AS SHOWN
ARC_5'	CRABAPPLE, ADIRONDACK	3	AS SHOWN



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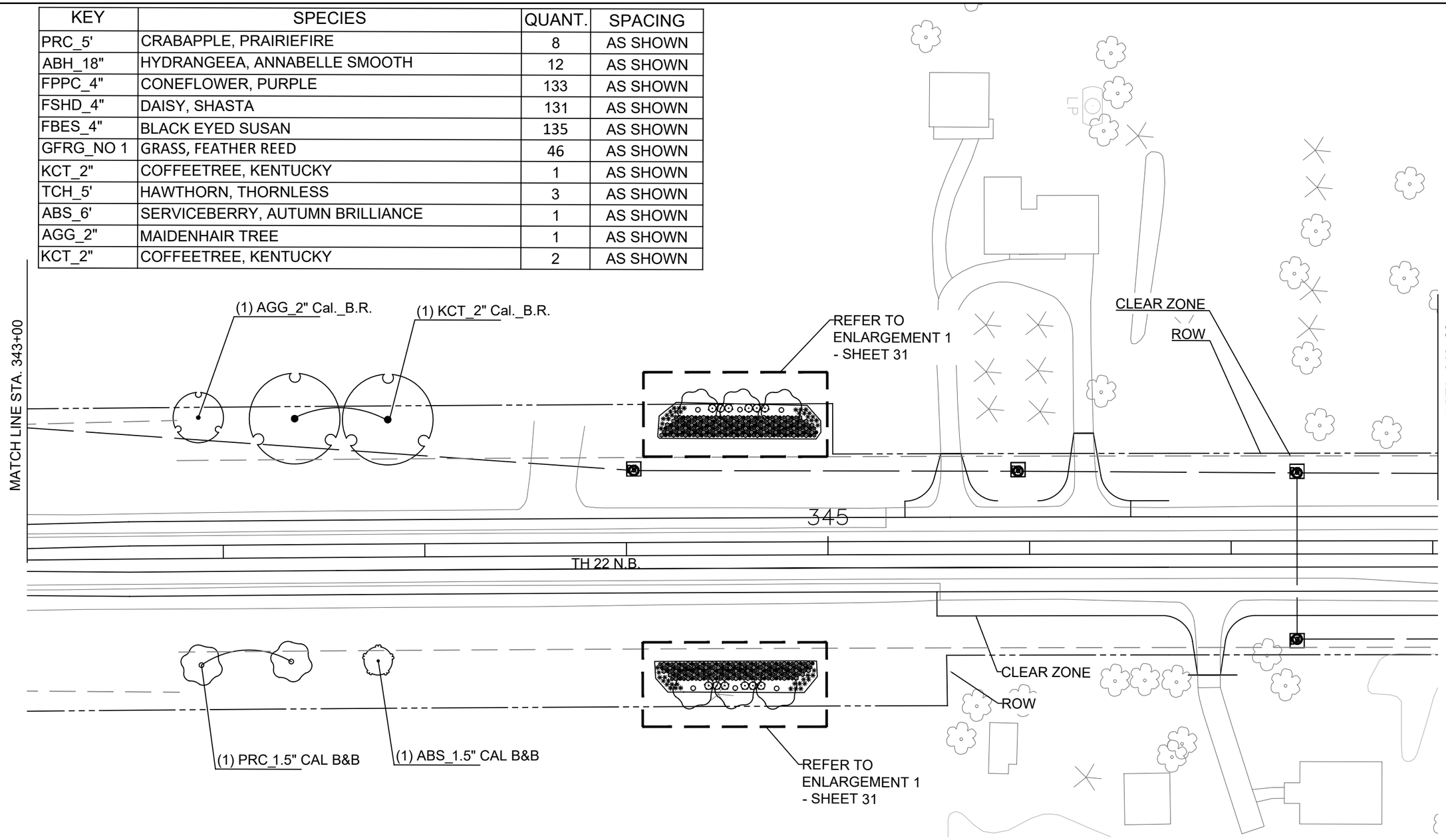
WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 63 of 112 Sheets

KEY	SPECIES	QUANT.	SPACING
PRC_5'	CRABAPPLE, PRAIRIEFIRE	8	AS SHOWN
ABH_18"	HYDRANGEEA, ANNABELLE SMOOTH	12	AS SHOWN
FPPC_4"	CONEFLOWER, PURPLE	133	AS SHOWN
FSHD_4"	DAISY, SHASTA	131	AS SHOWN
FBES_4"	BLACK EYED SUSAN	135	AS SHOWN
GFRG_NO 1	GRASS, FEATHER REED	46	AS SHOWN
KCT_2"	COFFEETREE, KENTUCKY	1	AS SHOWN
TCH_5'	HAWTHORN, THORNLESS	3	AS SHOWN
ABS_6'	SERVICEBERRY, AUTUMN BRILLIANCE	1	AS SHOWN
AGG_2"	MAIDENHAIR TREE	1	AS SHOWN
KCT_2"	COFFEETREE, KENTUCKY	2	AS SHOWN



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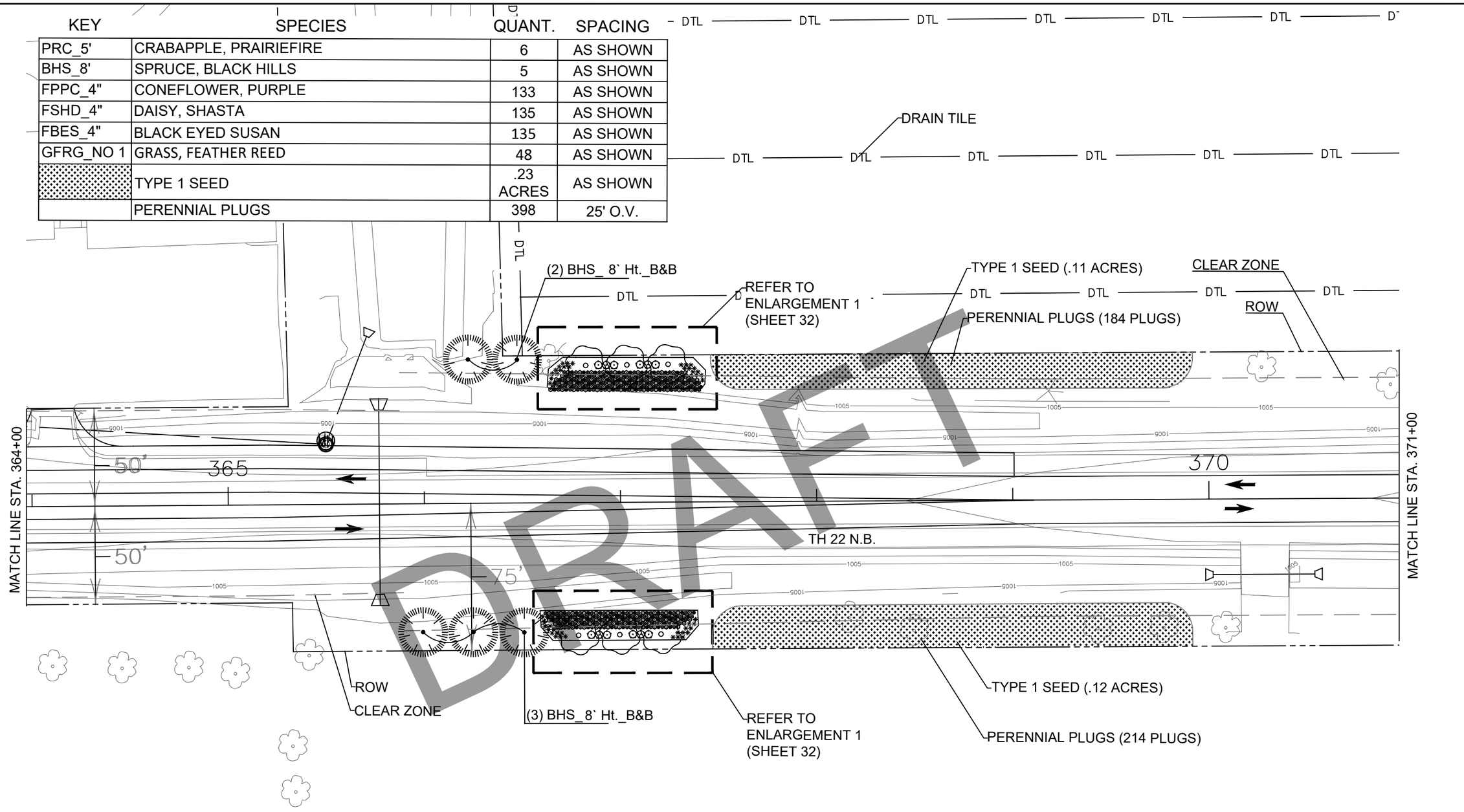
LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 64 of 112 Sheets

KEY	SPECIES	QUANT.	SPACING
PRC_5'	CRABAPPLE, PRAIRIEFIRE	6	AS SHOWN
BHS_8'	SPRUCE, BLACK HILLS	5	AS SHOWN
FPPC_4"	CONEFLOWER, PURPLE	133	AS SHOWN
FSHD_4"	DAISY, SHASTA	135	AS SHOWN
FBES_4"	BLACK EYED SUSAN	135	AS SHOWN
GFRG_NO 1	GRASS, FEATHER REED	48	AS SHOWN
	TYPE 1 SEED	.23 ACRES	AS SHOWN
	PERENNIAL PLUGS	398	25' O.V.



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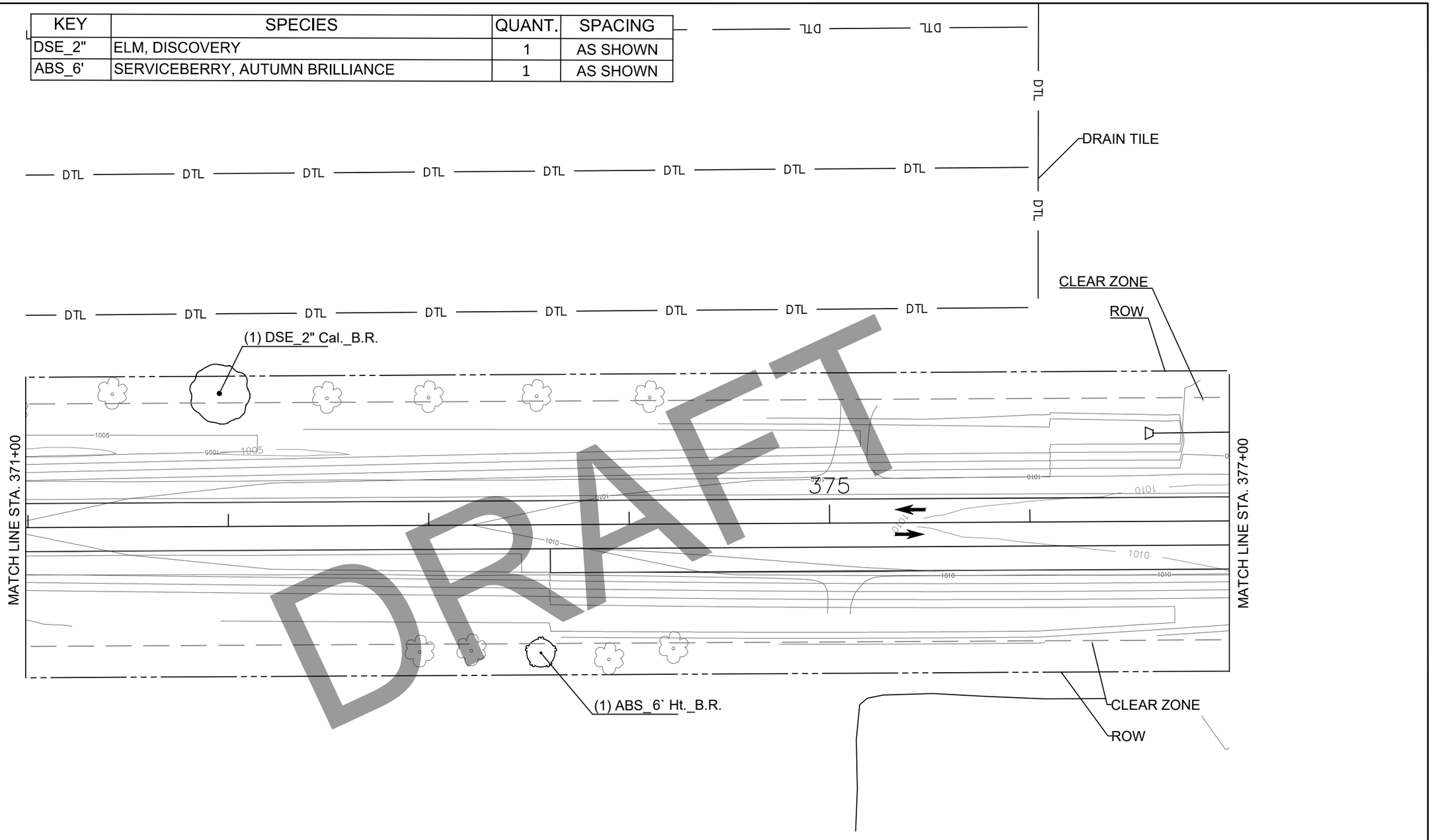
KEY	SPECIES	QUANT.	SPACING
DSE_2"	ELM, DISCOVERY	1	AS SHOWN
ABS_6'	SERVICEBERRY, AUTUMN BRILLIANCE	1	AS SHOWN



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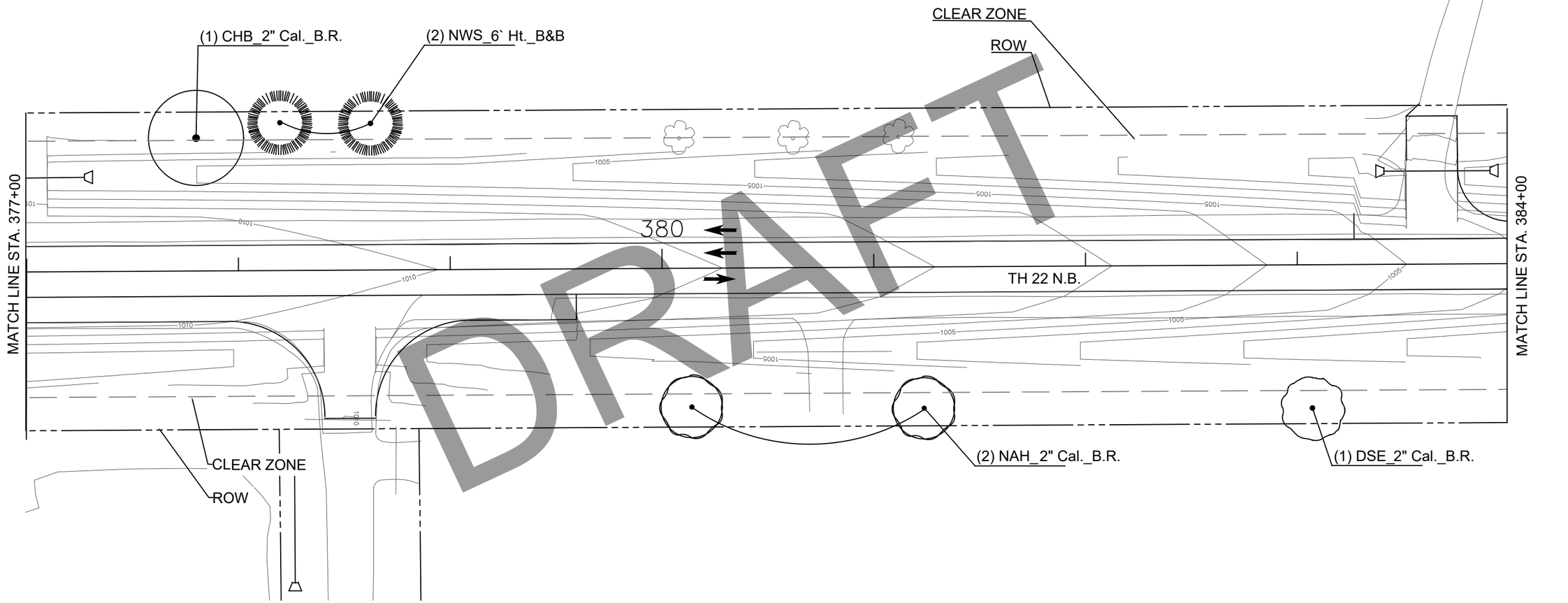
LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
CHB_2"	HACKBERRY, COMMON	1	AS SHOWN
NWS_6'	SPRUCE, NORWAY	2	AS SHOWN
NAH_2"	HONEY LOCUST, NORTHERN ACCLAIM THORNLESS	2	AS SHOWN
DSE_2"	ELM, DISCOVERY	1	AS SHOWN



LEGEND
RIGHT OF WAY
CLEAR ZONE
DTL DRAINTILE

50
SCALE IN FEET

TIME:
DATE:
FILENAME:

DRAWN BY: BAK
DESIGNED BY: CCA
CHECKED BY: CCA

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED REGISTERED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE:
PRINTED NAME: CANDACE C. AMBERG
DATE: 09/22/2017 LIC. NO. 40646

DEPARTMENT OF TRANSPORTATION

MINNESOTA DEPARTMENT OF TRANSPORTATION
TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

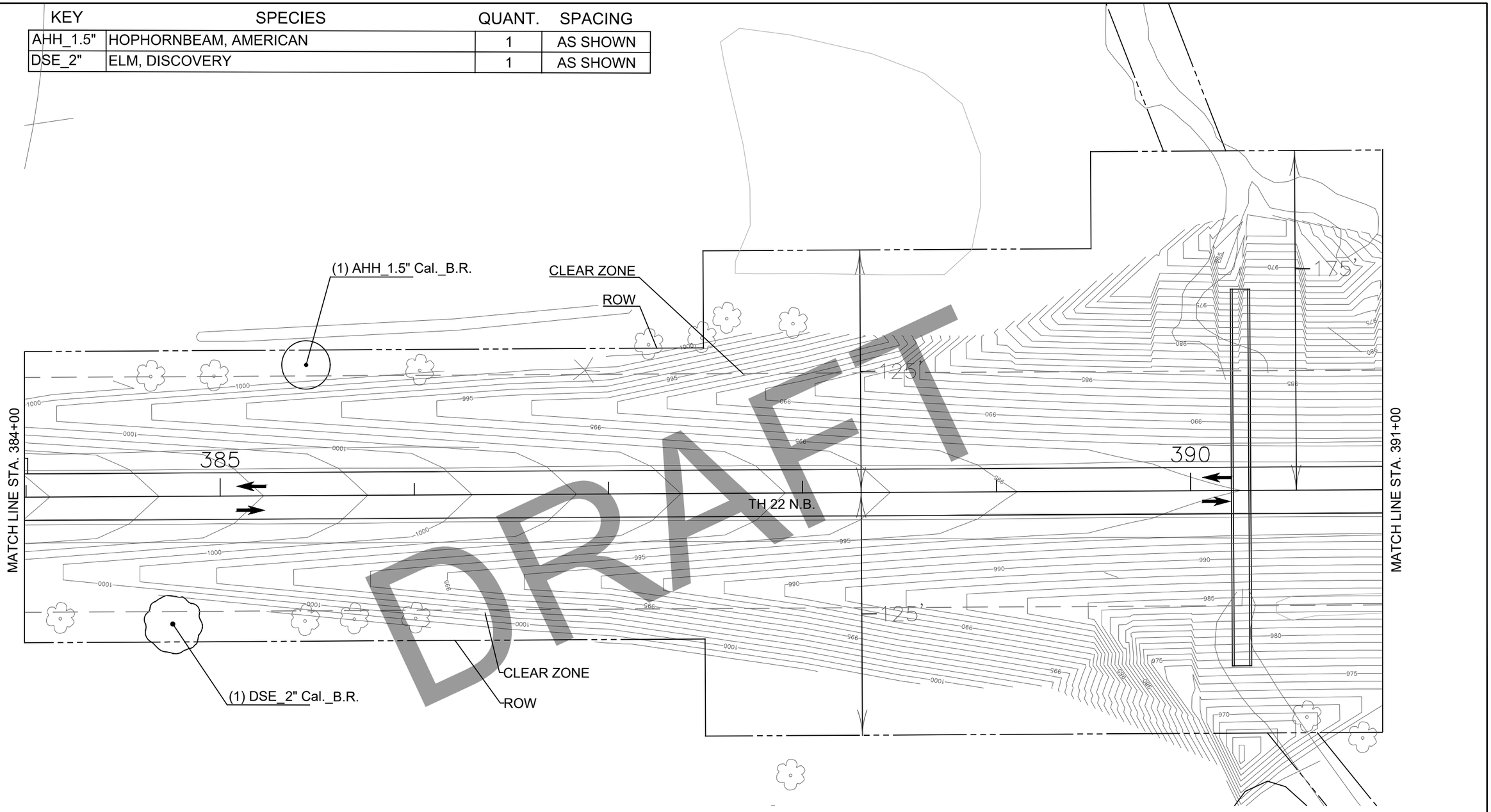
WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 67 of 112 Sheets

KEY	SPECIES	QUANT.	SPACING
AHH_1.5"	HOPHORNBEAM, AMERICAN	1	AS SHOWN
DSE_2"	ELM, DISCOVERY	1	AS SHOWN



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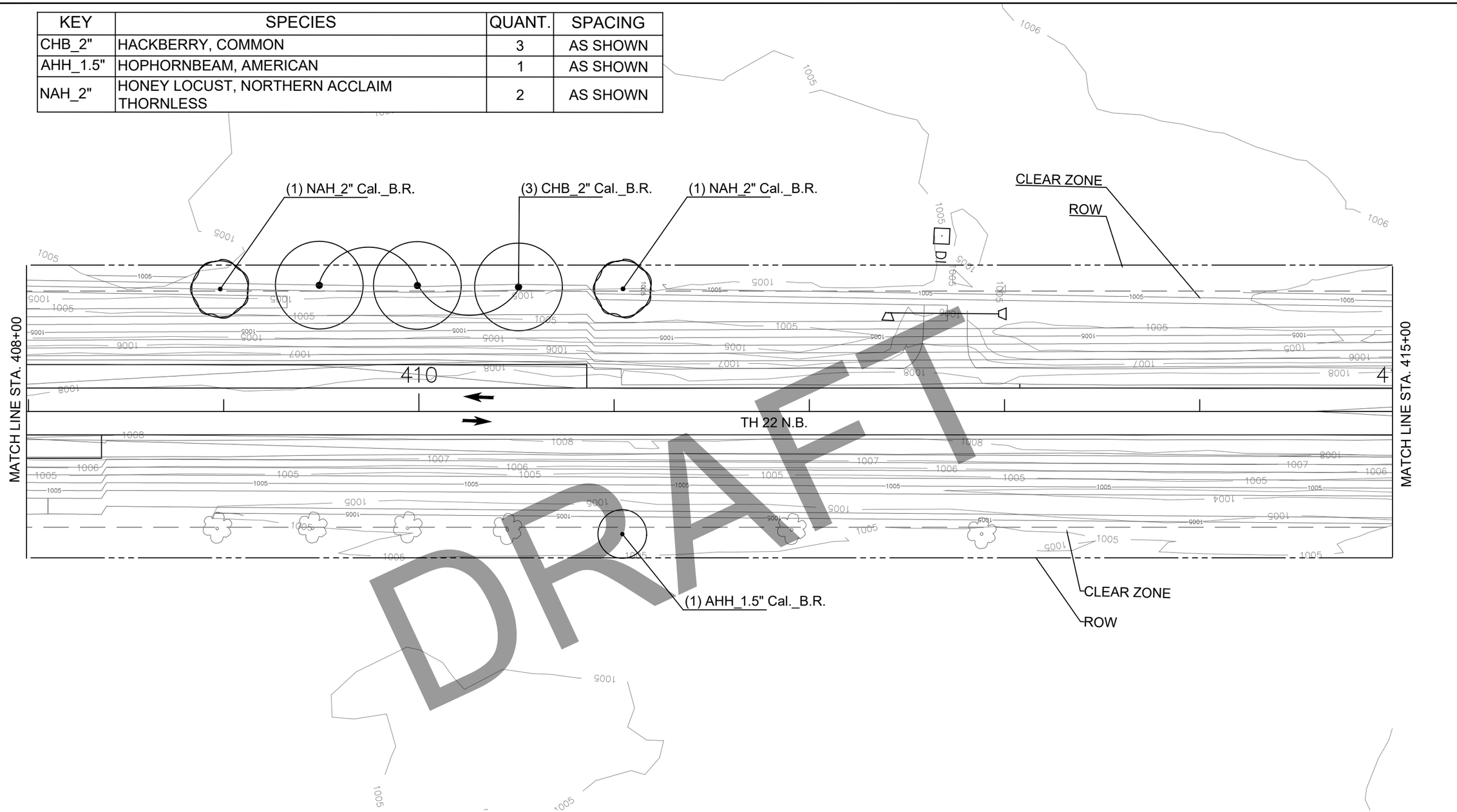
WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
CHB_2"	HACKBERRY, COMMON	3	AS SHOWN
AHH_1.5"	HOPHORNBEAM, AMERICAN	1	AS SHOWN
NAH_2"	HONEY LOCUST, NORTHERN ACCLAIM THORNLESS	2	AS SHOWN



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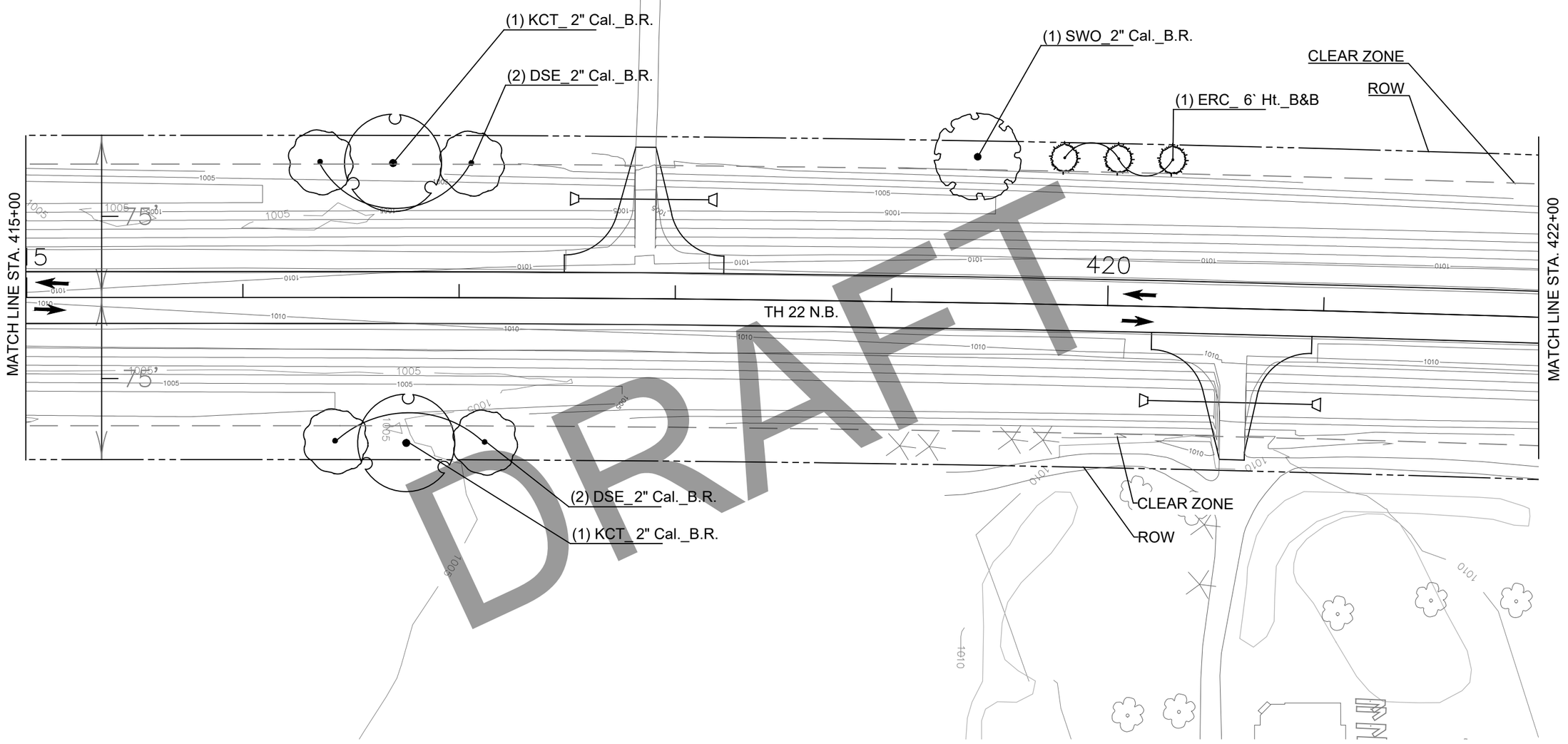
LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 69 of 112 Sheets

KEY	SPECIES	QUANT.	SPACING
KCT_2"	COFFEETREE, KENTUCKY	2	AS SHOWN
SWO_2"	OAK, SWAMP WHITE	1	AS SHOWN
ERC_6'	CEDAR, EASTERN RED	3	AS SHOWN
DSE_2"	ELM, DISCOVERY	4	AS SHOWN



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CITY OF MAPLETON TO COUNTY ROAD 15

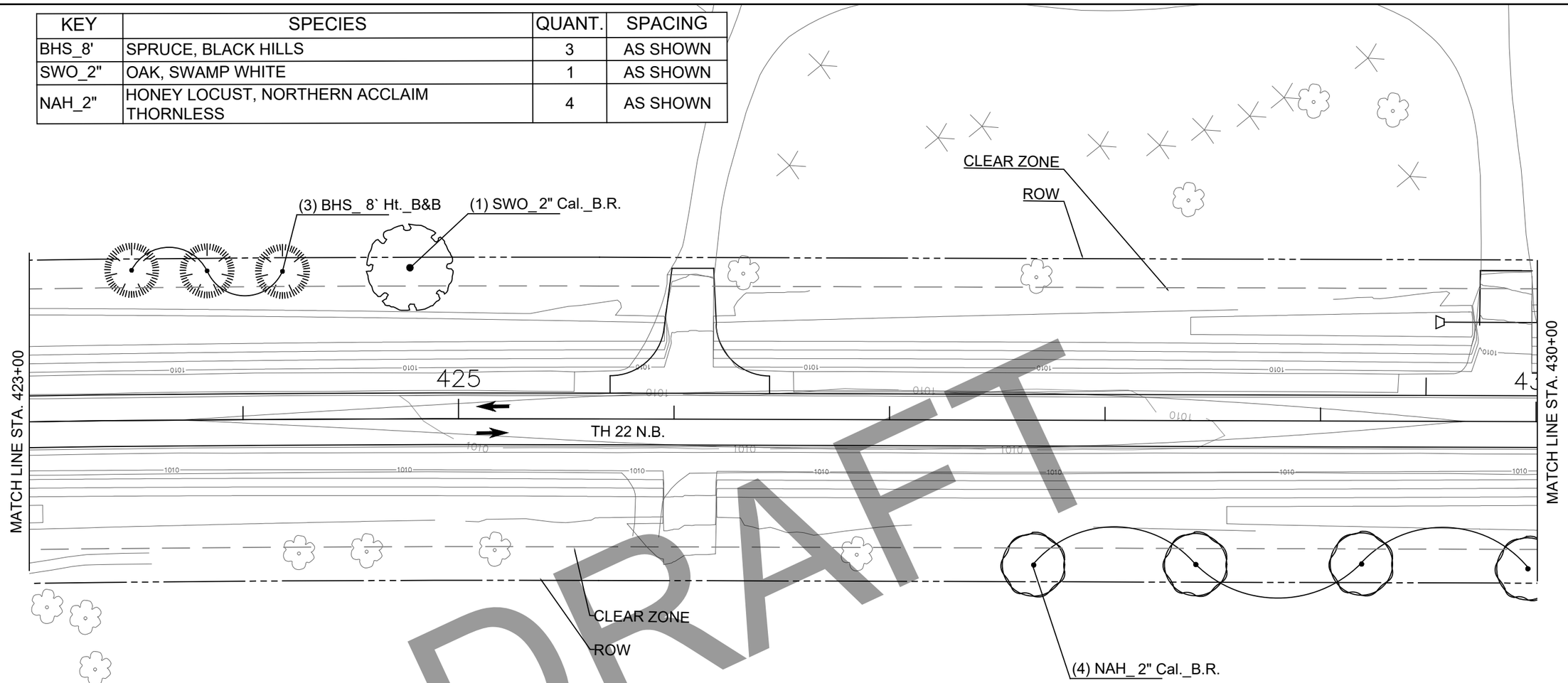
WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 70 of 112 Sheets

KEY	SPECIES	QUANT.	SPACING
BHS_8'	SPRUCE, BLACK HILLS	3	AS SHOWN
SWO_2"	OAK, SWAMP WHITE	1	AS SHOWN
NAH_2"	HONEY LOCUST, NORTHERN ACCLAIM THORNLESS	4	AS SHOWN



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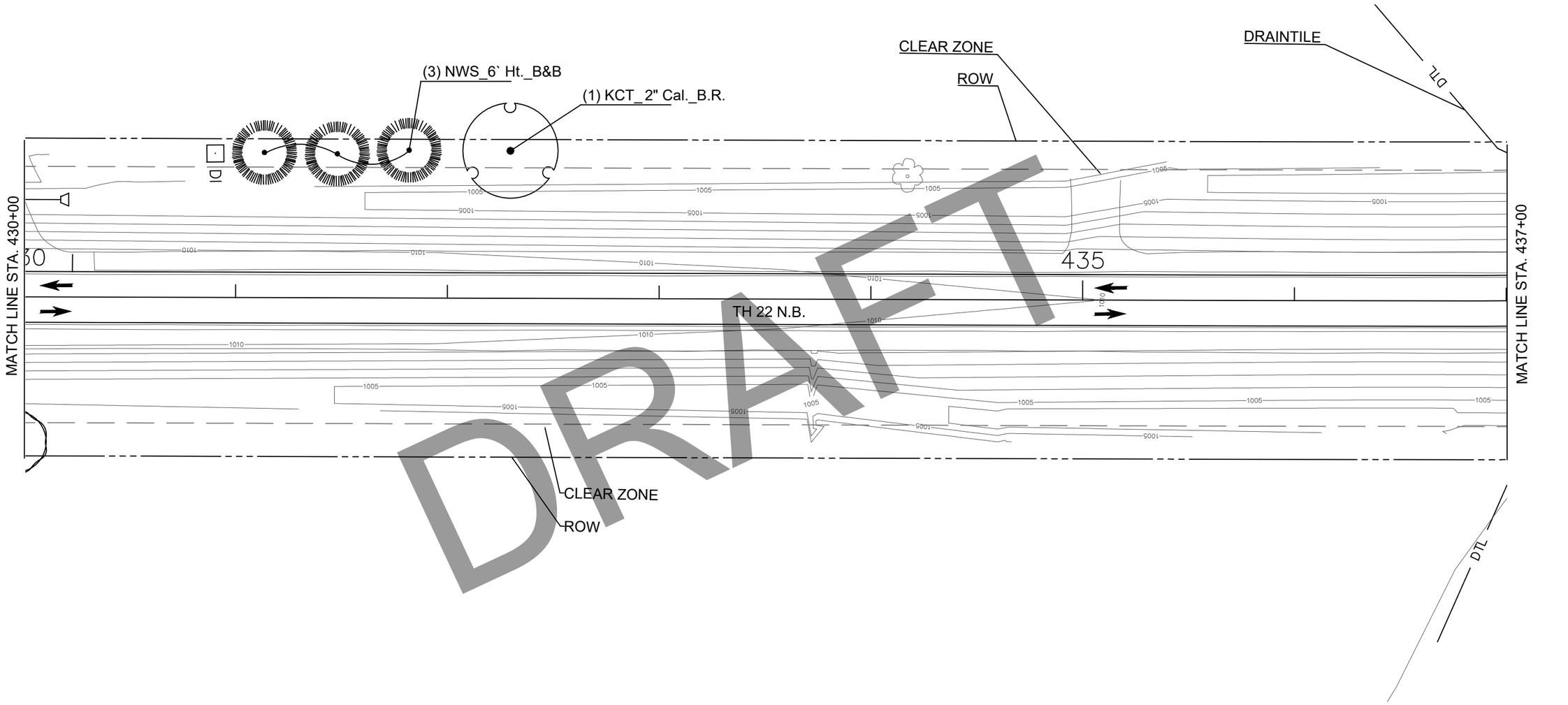
LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
NWS_6'	SPRUCE, NORWAY	3	AS SHOWN
KCT_2"	COFFEETREE, KENTUCKY	1	AS SHOWN



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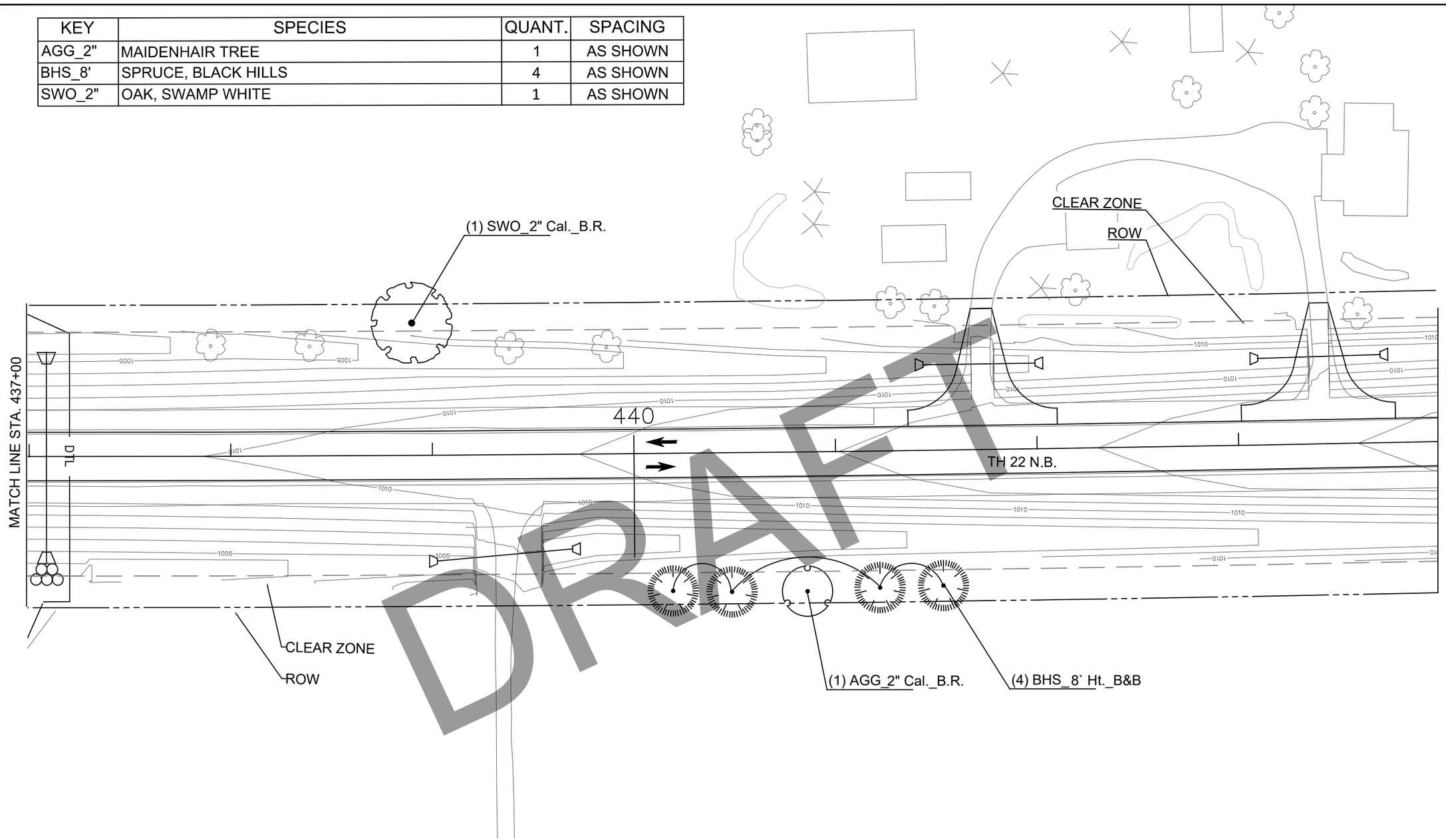
STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
AGG_2"	MAIDENHAIR TREE	1	AS SHOWN
BHS_8'	SPRUCE, BLACK HILLS	4	AS SHOWN
SWO_2"	OAK, SWAMP WHITE	1	AS SHOWN



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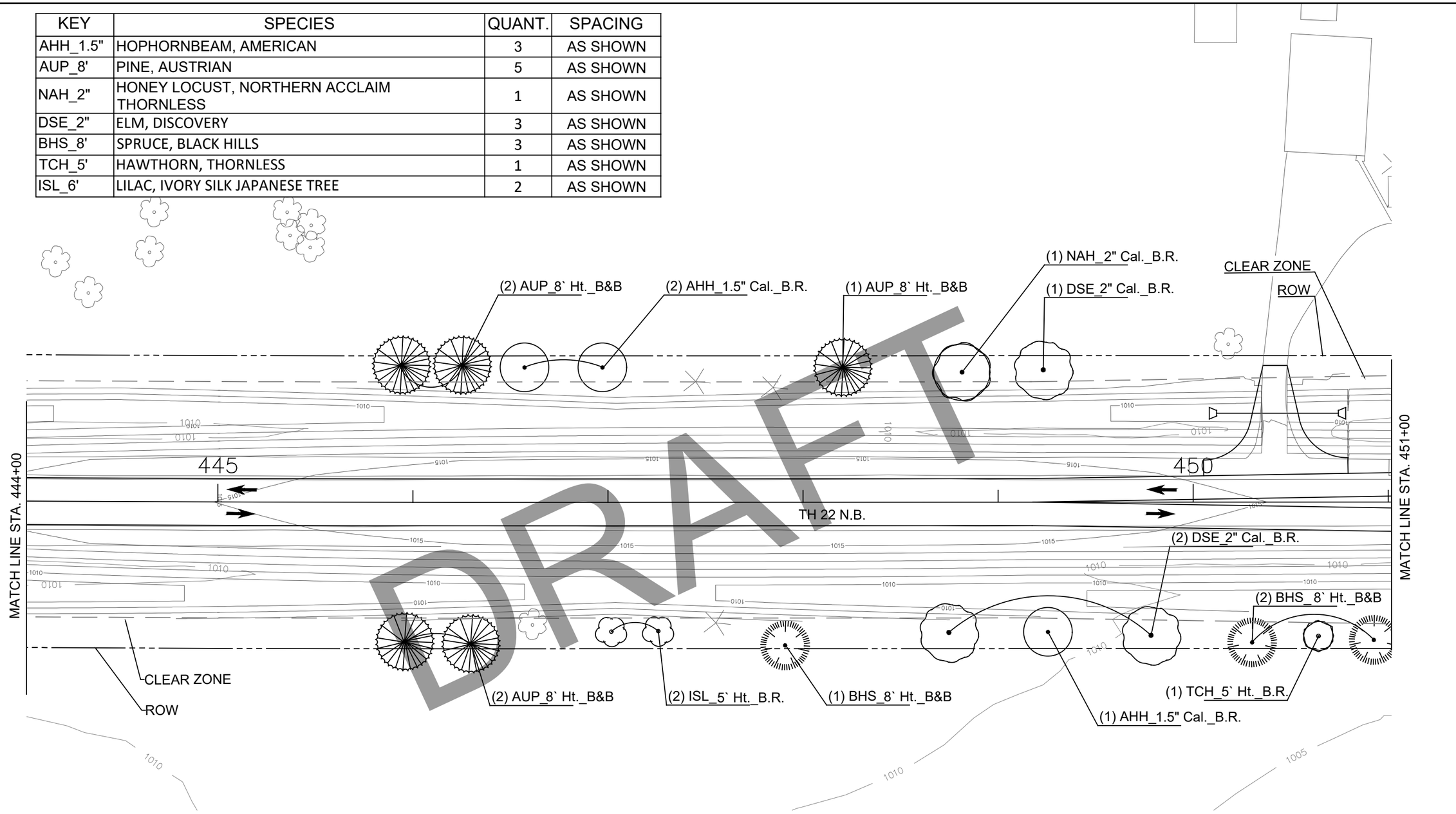
LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
AHH_1.5"	HOPHORNBEAM, AMERICAN	3	AS SHOWN
AUP_8'	PINE, AUSTRIAN	5	AS SHOWN
NAH_2"	HONEY LOCUST, NORTHERN ACCLAIM THORNLESS	1	AS SHOWN
DSE_2"	ELM, DISCOVERY	3	AS SHOWN
BHS_8'	SPRUCE, BLACK HILLS	3	AS SHOWN
TCH_5'	HAWTHORN, THORNLESS	1	AS SHOWN
ISL_6'	LILAC, IVORY SILK JAPANESE TREE	2	AS SHOWN



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TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

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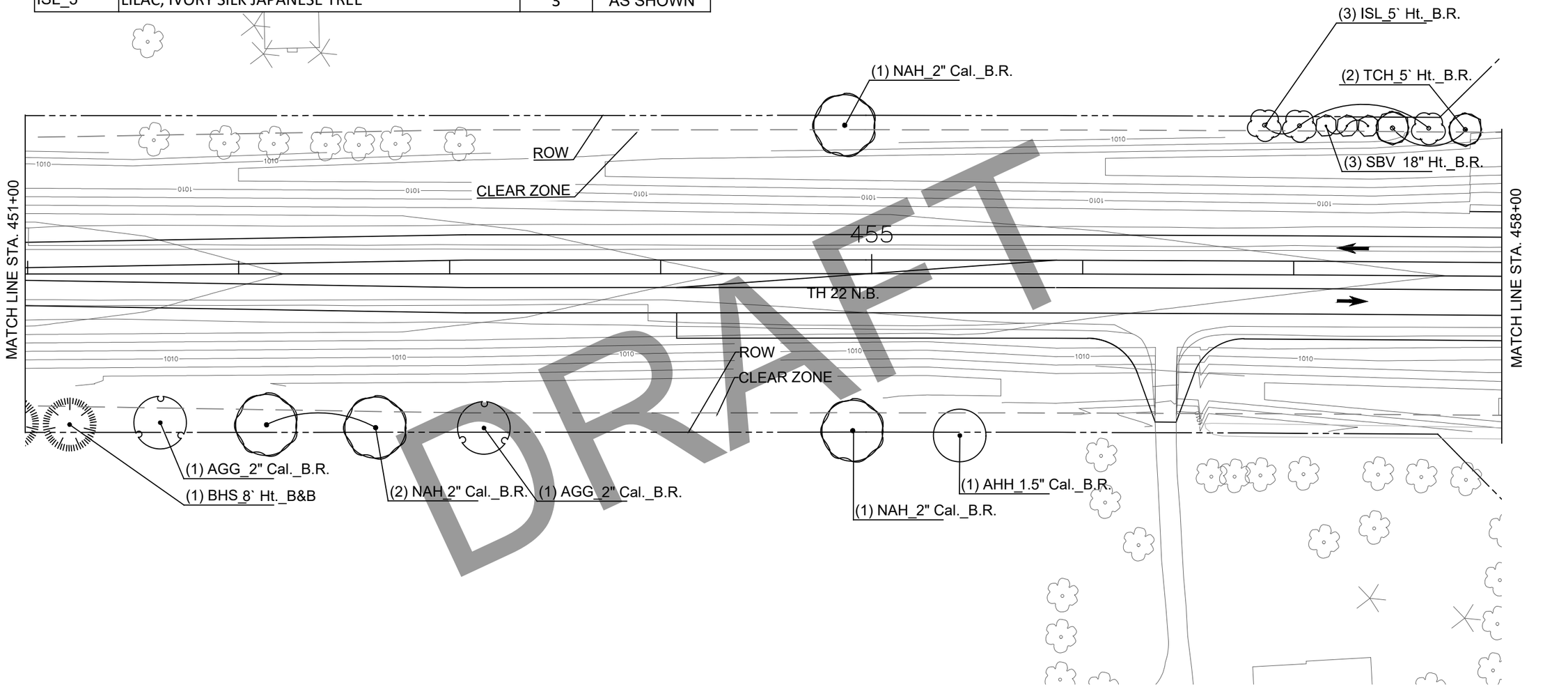
LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 74 of 112 Sheets

KEY	SPECIES	QUANT.	SPACING
AHH_1.5"	HOPHORNBEAM, AMERICAN	1	AS SHOWN
SBV_12"	VIBURNUM, SNOWBALL	3	AS SHOWN
AGG_2"	MAIDENHAIR TREE	2	AS SHOWN
NAH_2"	HONEY LOCUST, NORTHERN ACCLAIM THORNLESS	4	AS SHOWN
BHS_8'	SPRUCE, BLACK HILLS	1	AS SHOWN
TCH_5'	HAWTHORN, THORNLESS	2	AS SHOWN
ISL_5'	LILAC, IVORY SILK JAPANESE TREE	3	AS SHOWN



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TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

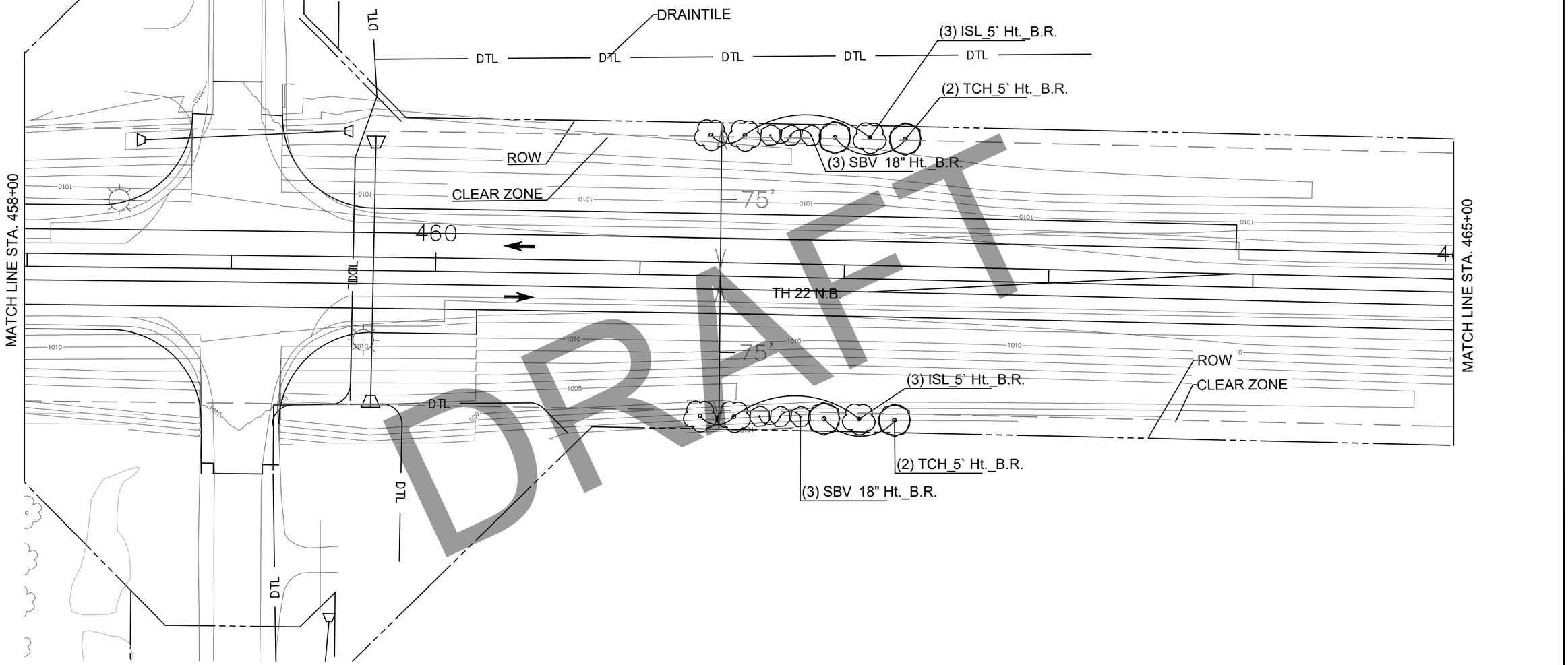
WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 75 of 112 Sheets

KEY	SPECIES	QUANT.	SPACING
SBV_12"	VIBURNUM, SNOWBALL	6	AS SHOWN
TCH_5'	HAWTHORN, THORNLESS	4	AS SHOWN
ISL_6'	LILAC, IVORY SILK JAPANESE TREE	6	AS SHOWN



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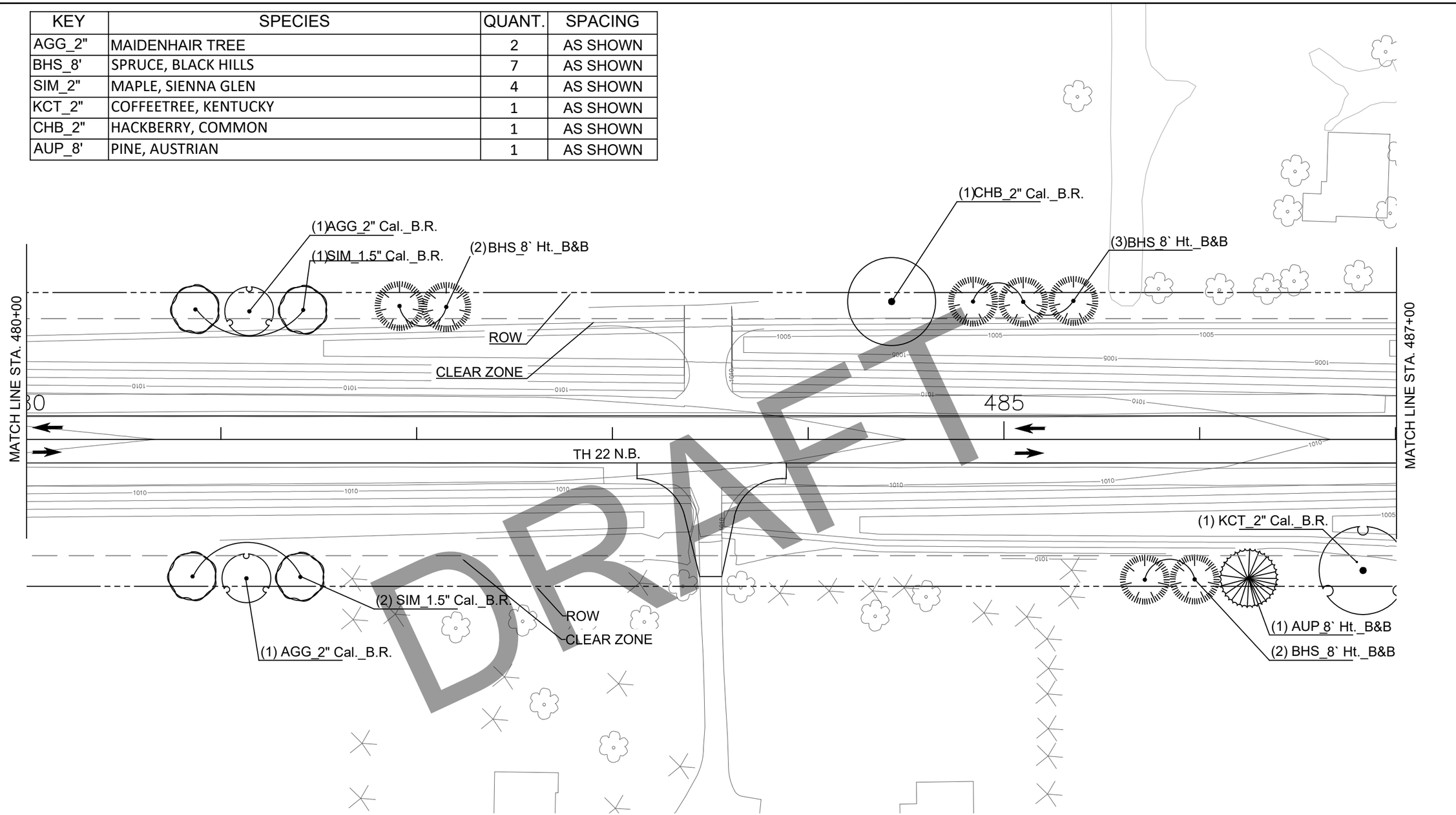
KEY	SPECIES	QUANT.	SPACING
AGG_2"	MAIDENHAIR TREE	2	AS SHOWN
BHS_8'	SPRUCE, BLACK HILLS	7	AS SHOWN
SIM_2"	MAPLE, SIENNA GLEN	4	AS SHOWN
KCT_2"	COFFEETREE, KENTUCKY	1	AS SHOWN
CHB_2"	HACKBERRY, COMMON	1	AS SHOWN
AUP_8'	PINE, AUSTRIAN	1	AS SHOWN

Ht._B&B



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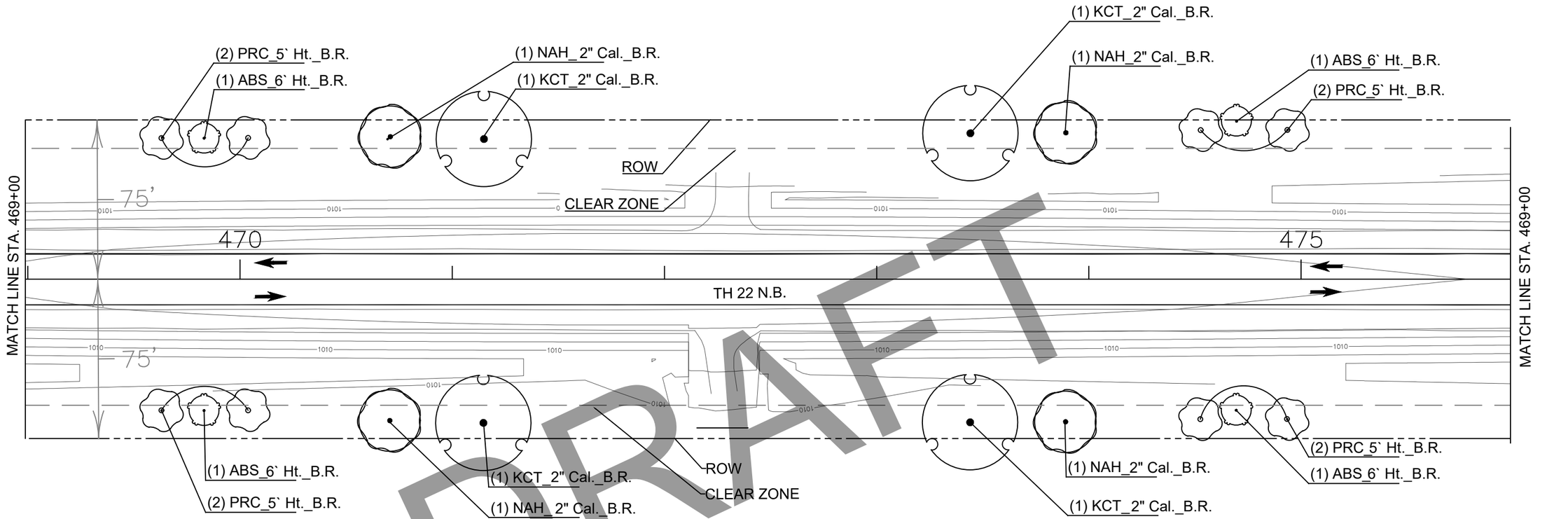
WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 77 of 112 Sheets

KEY	SPECIES	QUANT.	SPACING
ABS_6'	SERVICEBERRY, AUTUMN BRILLIANCE	4	AS SHOWN
PRC_5'	CRABAPPLE, PRAIRIFIRE	8	AS SHOWN
NAH_2"	HONEY LOCUST, NORTHERN ACCLAIM THORNLESS	4	AS SHOWN
KCT_2"	COFFEETREE, KENTUCKY	4	AS SHOWN



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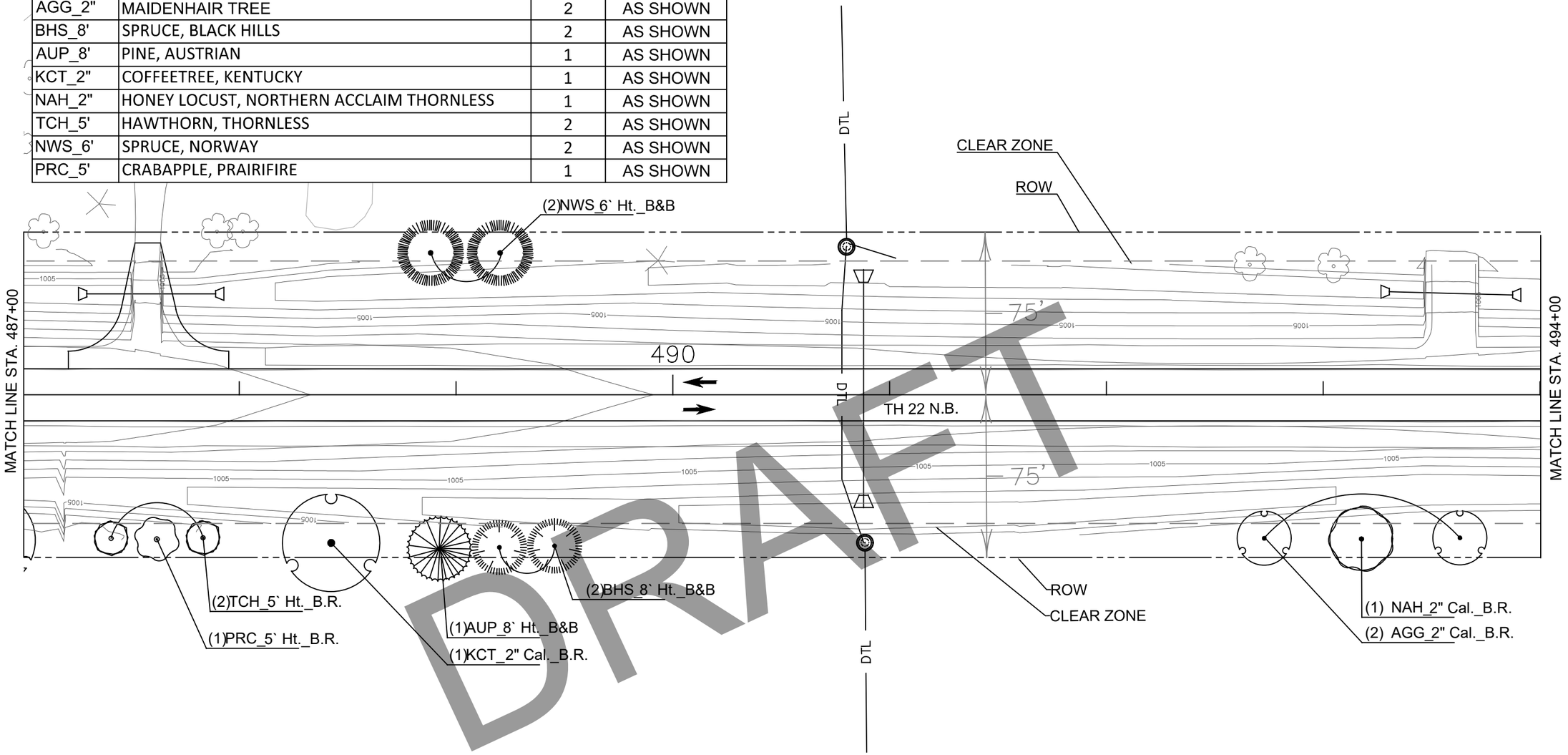
LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 78 of 112 Sheets

KEY	SPECIES	QUANT.	SPACING
AGG_2"	MAIDENHAIR TREE	2	AS SHOWN
BHS_8'	SPRUCE, BLACK HILLS	2	AS SHOWN
AUP_8'	PINE, AUSTRIAN	1	AS SHOWN
KCT_2"	COFFEETREE, KENTUCKY	1	AS SHOWN
NAH_2"	HONEY LOCUST, NORTHERN ACCLAIM THORNLESS	1	AS SHOWN
TCH_5'	HAWTHORN, THORNLESS	2	AS SHOWN
NWS_6'	SPRUCE, NORWAY	2	AS SHOWN
PRC_5'	CRABAPPLE, PRAIRIFIRE	1	AS SHOWN



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Sheet No. 79 of 112 Sheets

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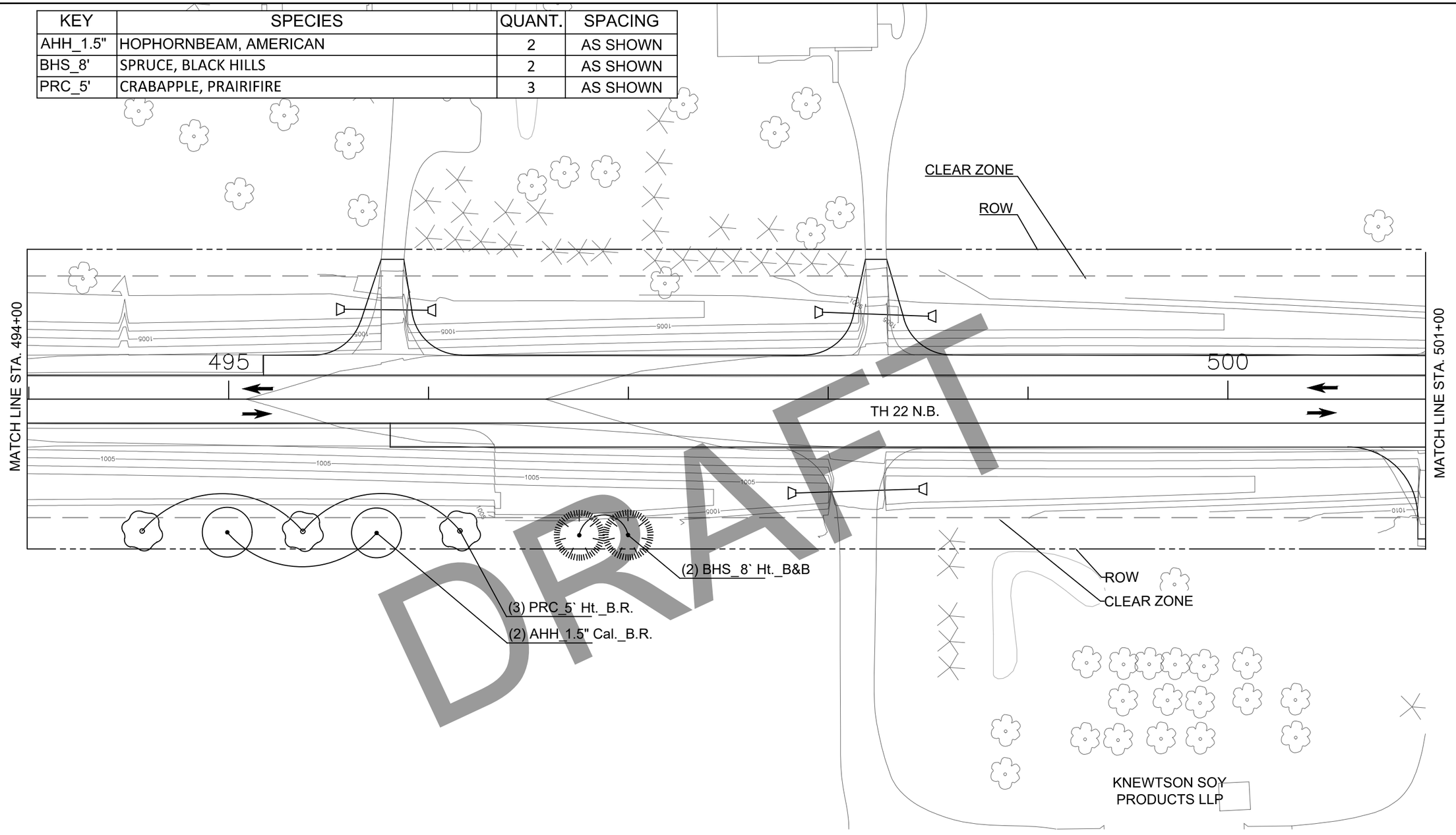
PRC_5'	CRABAPPLE, PRAIRIFIRE	3	AS SHOWN



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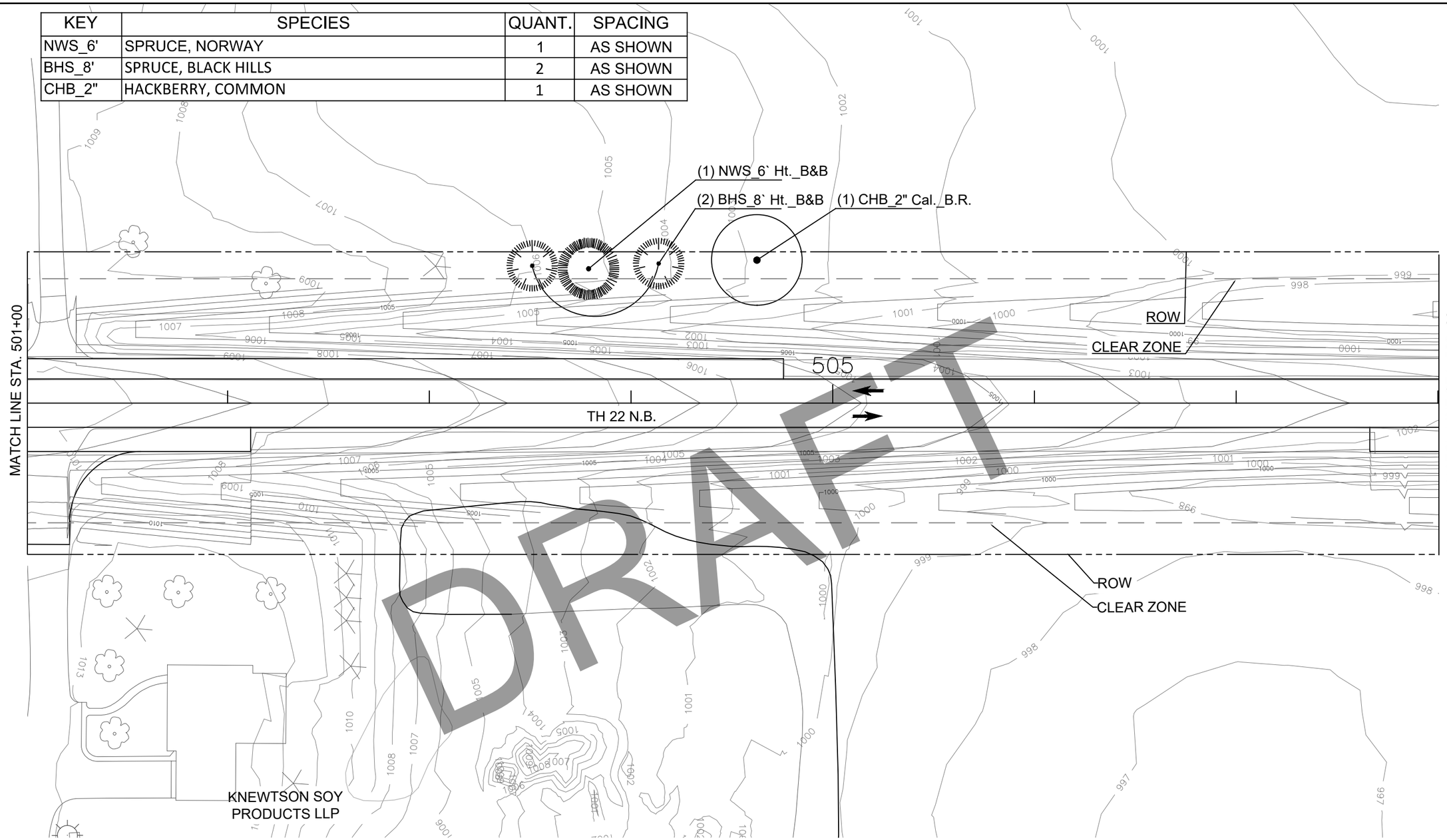
NWS_6'	SPRUCE, NORWAY	1	AS SHOWN
BHS_8'	SPRUCE, BLACK HILLS	2	AS SHOWN
CHB_2"	HACKBERRY, COMMON	1	AS SHOWN



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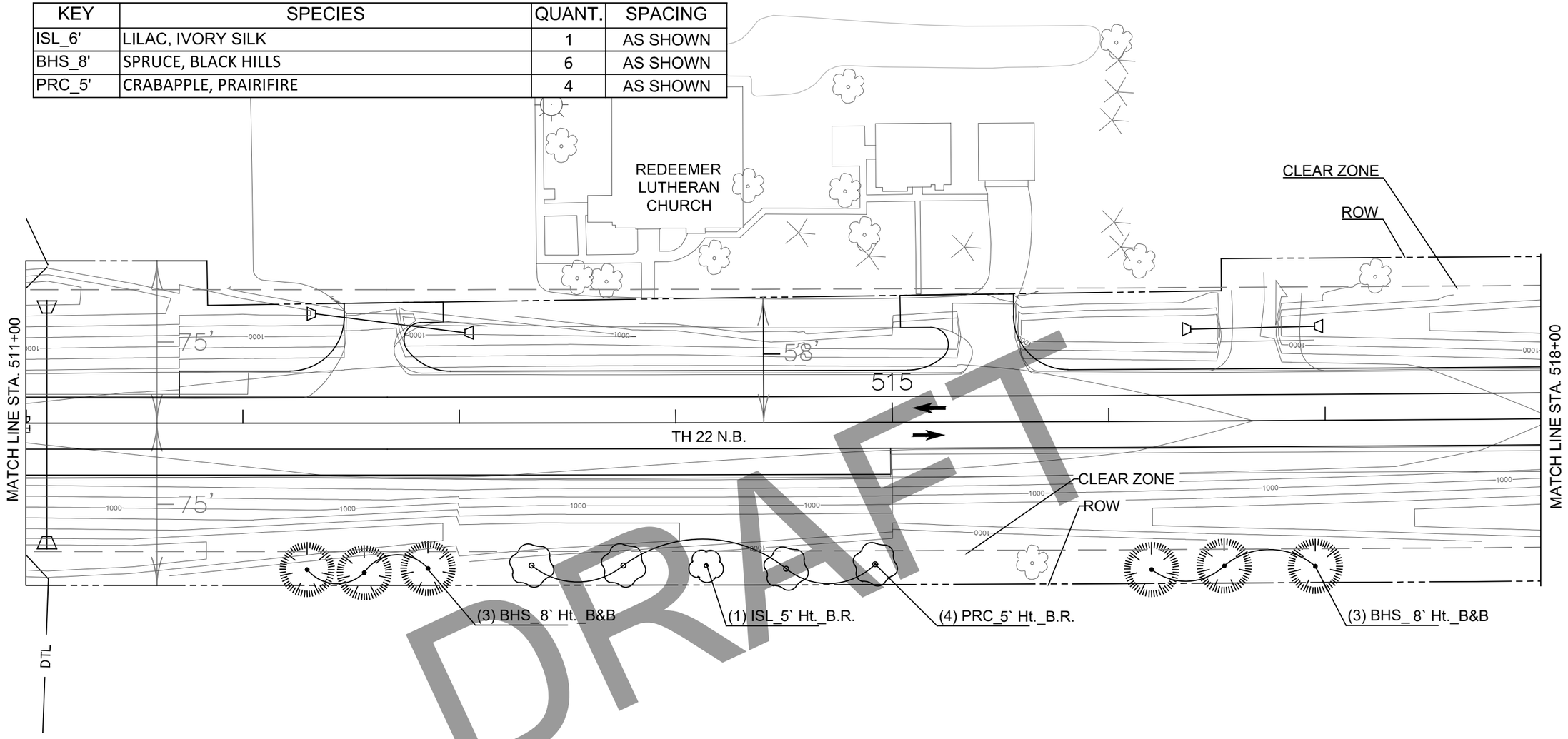
STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
ISL_6'	LILAC, IVORY SILK	1	AS SHOWN
BHS_8'	SPRUCE, BLACK HILLS	6	AS SHOWN
PRC_5'	CRABAPPLE, PRAIRIFIRE	4	AS SHOWN



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STATE PROJ.NO. 0704-110(T.H. 22)

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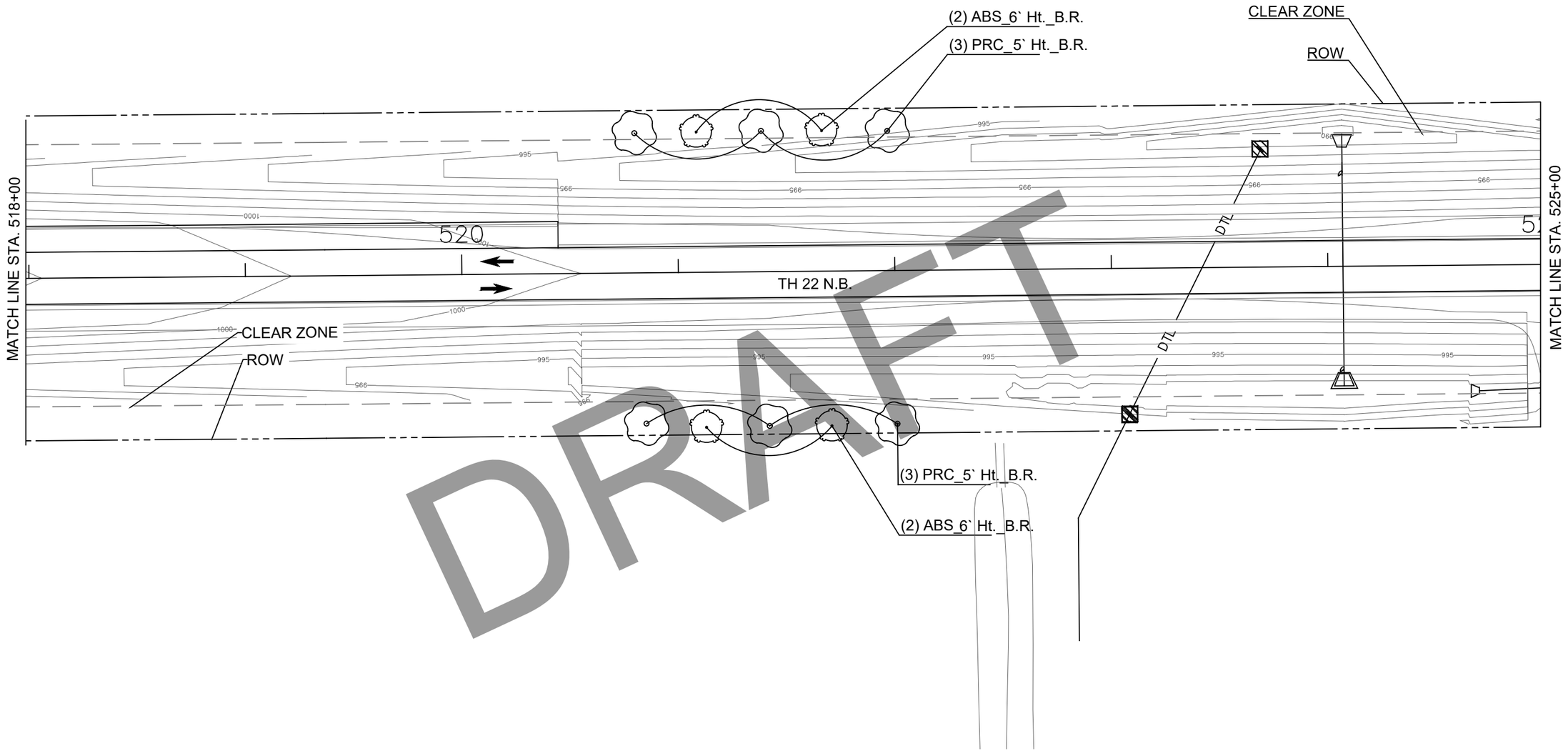
PRC_5'	CRABAPPLE, PRAIRIFIRE	6	AS SHOWN



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DATE: 09/22/2017 LIC. NO. 40646

DEPARTMENT OF TRANSPORTATION

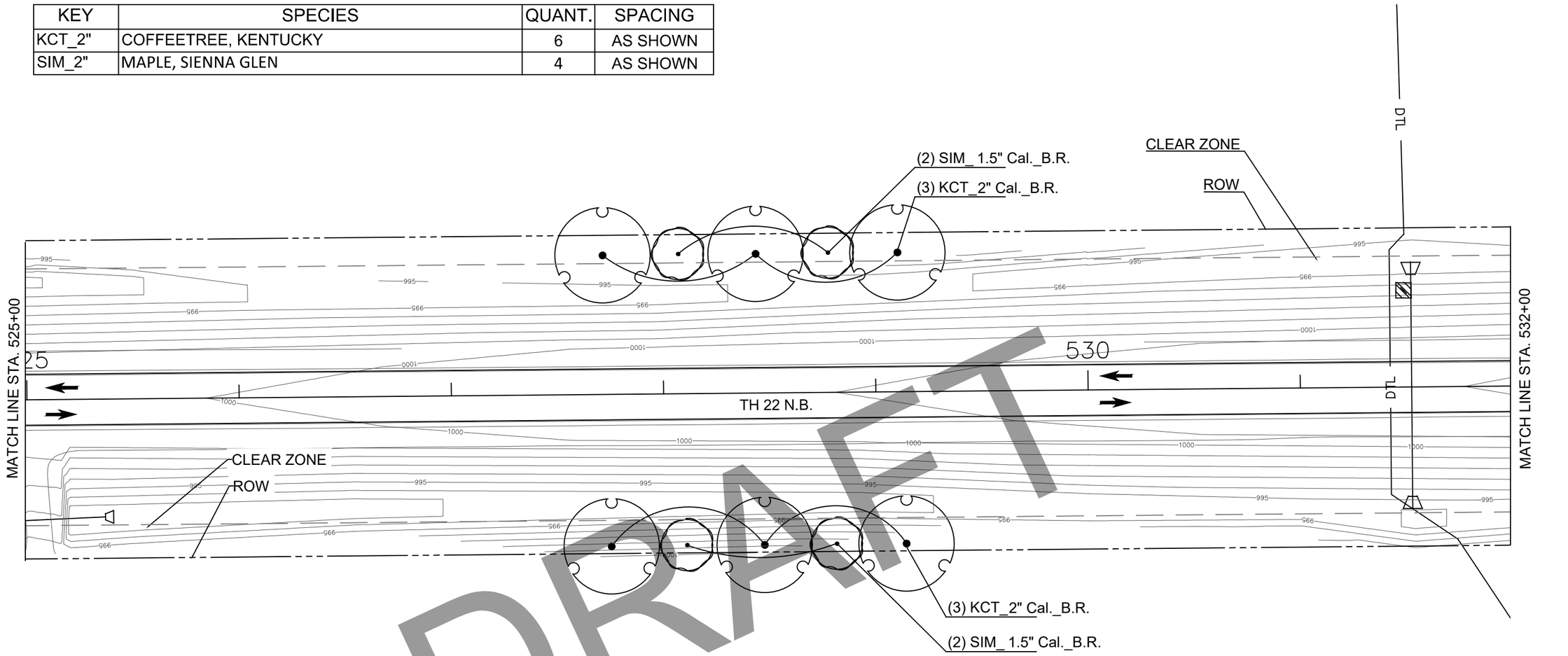
MINNESOTA DEPARTMENT OF TRANSPORTATION
TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
KCT_2"	COFFEETREE, KENTUCKY	6	AS SHOWN
SIM_2"	MAPLE, SIENNA GLEN	4	AS SHOWN



TIME:
DATE:
FILENAME:

LEGEND
- RIGHT OF WAY
- CLEAR ZONE
- DTL DRAINTILE

50
SCALE IN FEET

DRAWN BY: BAK
DESIGNED BY: CCA
CHECKED BY: CCA

I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED REGISTERED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

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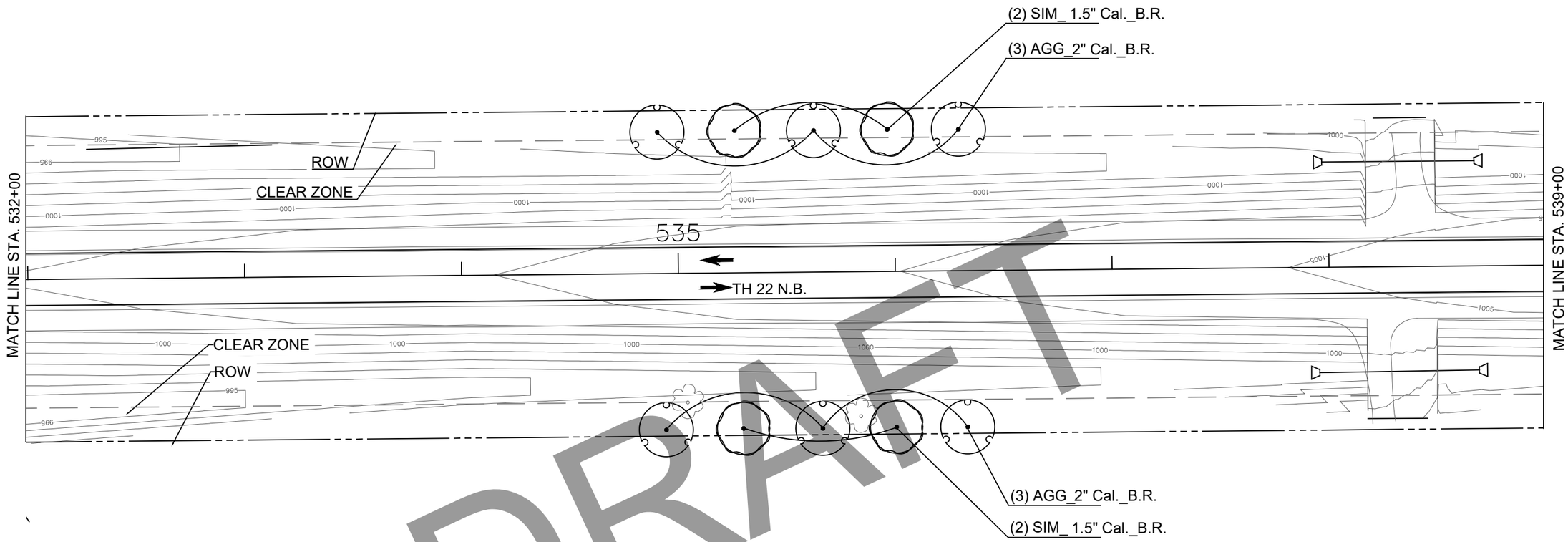
CITY OF MAPLETON TO COUNTY ROAD 15

WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
AGG_2"	MAIDENHAIR TREE	6	AS SHOWN
SIM_2"	MAPLE, SIENNA GLEN	4	AS SHOWN



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RIGHT OF WAY
CLEAR ZONE
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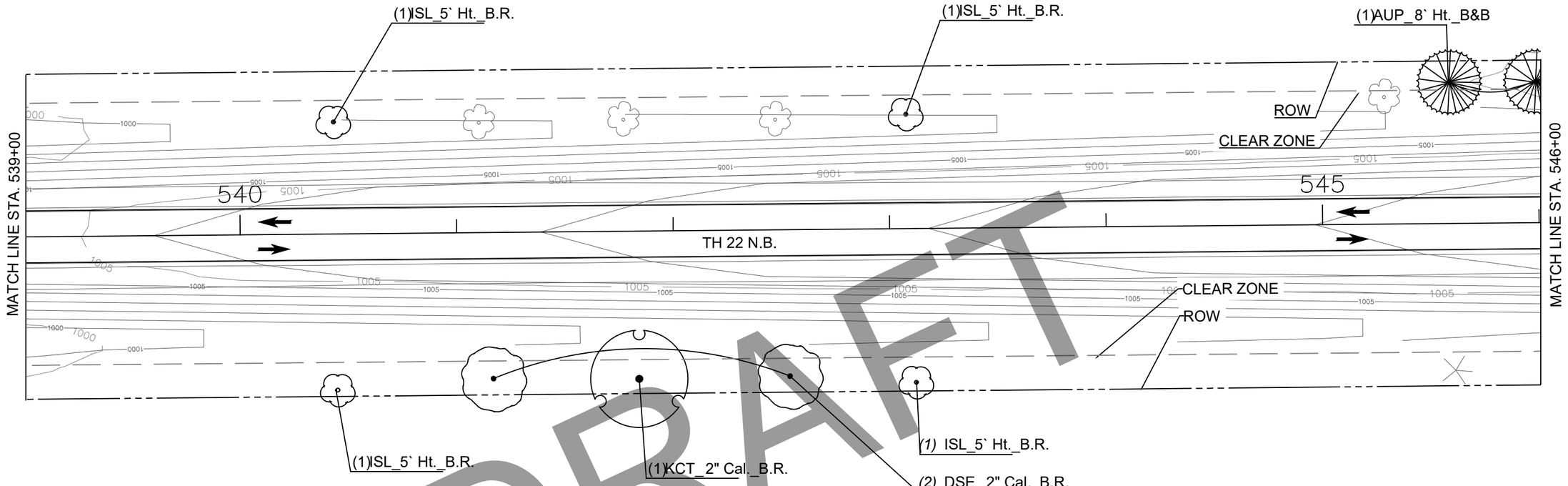
WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
AUP_8'	PINE, AUSTRIAN	2	AS SHOWN
ISL_6'	LILAC, IVORY SILK	4	AS SHOWN
DSE_2"	ELM, DISCOVERY	2	AS SHOWN
KCT_2"	COFFEETREE, KENTUCKY	1	AS SHOWN



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TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

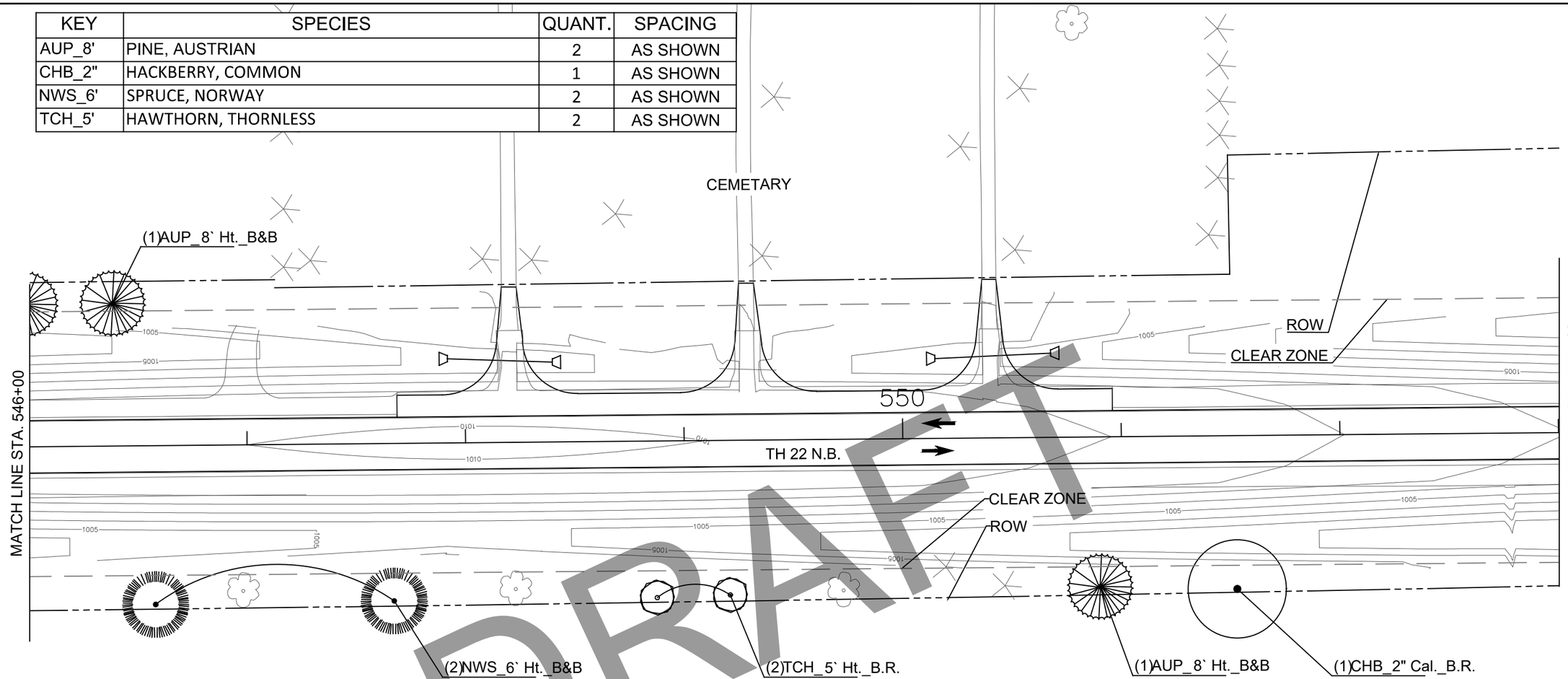
WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 86 of 112 Sheets

KEY	SPECIES	QUANT.	SPACING
AUP_8'	PINE, AUSTRIAN	2	AS SHOWN
CHB_2"	HACKBERRY, COMMON	1	AS SHOWN
NWS_6'	SPRUCE, NORWAY	2	AS SHOWN
TCH_5'	HAWTHORN, THORNLESS	2	AS SHOWN



LEGEND
RIGHT OF WAY
CLEAR ZONE
DTL DRAINTILE

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FILENAME:

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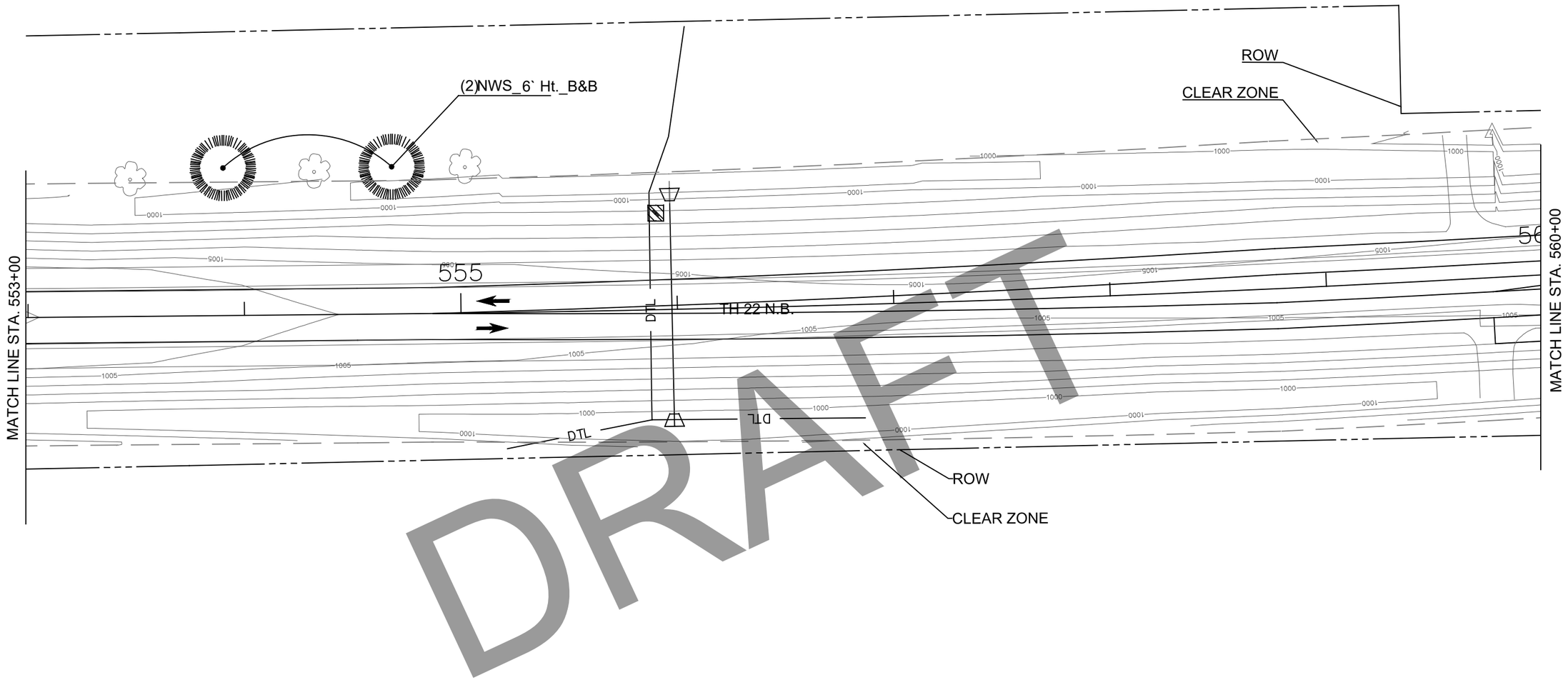
TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
NSW_6'	SPRUCE, NORWAY	2	AS SHOWN



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FILENAME:

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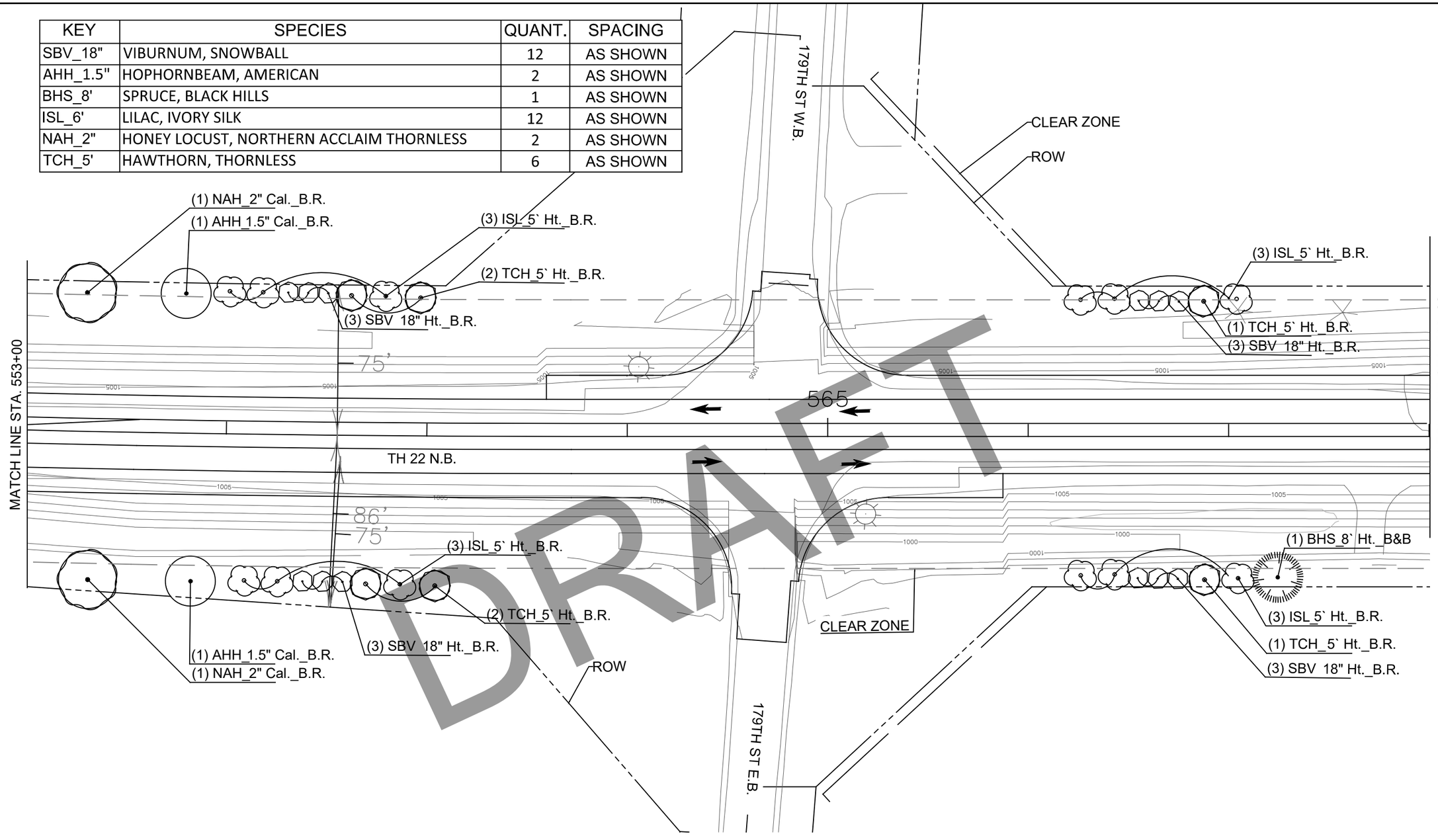
KEY	SPECIES	QUANT.	SPACING
SBV_18"	VIBURNUM, SNOWBALL	12	AS SHOWN
AHH_1.5"	HOPHORNBEAM, AMERICAN	2	AS SHOWN
BHS_8'	SPRUCE, BLACK HILLS	1	AS SHOWN
ISL_6'	LILAC, IVORY SILK	12	AS SHOWN
NAH_2"	HONEY LOCUST, NORTHERN ACCLAIM THORNLESS	2	AS SHOWN
TCH_5'	HAWTHORN, THORNLESS	6	AS SHOWN



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- CLEAR ZONE
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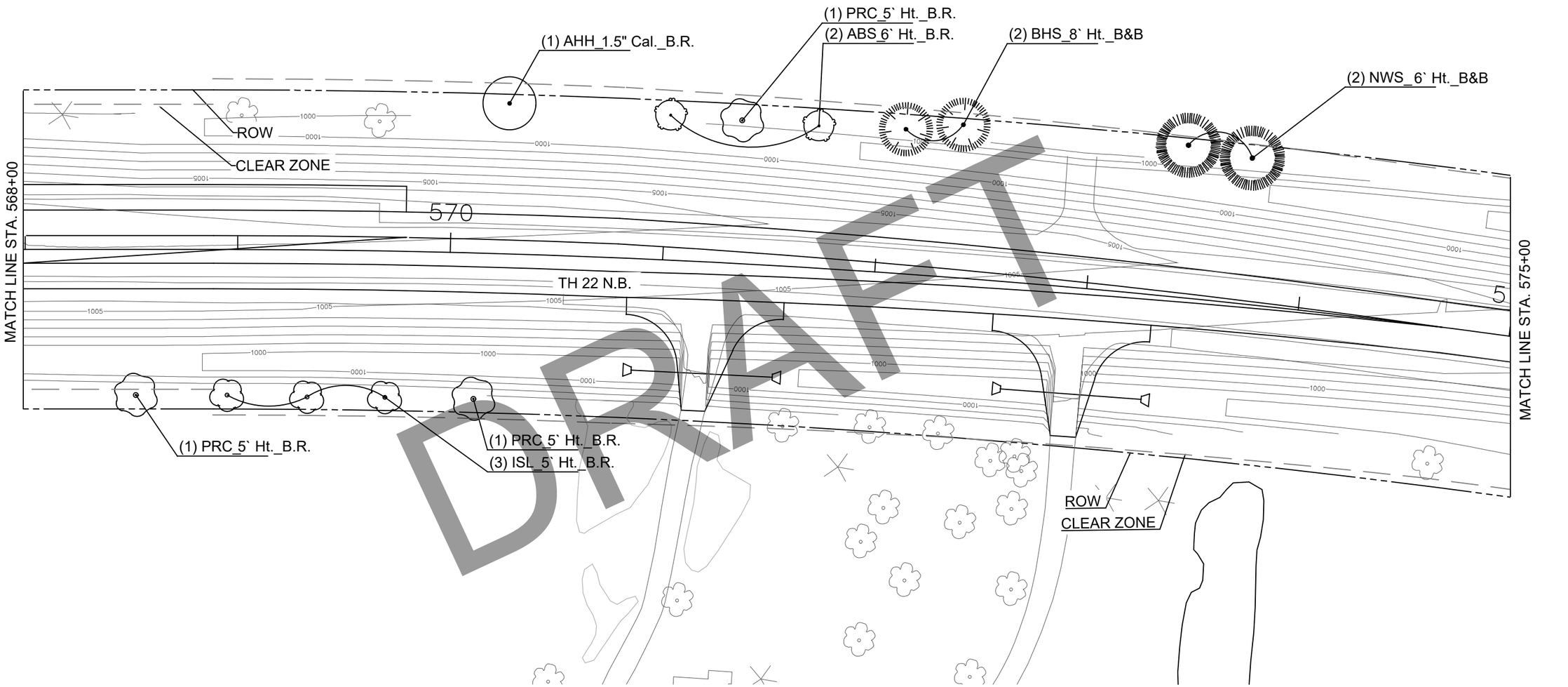
MINNESOTA DEPARTMENT OF TRANSPORTATION
TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
ABS_6'	SERVICEBERRY, AUTUMN BRILLIANCE	2	AS SHOWN
AHH_1.5"	HOPHORNBEAM, AMERICAN	1	AS SHOWN
BHS_8'	SPRUCE, BLACK HILLS	2	AS SHOWN
ISL_6'	LILAC, IVORY SILK	3	AS SHOWN
NWS_6'	SPRUCE, NORWAY	2	AS SHOWN
PRC_5'	CRABAPPLE, PRAIRIFIRE	3	AS SHOWN



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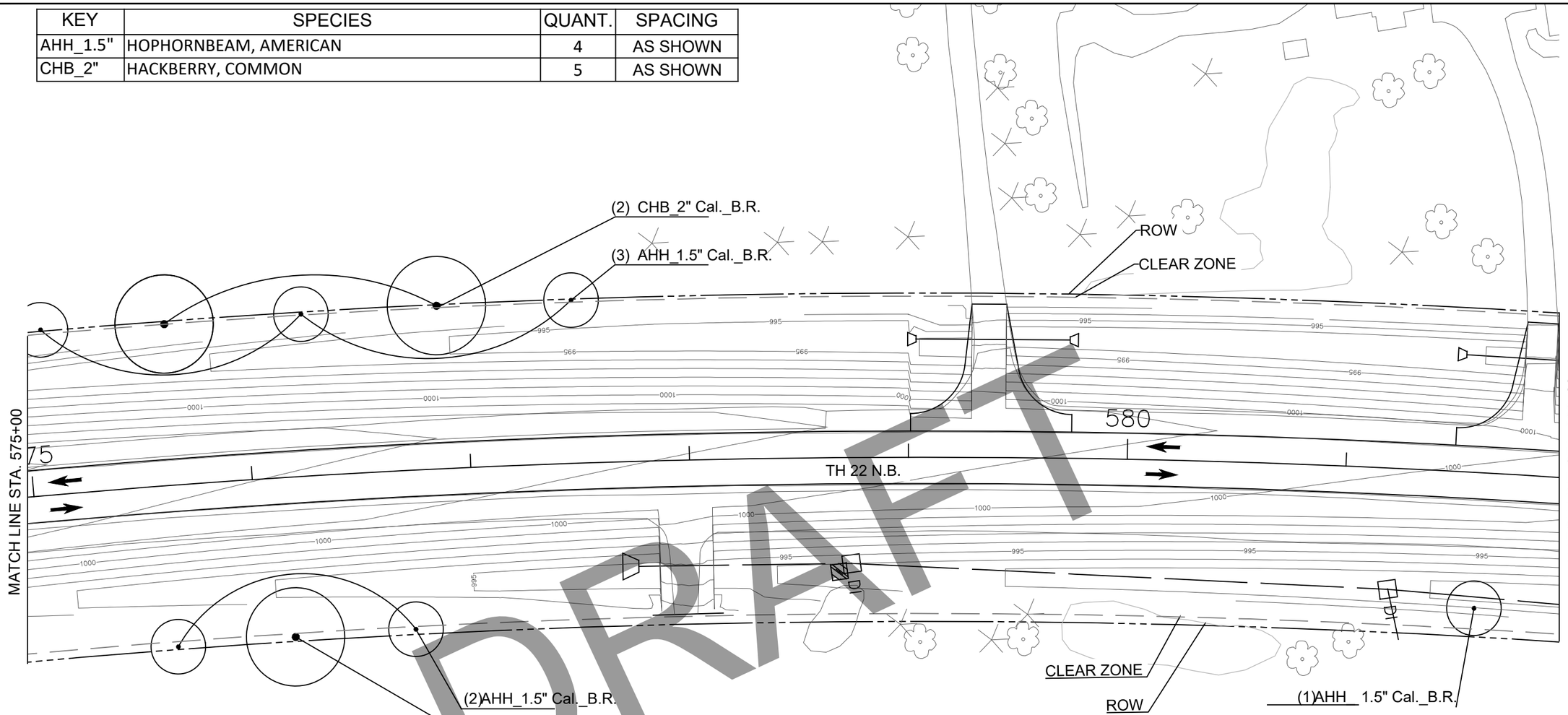
KEY	SPECIES	QUANT.	SPACING
AHH_1.5"	HOPHORNBEAM, AMERICAN	4	AS SHOWN
CHB_2"	HACKBERRY, COMMON	5	AS SHOWN



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TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

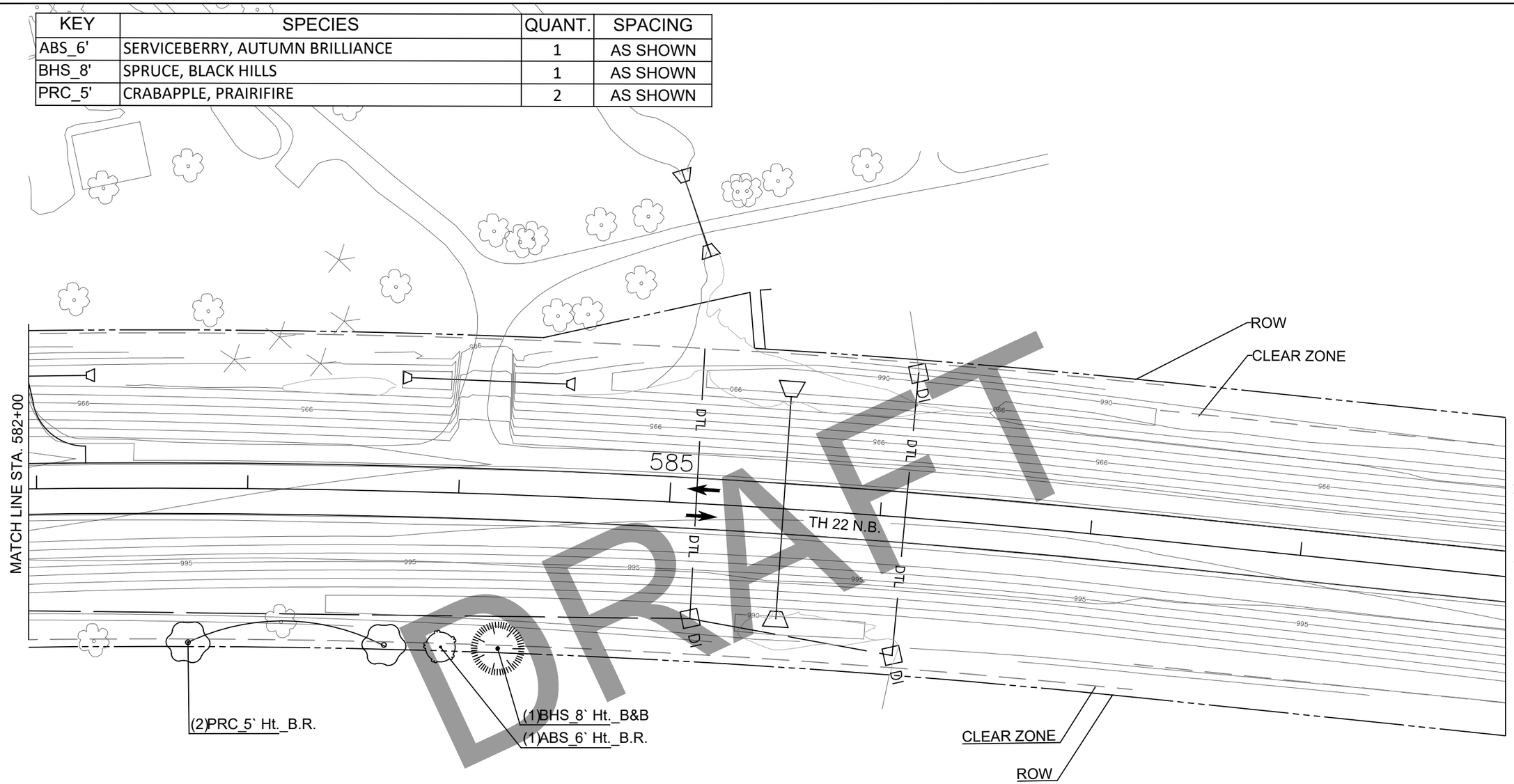
WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 91 of 112 Sheets

KEY	SPECIES	QUANT.	SPACING
ABS_6'	SERVICEBERRY, AUTUMN BRILLIANCE	1	AS SHOWN
BHS_8'	SPRUCE, BLACK HILLS	1	AS SHOWN
PRC_5'	CRABAPPLE, PRAIRIFIRE	2	AS SHOWN



TIME:

DATE:
FILENAME:

LEGEND
- RIGHT OF WAY
- CLEAR ZONE
- DTL — DRAINTILE

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SCALE IN FEET

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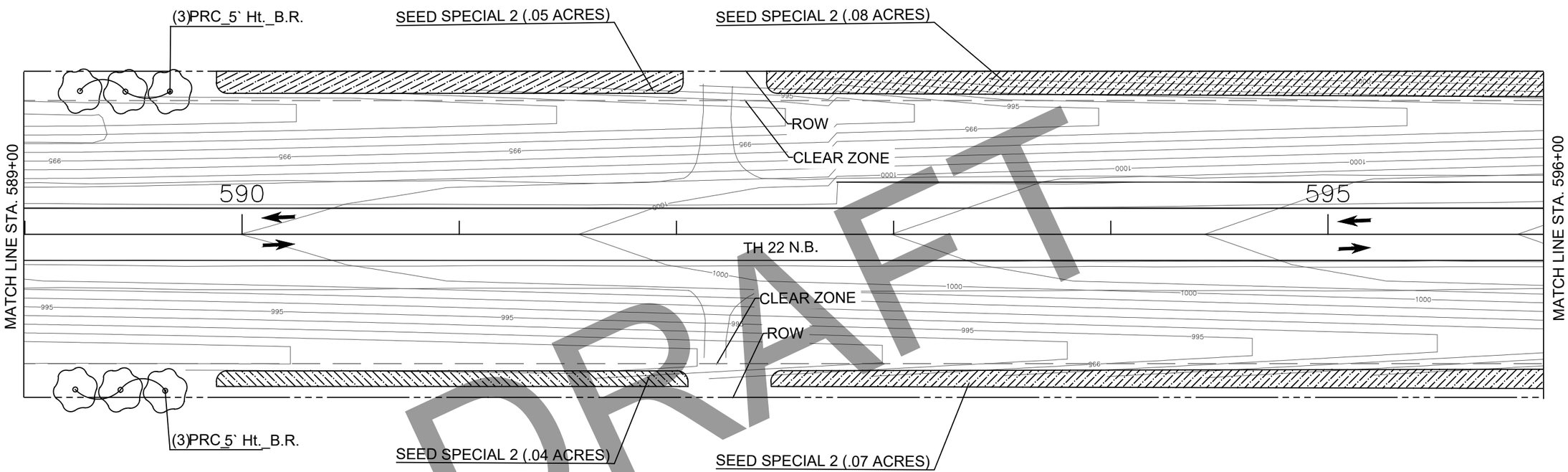
KEY	SPECIES	QUANT.	SPACING
PRC_5'	CRABAPPLE, PRARIFIRE	6	AS SHOWN
	SEED SPECIAL 2	.24 ACRES	AS SHOWN



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FILENAME:

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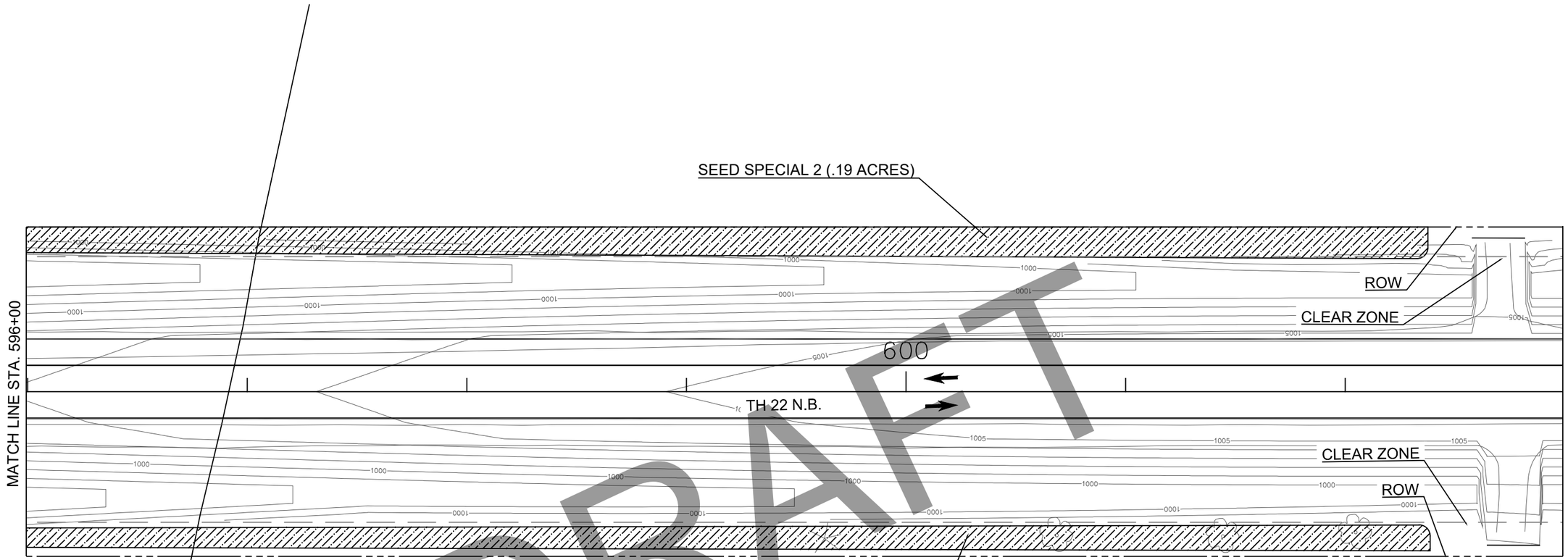
MINNESOTA DEPARTMENT OF TRANSPORTATION
TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
	SEED SPECIAL 2	.24 ACRES	AS SHOWN



TIME:

DATE:
FILENAME:

LEGEND
- RIGHT OF WAY
- CLEAR ZONE
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SCALE IN FEET

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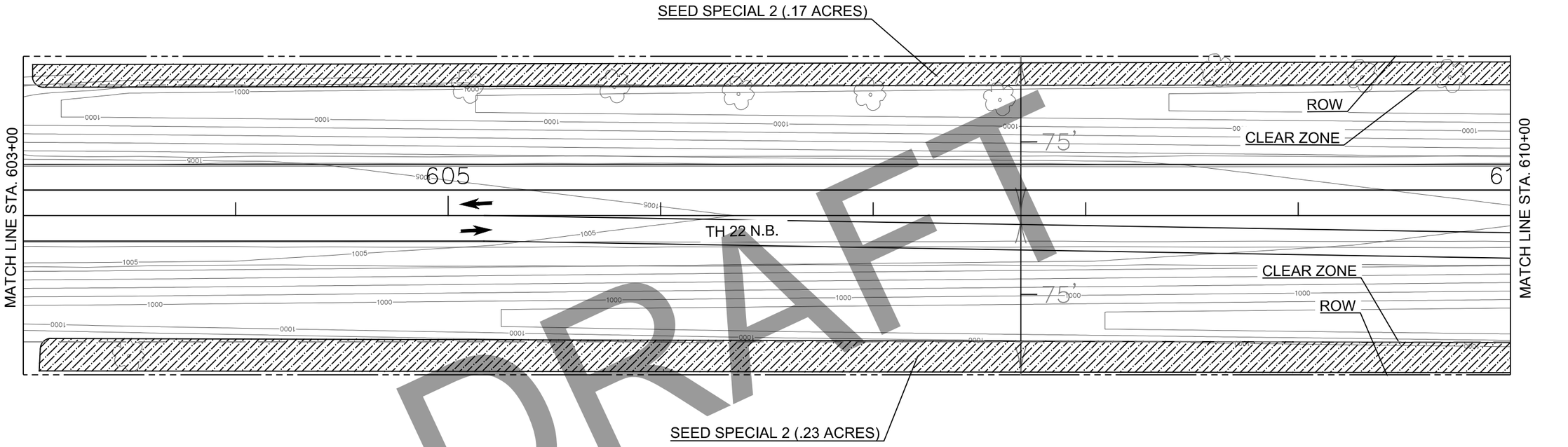
TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
	SEED SPECIAL 2	.4 ACRES	AS SHOWN



LEGEND
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- CLEAR ZONE
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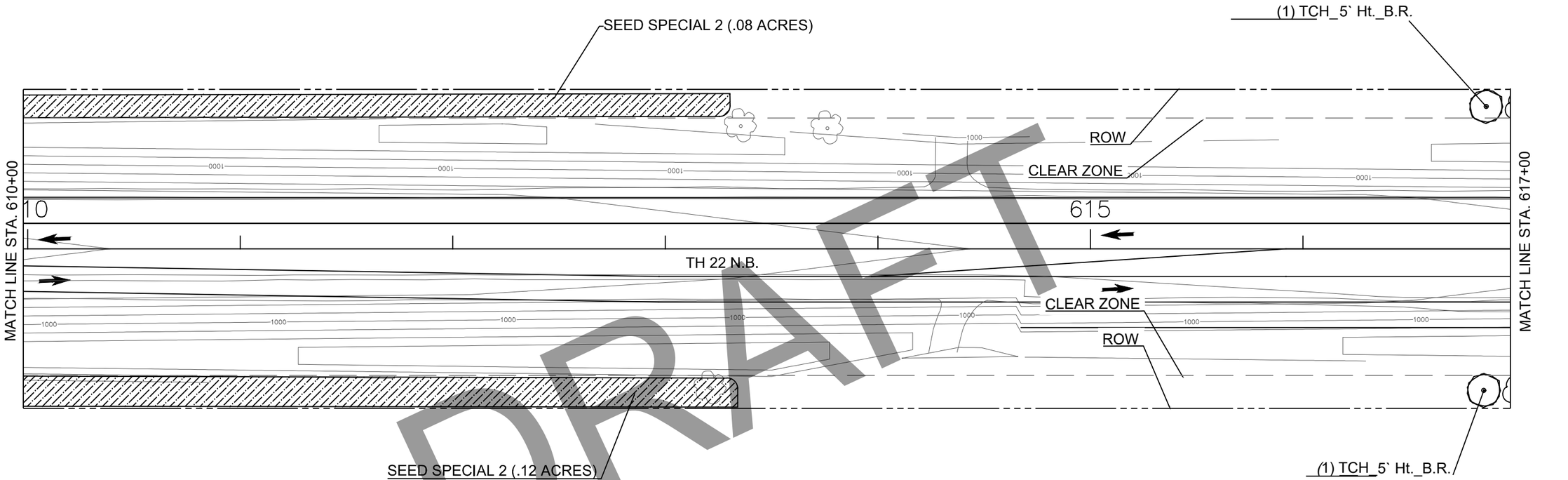
TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
TCH_5'	HAWTHORN, THORNLESS	2	AS SHOWN
	SEED SPECIAL 2	.2 ACRES	AS SHOWN



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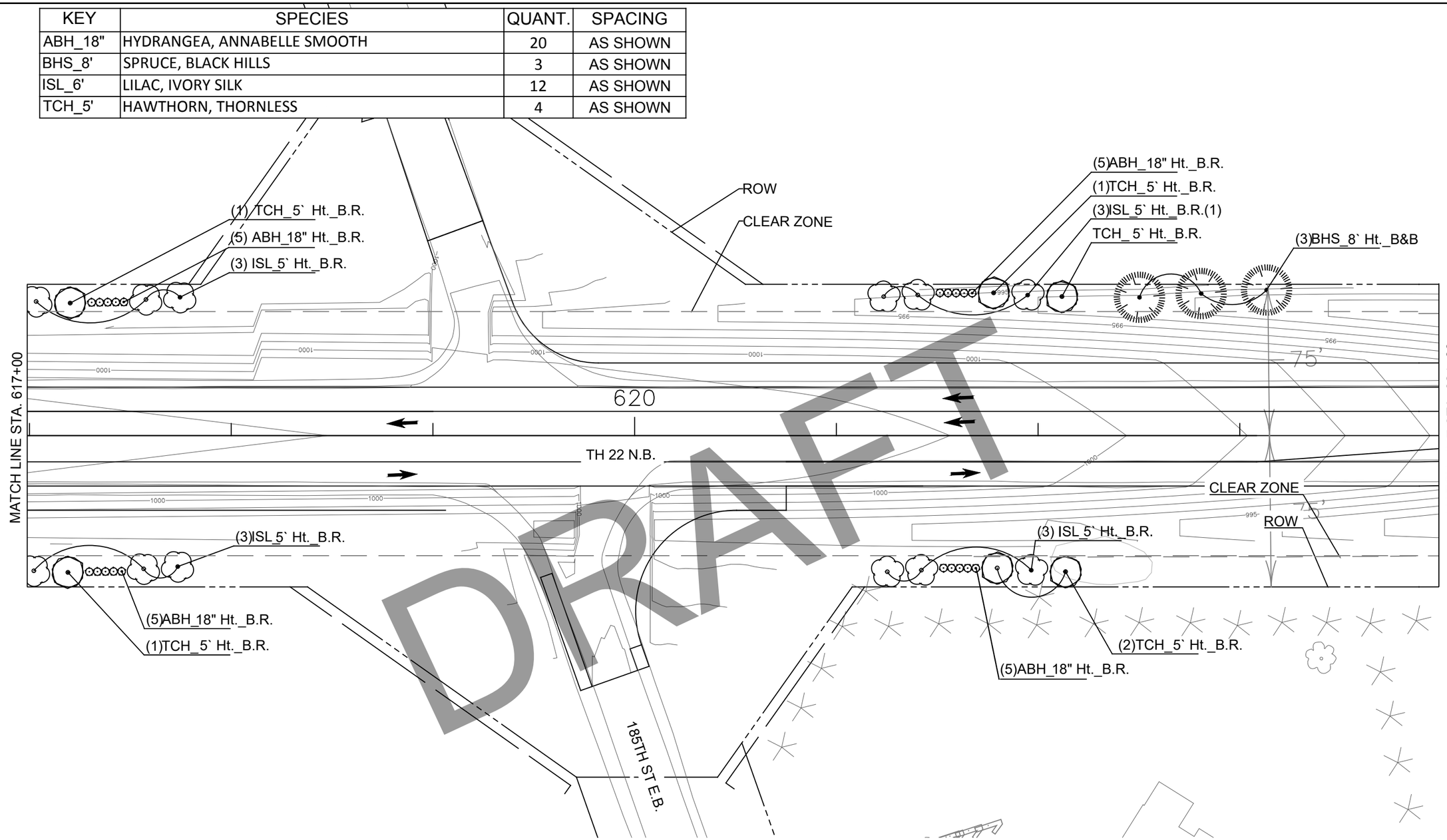
TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15

WSB

LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

KEY	SPECIES	QUANT.	SPACING
ABH_18"	HYDRANGEA, ANNABELLE SMOOTH	20	AS SHOWN
BHS_8'	SPRUCE, BLACK HILLS	3	AS SHOWN
ISL_6'	LILAC, IVORY SILK	12	AS SHOWN
TCH_5'	HAWTHORN, THORNLESS	4	AS SHOWN



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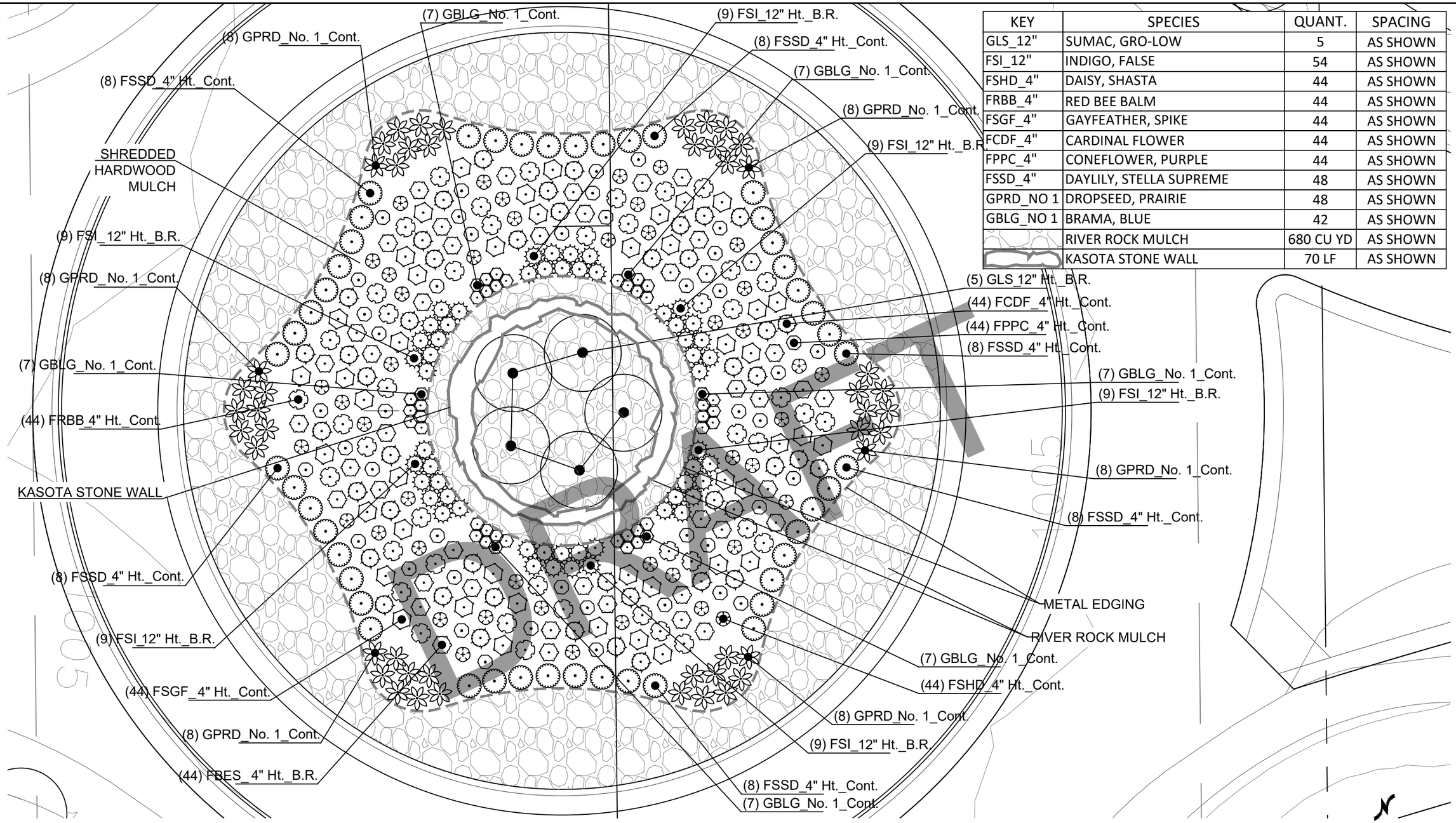
WSB

LANDSCAPE PLAN

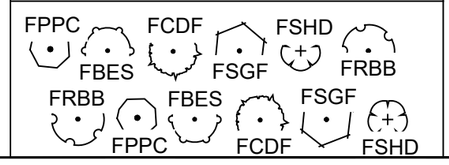
STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 97 of 112 Sheets



KEY	SPECIES	QUANT.	SPACING
GLS_12"	SUMAC, GRO-LOW	5	AS SHOWN
FSI_12"	INDIGO, FALSE	54	AS SHOWN
FSHD_4"	DAISY, SHASTA	44	AS SHOWN
FRBB_4"	RED BEE BALM	44	AS SHOWN
FSGF_4"	GAYFEATHER, SPIKE	44	AS SHOWN
FCDF_4"	CARDINAL FLOWER	44	AS SHOWN
FPPC_4"	CONEFLOWER, PURPLE	44	AS SHOWN
FSSD_4"	DAYLILY, STELLA SUPREME	48	AS SHOWN
GPRD_NO 1	DROPSEED, PRAIRIE	48	AS SHOWN
GBLG_NO 1	BRAMA, BLUE	42	AS SHOWN
	RIVER ROCK MULCH	680 CU YD	AS SHOWN
	KASOTA STONE WALL	70 LF	AS SHOWN

TYPICAL PLANTING



LEGEND

RIGHT OF WAY

CLEAR ZONE

DTL DRAINTILE

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SCALE IN FEET

TIME:

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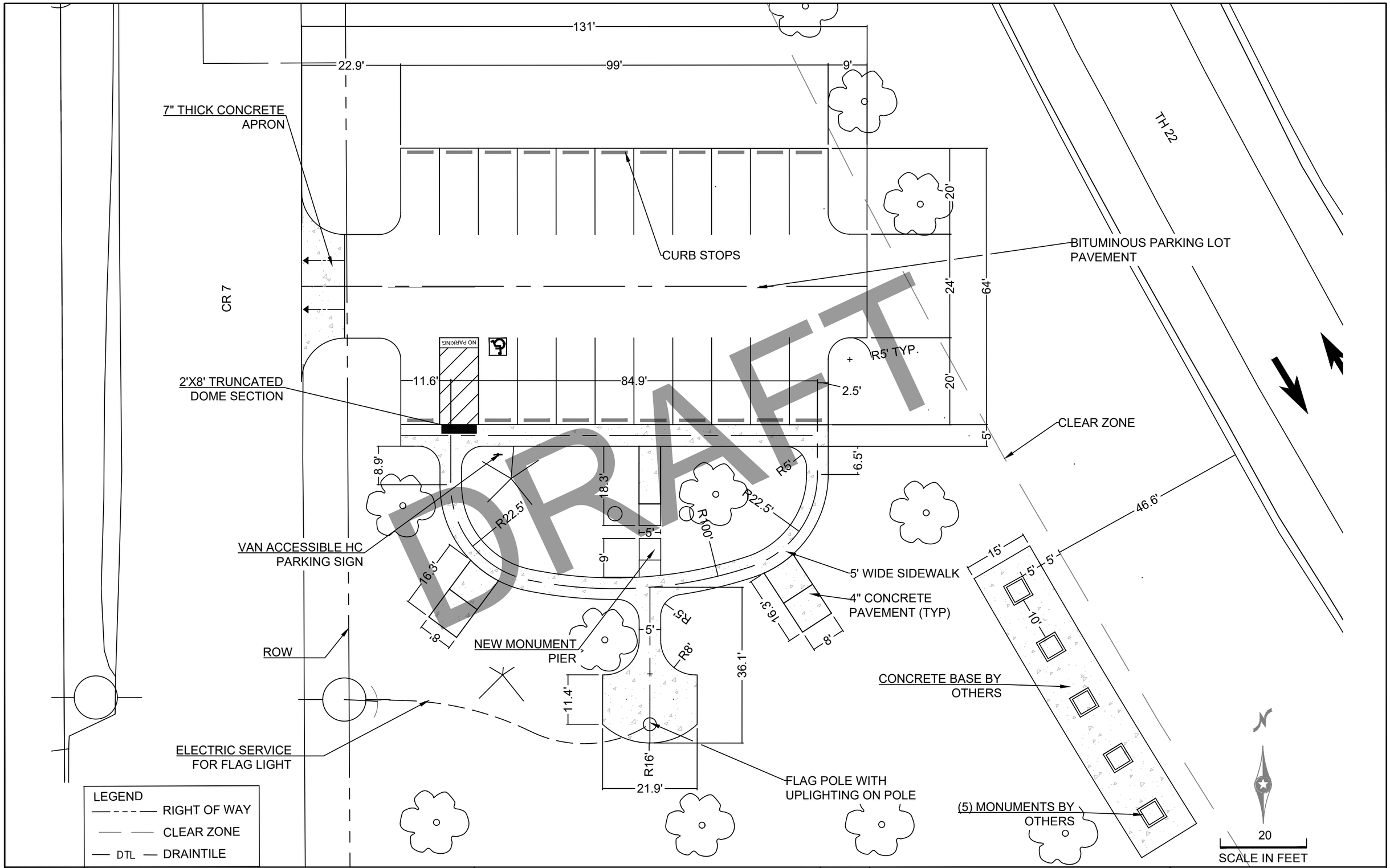
LANDSCAPE PLAN

STATE PROJ.NO. 0704-110(T.H. 22)

Sheet No. 98 of 112 Sheets



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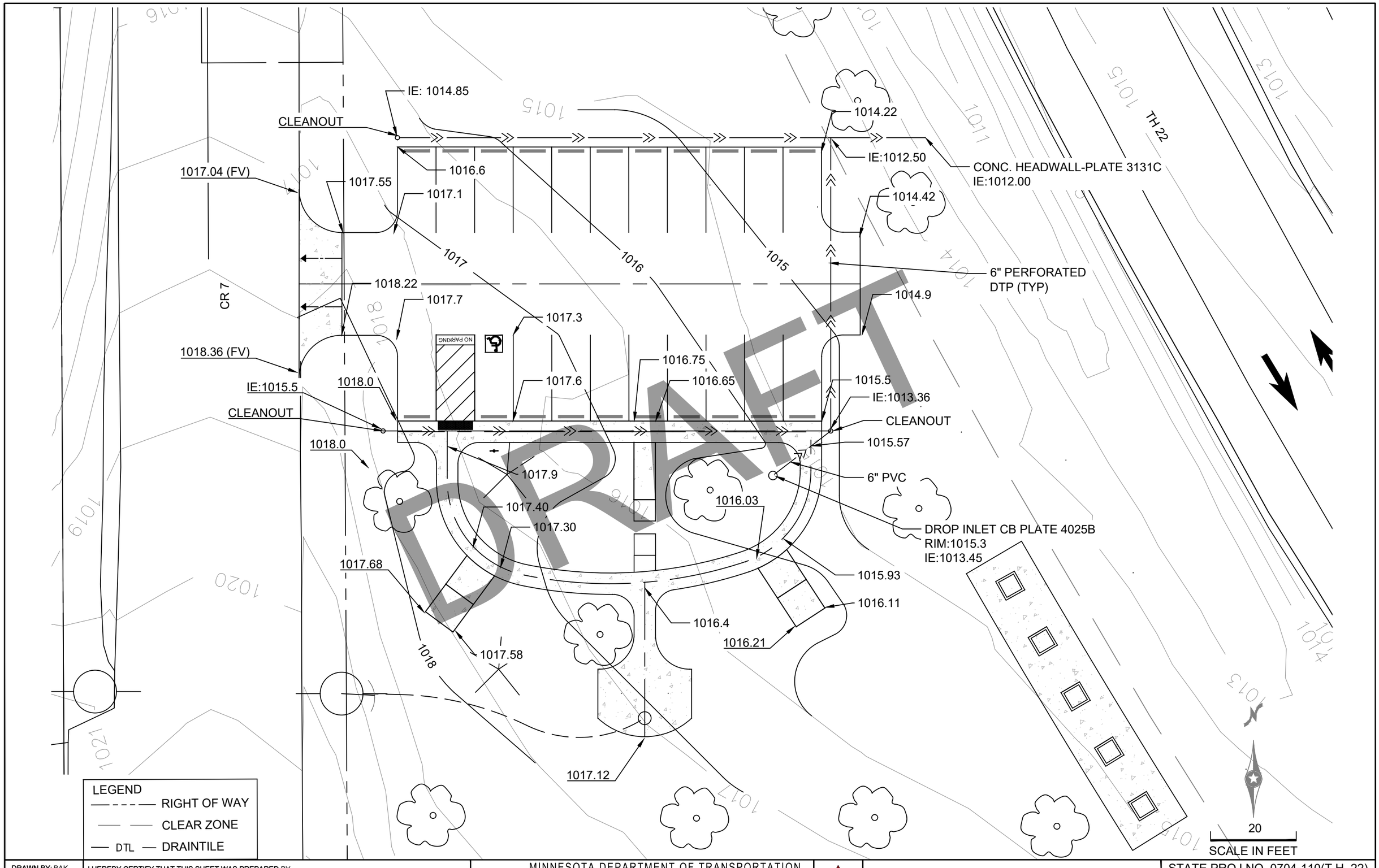

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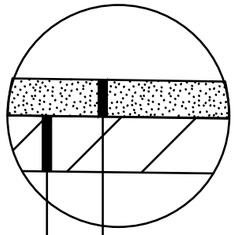
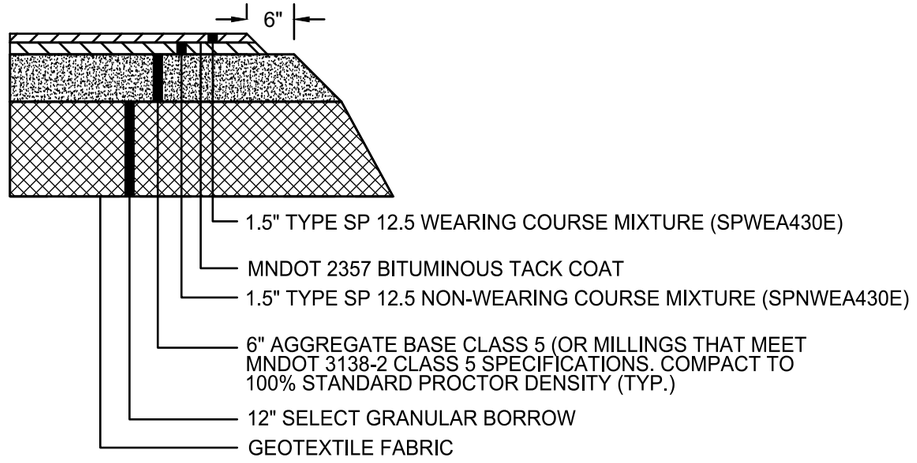
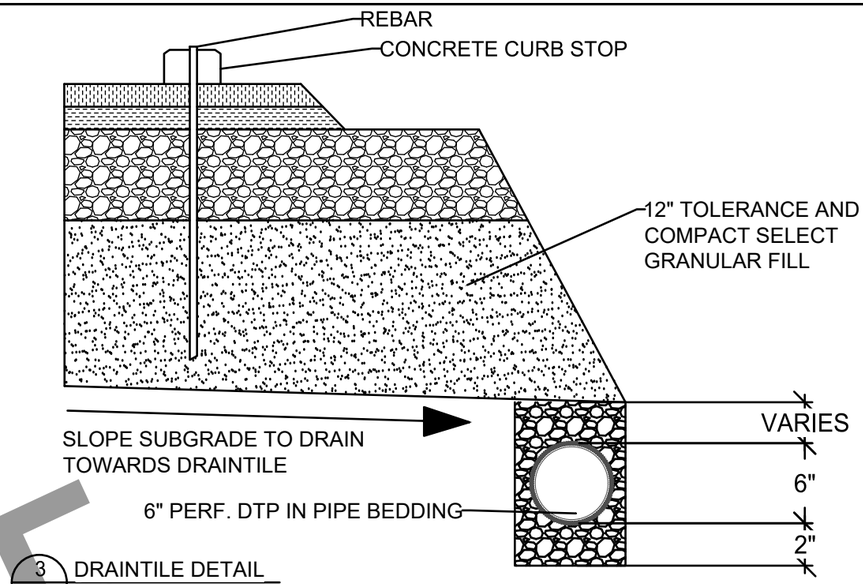


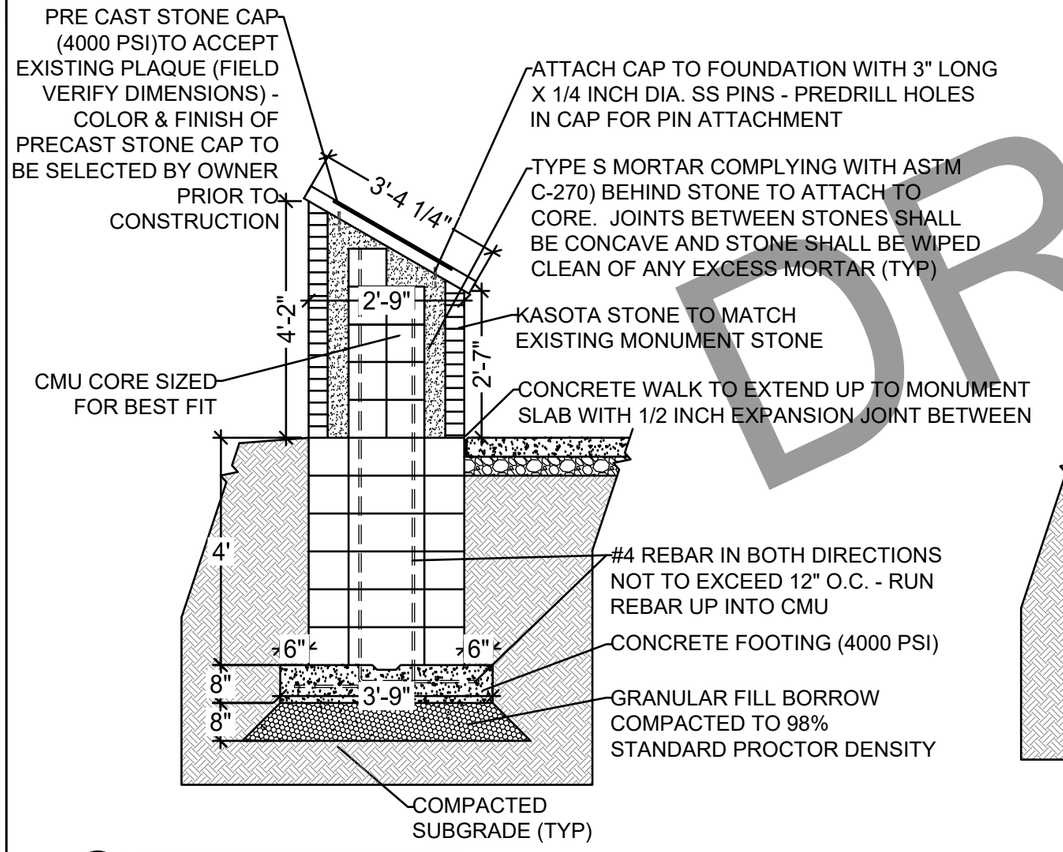
1/101 4" CONCRETE DETAIL
NTS

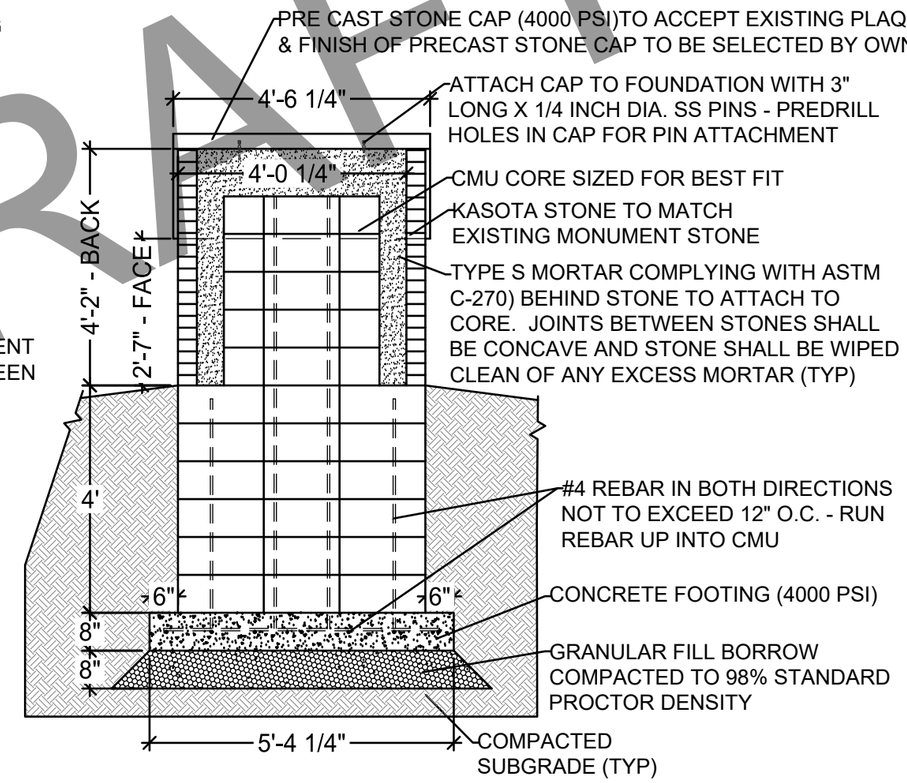


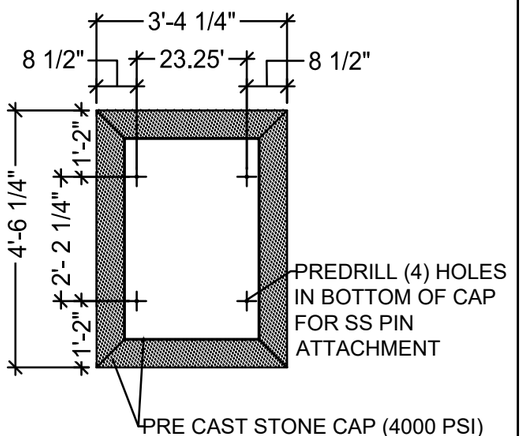
2/101 PARKING LOT PAVEMENT SECTION
NTS



3/101 DRAINTILE DETAIL
NTS



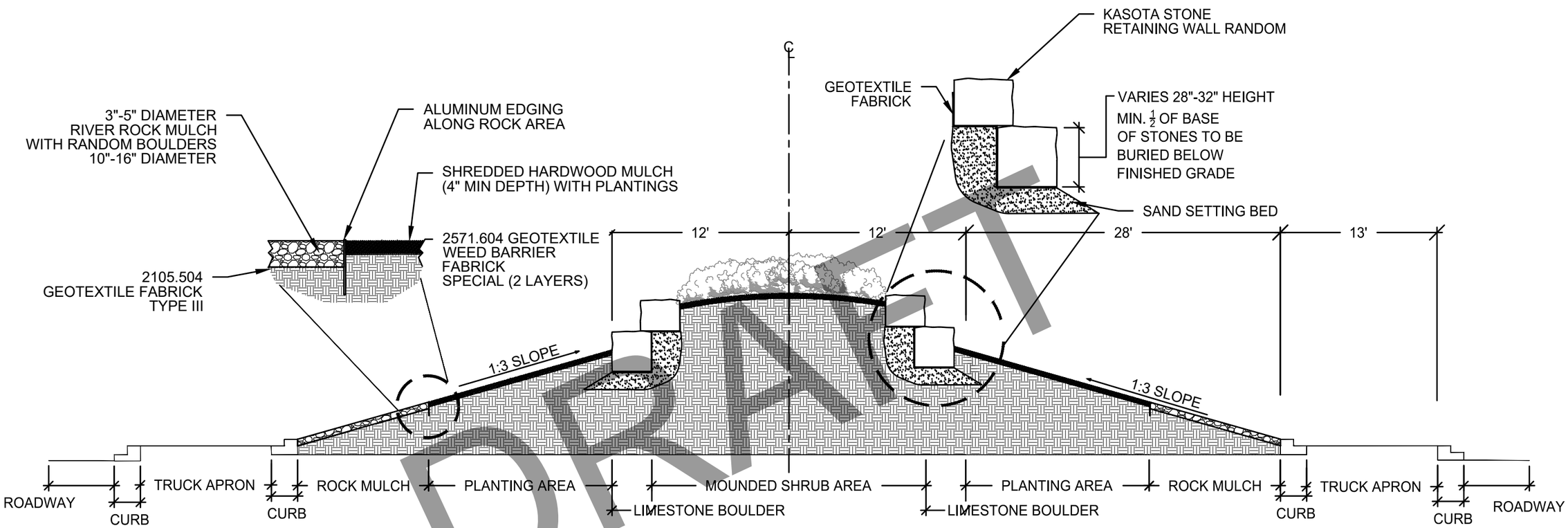




4/101 MAPLETON MONUMENT DETAILS
NTS

TIME:
DATE:
FILENAME:

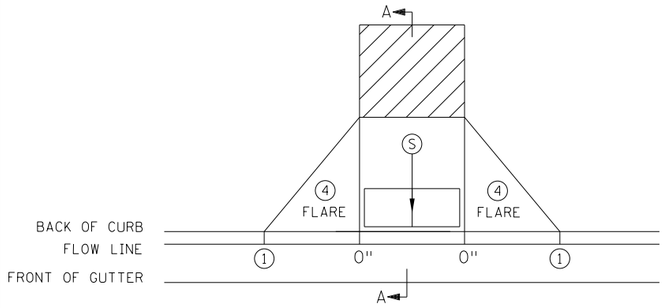
DRAWN BY: BAK DESIGNED BY: CCA CHECKED BY: CCA	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED REGISTERED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: PRINTED NAME: CANDACE C. AMBERG DATE: 09/22/2017 LIC. NO. 40646	DEPARTMENT OF TRANSPORTATION	MINNESOTA DEPARTMENT OF TRANSPORTATION TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15	WSB	MISCELLANEOUS DETAILS	STATE PROJ.NO. 0704-110(T.H. 22) Sheet No. 101 of 112 Sheets



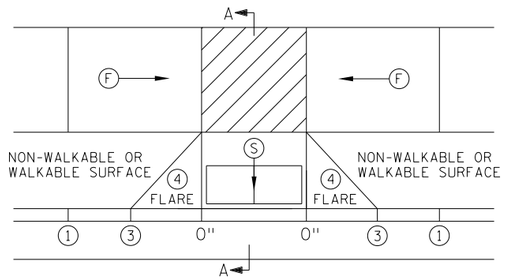
TIME:

DATE:
FILENAME:

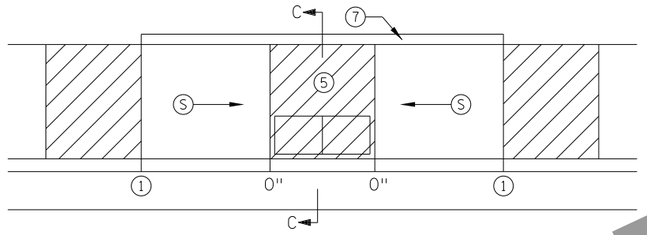
DRAWN BY: BAK DESIGNED BY: CCA CHECKED BY: CCA	I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED REGISTERED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.	SIGNATURE: PRINTED NAME: CANDACE C. AMBERG DATE: 09/22/2017 LIC. NO. 40646	DEPARTMENT OF TRANSPORTATION MINNESOTA DEPARTMENT OF TRANSPORTATION TH 22 RECONSTRUCTION FROM THE CITY OF MAPLETON TO COUNTY ROAD 15	WSB	MISCELLANEOUS DETAILS	STATE PROJ.NO. 0704-110(T.H. 22) Sheet No. 102 of 112 Sheets



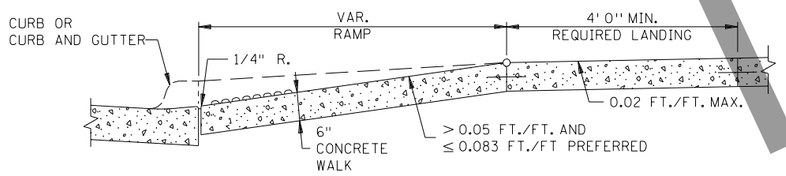
PERPENDICULAR



TIERED PERPENDICULAR

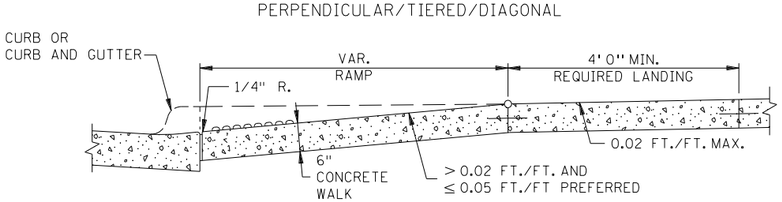


PARALLEL



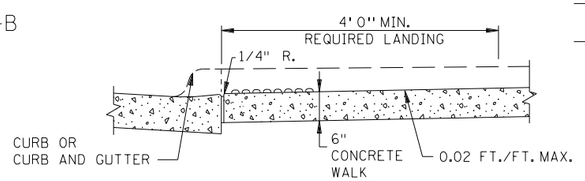
SECTION A-A

PERPENDICULAR/TIERED/DIAGONAL



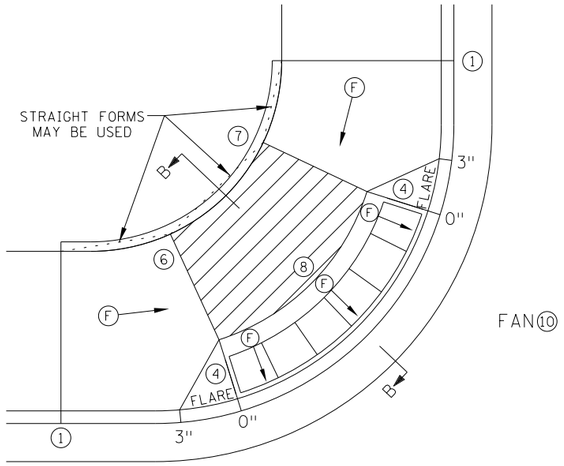
SECTION B-B

FAN

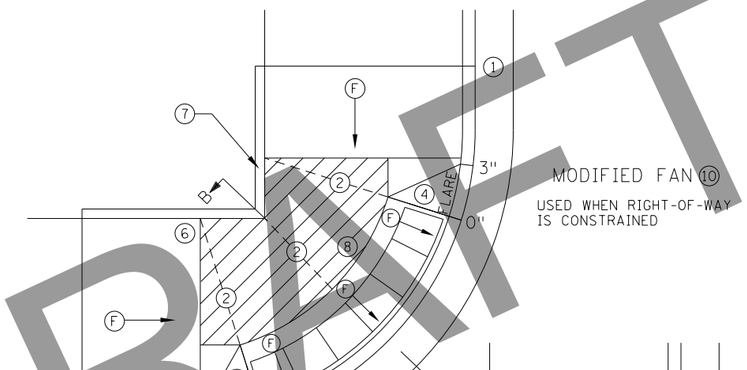


SECTION C-C

PARALLEL/DEPRESSED CORNER

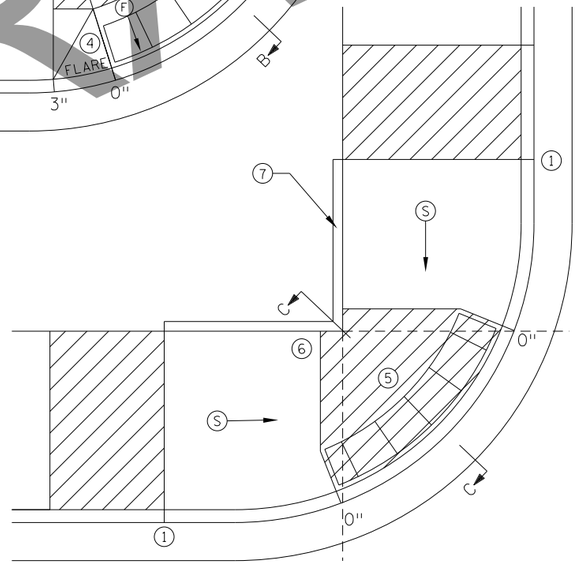


FAN (10)

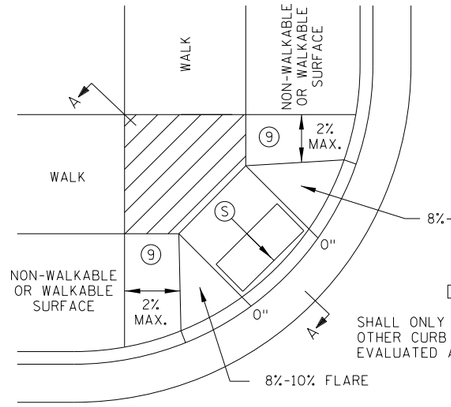


MODIFIED FAN (10)

USED WHEN RIGHT-OF-WAY IS CONSTRAINED



DEPRESSED CORNER



DIAGONAL

SHALL ONLY BE USED AFTER ALL OTHER CURB RAMP TYPES HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL

NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE GREATER THAN 2%.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL RUNNING SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH. (EXCEPT AS STATED IN (6) BELOW.

TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISIONS - PROSECUTION OF WORK (ADA).

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/TRAIL WIDTH. ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.

(1) MATCH FULL HEIGHT CURB.

(2) 4' MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.

(3) 3" HIGH CURB WHEN USING A 3' LONG RAMP, 4" HIGH CURB WHEN USING A 4' LONG RAMP.

(4) SEE SHEET 4 OF 6, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS, WHEN INITIAL LANDING IS AT FULL CURB HEIGHT.

(5) DETECTABLE WARNINGS MAY BE PART OF THE 4' X 4' MIN. LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.

(6) THE GRADE BREAK SHALL BE PERPENDICULAR TO THE BACK OF WALK. THIS WILL ENSURE THAT THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL. (TYPICAL FOR ALL)

(7) WHEN ADJACENT TO GRASS, GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.

(8) A 7' MIN TOP RADIUS GRADE BREAK REQUIRED TO BE CONSTRUCTIBLE.

(9) PAVE FULL WALK WIDTH.

(10) "S" SLOPES ON FANS SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

(S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.

(F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.

LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.

X" CURB HEIGHT

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

REVISED:

APPROVED: 1-23-2017

STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 (SHEET 1 OF 6)

S.P. 0704-110 (TH 22 = 39)

PLOTTED/REVISED: 10/20/2017
DISTRICT *: WSB & Associates
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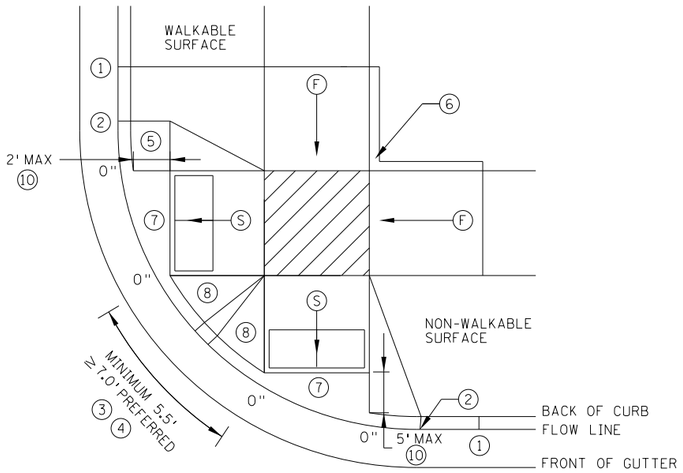
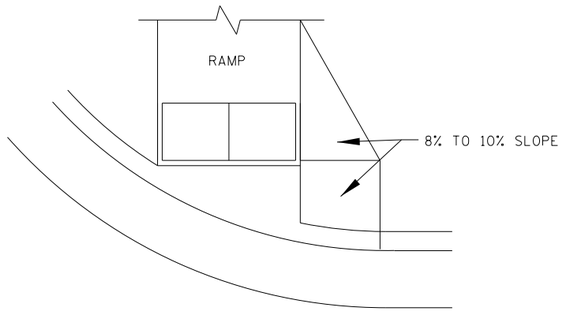


COMBINED DIRECTIONAL ⑨



DIRECTIONAL RAMP WALKABLE FLARE

NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOP GRADE BREAK OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH.

TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISION (PROSECUTION OF WORK).

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE WIDTH OF SHARED-USE PATH AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/PATH WIDTH. ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB. SEE NOTES ⑩ & ⑪ FOR INFORMATION REGARDING RECTANGULAR DETECTABLE WARNING PLACEMENT.

① MATCH FULL CURB HEIGHT.

② 3" HIGH CURB WHEN USING A 3' LONG RAMP
4" HIGH CURB WHEN USING A 4' LONG RAMP.

③ 3" MINIMUM CURB HEIGHT (5.5' MIN. DISTANCE REQUIRED BETWEEN DOMES)
4" PREFERRED (7' MIN. DISTANCE REQUIRED BETWEEN DOMES).

④ THE "BUMP" IN BETWEEN THE RAMPS SHOULD NOT BE IN THE PATH OF TRAVEL FOR COMBINED DIRECTIONAL RAMPS. IF THIS OCCURS MODIFY THE RAMP LOCATION OR SWITCH RAMP TO A FAN/DEPRESSED CORNER.

⑤ WHEN USING CONCRETE PAVED FLARES ON THE OUTSIDE OF DIRECTIONAL RAMPS, AND ADJACENT TO A WALKABLE SURFACE, DIRECTIONAL RAMP FLARES SHOULD BE USED. SEE THE DETAIL ON THIS SHEET.

⑥ GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.

⑦ MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.

⑧ 8% TO 10% WALKABLE FLARE.

⑨ PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.

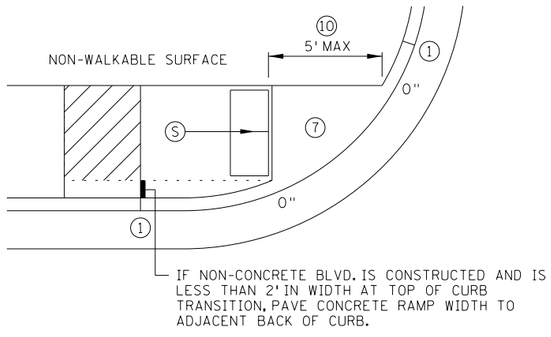
⑩ FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.

⑪ RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK UP TO 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.

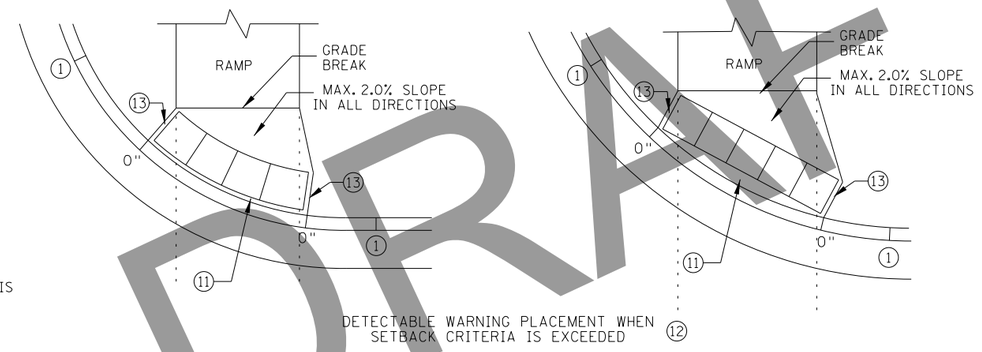
⑫ FOR DIRECTIONAL RAMPS WITH THE DETECTABLE WARNINGS PLACED AT THE BACK OF CURB, THE DETECTABLE WARNINGS SHALL COVER THE ENTIRE WIDTH OF THE WALK/PATH. THIS ENSURES A DETECTABLE EDGE AND HELPS ELIMINATE THE CURB TAPER OBSTRUCTING THE PATH OF PEDESTRIAN TRAVEL.

⑬ THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.

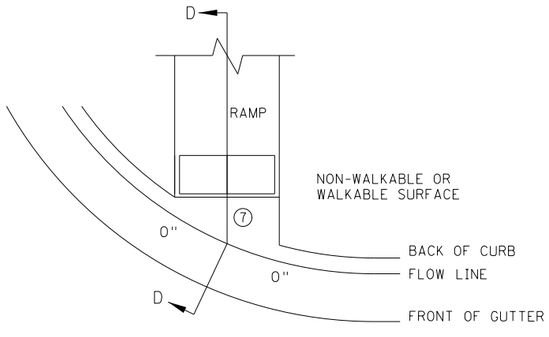
⑭ TO BE USED FOR ALL DIRECTIONAL RAMPS, EXCEPT WHERE DOMES ARE PLACED ALONG THE BACK OF CURB.



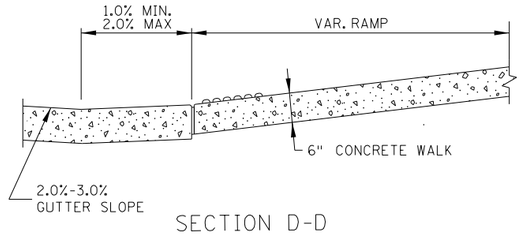
STANDARD ONE-WAY DIRECTIONAL ⑨



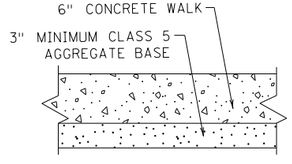
ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB



CURB FOR DIRECTIONAL RAMPS ⑭



SECTION D-D



TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER

LEGEND
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.
(S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
(F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
X" CURB HEIGHT

PLOTTED/REVISED: 10/20/2017

DISTRICT *: WSB & Associates
USER NAME: $$@USER$NAME@$$
PATH & FILENAME: K:\03265-010\Cad\Plan\cd704100_spn01.dgn
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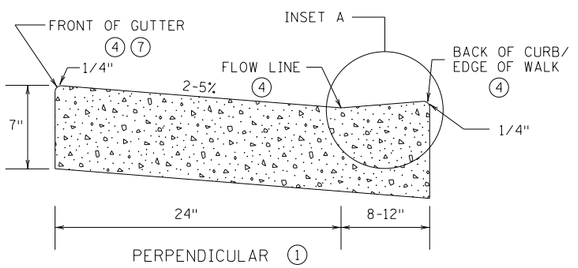
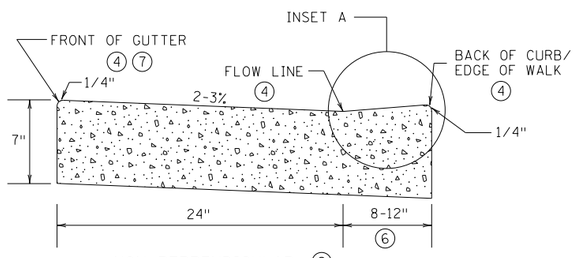
REVISION:
APPROVED: JANUARY 23, 2017
OPERATIONS ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION
STATE DESIGN ENGINEER
REVISED:
APPROVED: 1-23-2017

PEDESTRIAN CURB RAMP DETAILS
STANDARD PLAN 5-297.250 (SHEET 2 OF 6)
S.P. 0704-110 (TH 22 = 39)
SHEET NO. 104 OF 112

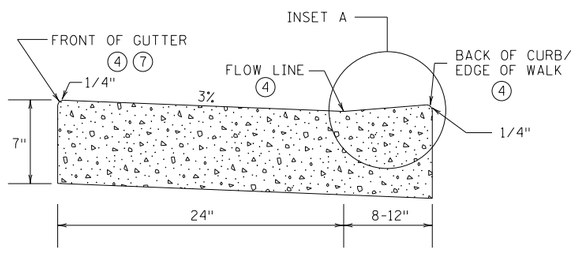


PERPENDICULAR (1)

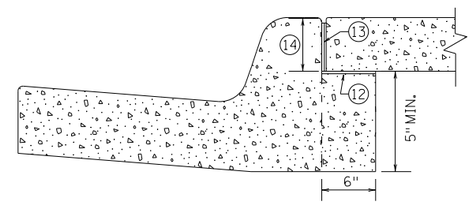


NON PERPENDICULAR (2)

PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL

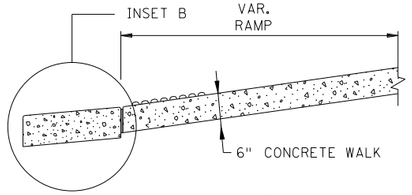


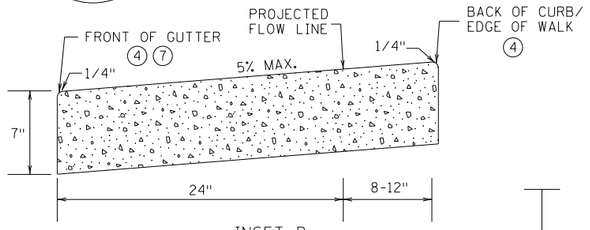
FOR CURB MACHINE PLACEMENT AROUND RADIUS (3)
(REGARDLESS OF RAMP TYPE)



OPTIONAL SILL CURB WHEN SIDEWALK IS AT BACK OF CURB

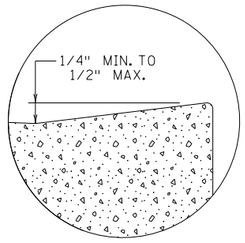
CONCRETE SILL TO BE USED ONLY WHEN SPECIFIED IN THE PLAN.



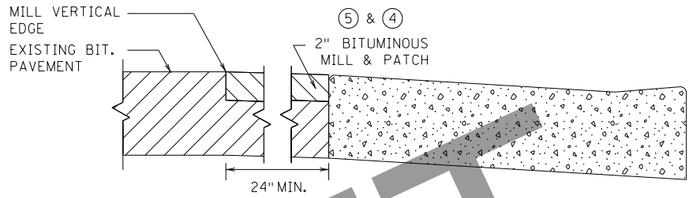


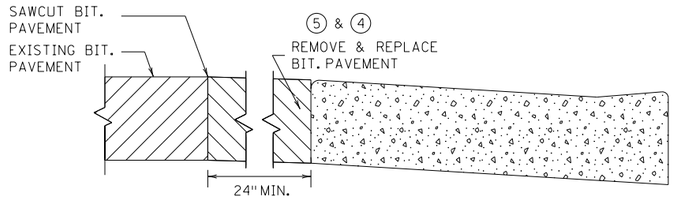
INSET B

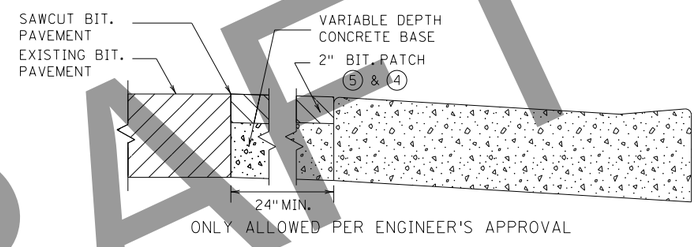
OUTFLOW GUTTER (8)



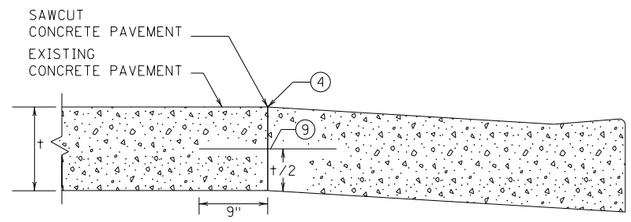
INSET A





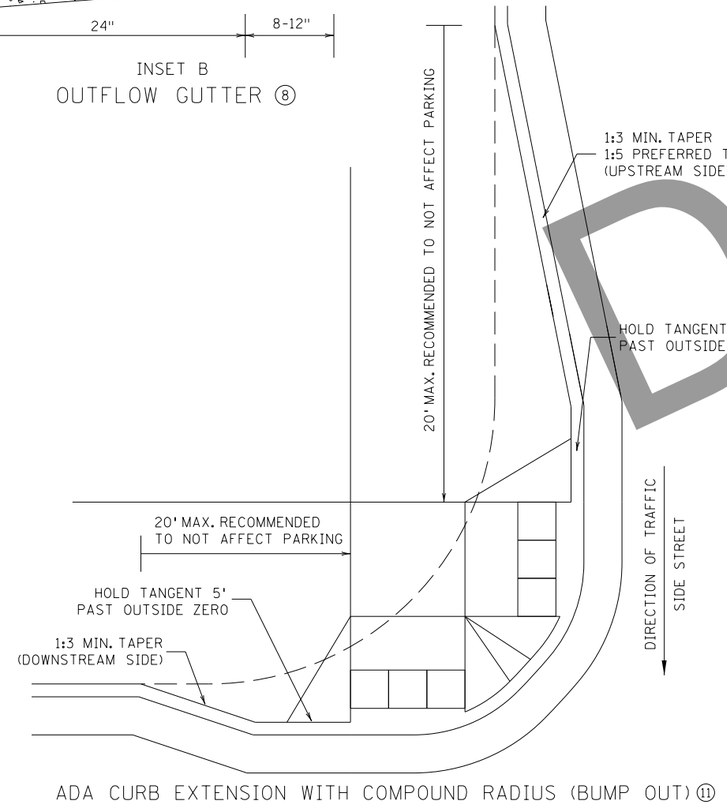


ONLY ALLOWED PER ENGINEER'S APPROVAL



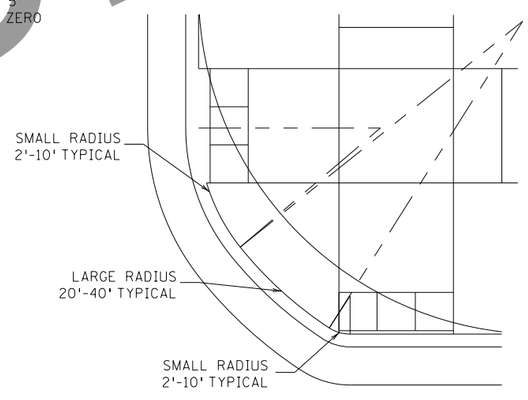
PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER

FOR USE ON CURB RAMP RETROFITS



ADA CURB EXTENSION WITH COMPOUND RADIUS (BUMP OUT) (11)

DIRECTION OF TRAFFIC
MAIN STREET



COMBINED DIRECTIONAL (10)
(COMPOUND RADIUS)

NOTES:

POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM.

NO PONDING SHALL BE PRESENT IN THE PAR.

ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.

(1) FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMPS.

(2) FOR USE AT CURB RAMPS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS & DEPRESSED CORNERS.

(3) BEGIN GUTTER SLOPE TRANSITION 10' OUTSIDE OF ALL CURB RAMPS.

(4) THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4".

(5) ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.

(6) VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS. SEE SHEET 2 FOR DIRECTIONAL CURB SLOPE REQUIREMENTS.

(7) TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. TOP 1.5" OF THE GUTTER FACE MUST BE A FORMED EDGE. PAR GUTTER SHALL NOT BE OVERLAID.

(8) SHOULD BE USED AT VERTICALLY CONSTRAINED AREAS WHEN AT A DRAINAGE HIGH POINT OR SUPER ELEVATED ROADWAY SEGMENTS.

(9) DRILL AND GROUT NO. 4 EPOXY-COATED 18" LONG TIE BARS AT 30" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT 1' MINIMUM FROM ALL JOINTS.

(10) HELPS PROVIDE TWO SEPARATE RAMPS, REDUCES THE DOME SETBACK LENGTH AND MINIMIZES DIRECTIONAL CURB. THIS RADIUS DESIGN CLOSELY FOLLOWS THE TURNING VEHICLE PATH WHILE OPTIMIZING CURB RAMP LENGTH.

(11) CURB EXTENSIONS SHOULD BE USED IN VERTICALLY CONSTRAINED AREAS, USUALLY IN DOWNTOWN ROADWAY SEGMENTS WHERE ON-STREET PARKING IS AVAILABLE. CURB EXTENSIONS SHOULD BE CONSIDERED FOR APS INTERSECTIONS WHERE SPACE IS LIMITED. PUSH BUTTONS MUST MEET APS CRITERIA AS DESCRIBED IN THE PUSH BUTTON LOCATION DETAIL SHEET.

(12) PLACE BOND BREAKER BETWEEN WALK AND TOP OF SILL.

(13) 1/2" PREFORMED JOINT FILLER PER MNDOT SPEC. 3702.

(14) DIMENSION TO BE SAME AS SIDEWALK THICKNESS, 4" MIN.

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

REVISED:

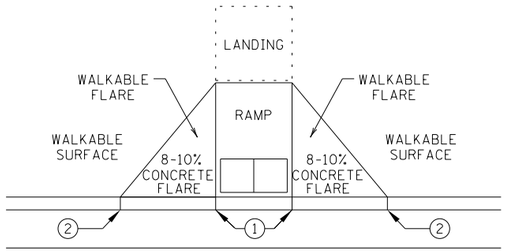
APPROVED: 1-23-2017

STATE DESIGN ENGINEER

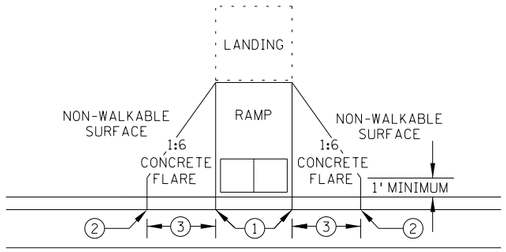
PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 (SHEET 3 OF 6)

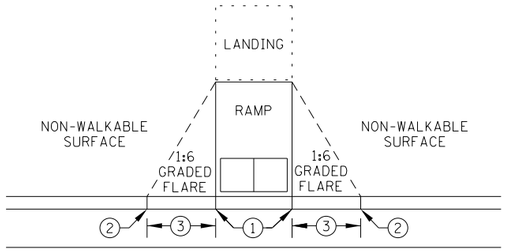
S.P. 0704-110 (TH 22 = 39) SHEET NO. 105 OF 112



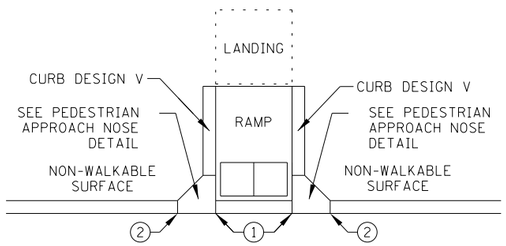
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

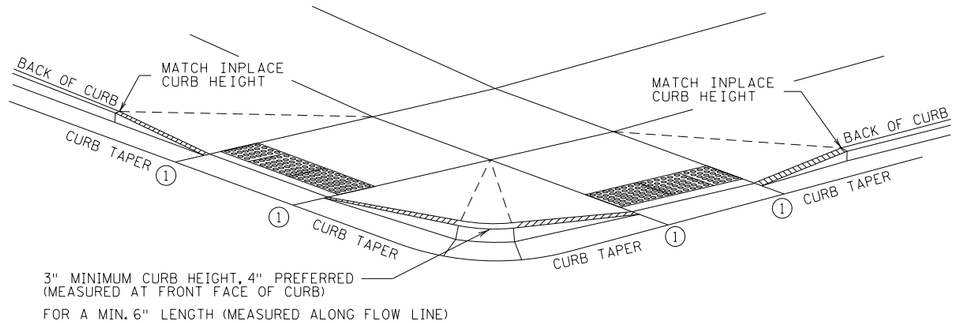


GRADED FLARES

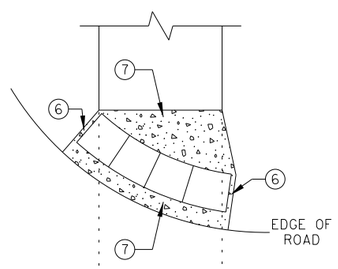


RETURNED CURB ⑤

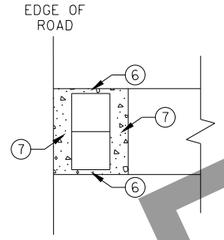
TYPICAL SIDE TREATMENT OPTIONS ④ ⑪



DETECTABLE EDGE WITH ⑧
CURB AND GUTTER

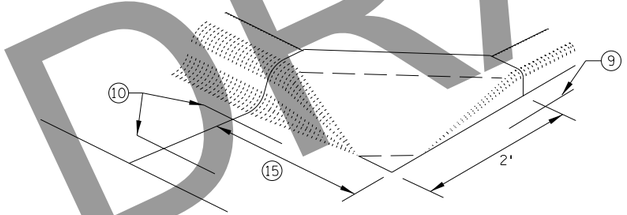


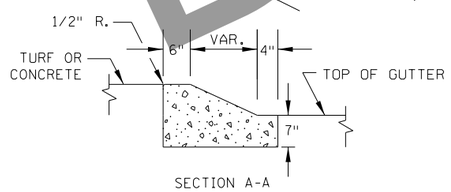
RADIAL DETECTABLE WARNING



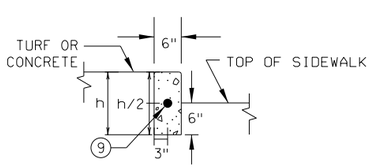
RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

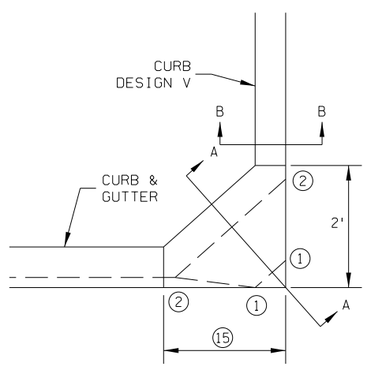




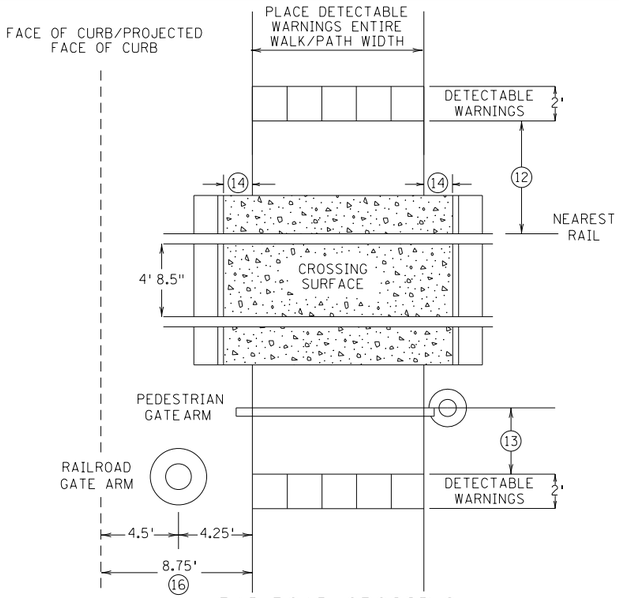
SECTION A-A



SECTION B-B



PEDESTRIAN APPROACH
NOSE DETAIL
(FOR RETURNED CURB
SIDE TREATMENT)



RAILROAD CROSSING
PLAN VIEW

NOTES:

SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.

A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.

CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8'LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.

① 0" CURB HEIGHT.

② FULL CURB HEIGHT.

③ 2'FOR 4" HIGH CURB AND 3'FOR 6" HIGH CURB.

④ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.

⑤ TYPICALLY USED FOR MEDIANS AND ISLANDS.

⑥ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" MAX. BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.

⑦ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF BITUMINOUS ROADWAY AND/OR BITUMINOUS SHARED-USE PATH TO PROVIDE VISUAL CONTRAST.

⑧ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.

⑨ DRILL AND GROUT 1 - NO. 4 12" LONG REINFORCEMENT BAR (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE V CURB.

⑩ DRILL AND GROUT 2 - NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE CURB AND GUTTER.

⑪ SIDE TREATMENT EXAMPLES SHOWN ARE WHEN THE INITIAL LANDING IS APPROXIMATELY LEVEL WITH THE FULL HEIGHT CURB (I.E. 6'LONG RAMP FOR 6" HIGH CURB). WHEN THE INITIAL LANDING IS MORE THAN 1" BELOW FULL HEIGHT CURB REFER TO SHEETS 1 & 2 TO MODIFY THE CURB HEIGHT TAPERS AND MAINTAIN POSITIVE BOULEVARD DRAINAGE.

⑫ NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12'MINIMUM TO 15'MAXIMUM FROM THE NEAREST RAIL. FOR SKEWED RAILWAYS IN NO INSTANCE SHALL THE DETECTABLE WARNING BE CLOSER THAN 12' MEASURED PERPENDICULAR TO THE NEAREST RAIL.

⑬ WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2'FROM THE APPROACHING SIDE OF THE GATE ARM. THIS CRITERIA GOVERNS OVER NOTE ⑫.

⑭ CROSSING SURFACE SHALL EXTEND 2'MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED-USE PATH.

⑮ 3'FOR MEDIANS AND SPLITTER ISLANDS. NOSE CAN BE REDUCED TO 2'ON FREE RIGHT ISLANDS.

⑯ SIDEWALK TO BE PLACED 8.75'MIN. FROM THE FACE OF CURB/PROJECTED FACE OF CURB. THIS ENSURES MIN. CLEARANCE BETWEEN THE SIDEWALK AND GATE ARM COUNTERWEIGHT SUPPORTS.

PLOTTED/REVISED: 10/20/2017

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USER NAME: $$@USER$NAME@$$$
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FILE NAME: @FILENAME@

REVISION:

APPROVED: JANUARY 23, 2017
OPERATIONS ENGINEER

REVISED:

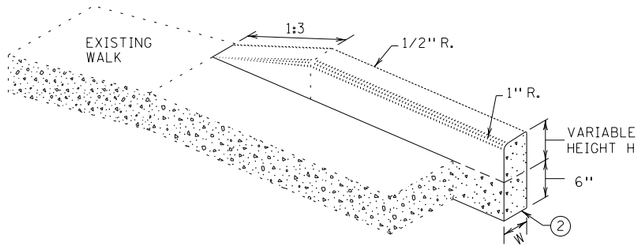
APPROVED: 1-23-2017
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

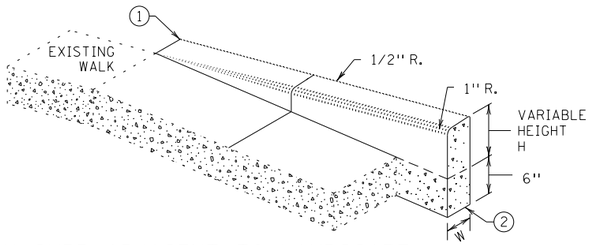
STANDARD PLAN 5-297.250 (SHEET 4 OF 6)

S.P. 0704-110 (TH 22 = 39)

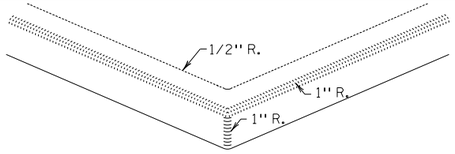
PLOTTED/REVISED:
10/20/2017



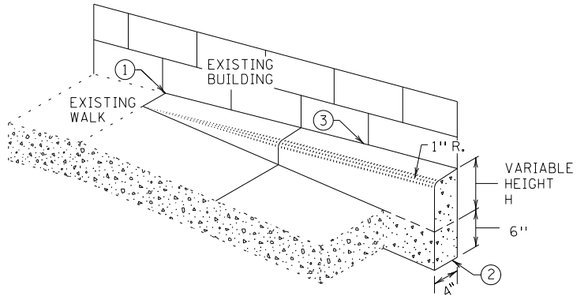
V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS



V CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS

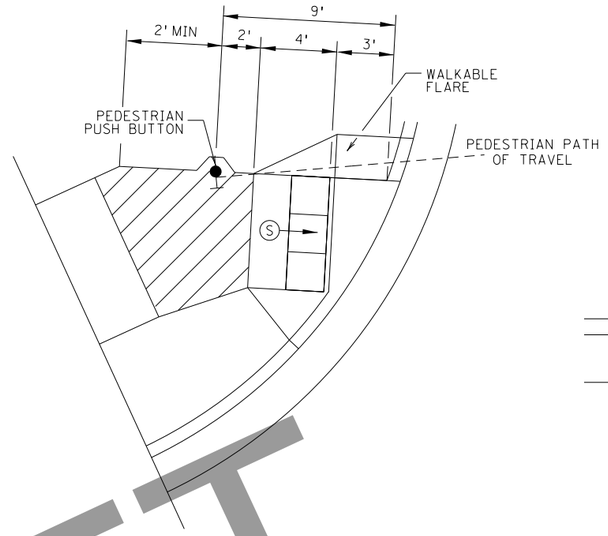


V CURB INTERSECTION



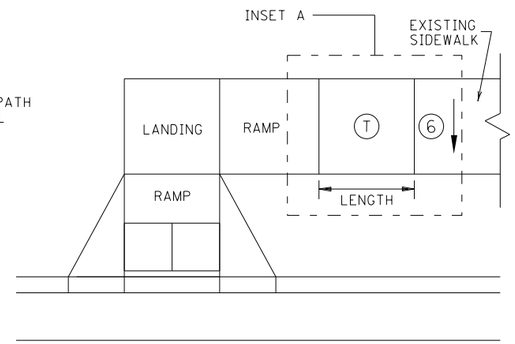
V CURB ADJACENT TO BUILDING
OR BARRIER

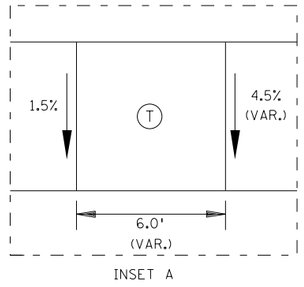
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"



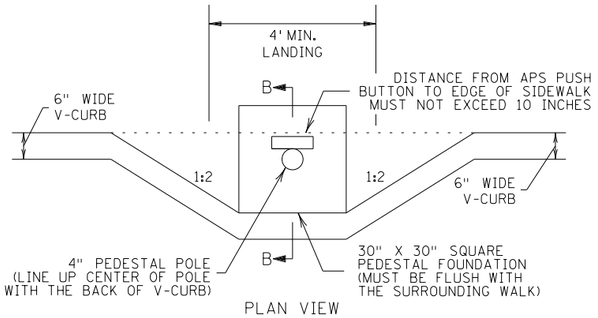
SEMI-DIRECTIONAL RAMP (3,4,9)
3' DOME SETBACK, 4' LONG RAMP AND
PUSH BUTTON 9' FROM THE BACK OF CURB

PRIMARILY USED FOR APS APPLICATIONS
WHERE THE PAR DOES NOT CONTINUE PAST
THE PUSH BUTTON (DEAD-END SIDEWALK)

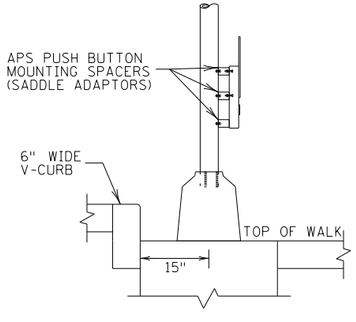




TRANSITION PANEL ④⑤

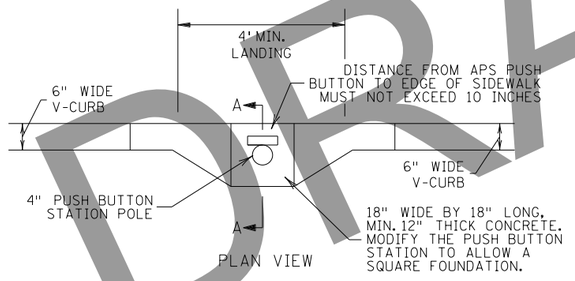


PLAN VIEW

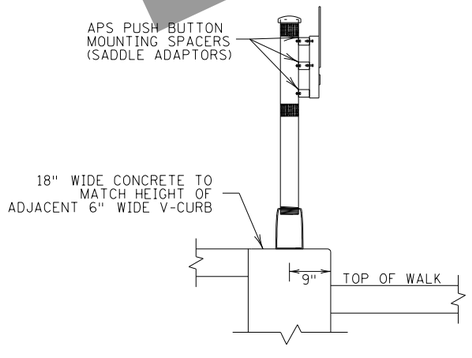


SECTION B-B

SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)



PLAN VIEW



SECTION A-A

PUSH BUTTON STATION (V-CURB)

NOTES:

A WALKABLE FLARE IS AN 8-10% CONCRETE FLARE THAT IS REQUIRED WHEN THE FLARE IS ADJACENT TO A WALKABLE SURFACE, OR WHEN THE PEDESTRIAN PATH OF TRAVEL OF A PUSH BUTTON TRAVERSES THE FLARE.

ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.

WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING ADJACENT PAVEMENT IS PREFERRED.

V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.

V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.

(1) END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.

(2) ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.

(3) EDGE BETWEEN NEW V CURB AND INPLACE STRUCTURE SHALL BE SEALED AND BOND BREAKER SHALL BE USED BETWEEN EXISTING STRUCTURE AND PLACED V-CURB.

(4) THE MAX. RATE OF CROSS SLOPE TRANSITIONING IS 1' LINEAR FOOT OF SIDEWALK PER HALF PERCENT CROSS SLOPE. WHEN PAR WIDTH IS GREATER THAN 6' OR THE RUNNING SLOPE IS GREATER THAN 5%, DOUBLE THE CALCULATED TRANSITION LENGTH.

(5) TRANSITION PANELS ARE TO ONLY BE USED AFTER THE RAMP, OR IF NEEDED, LANDING ARE AT THE FULL CURB HEIGHT (TYPICAL SECTION).

(6) EXISTING CROSS SLOPE GREATER THAN 2.0%.

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

(S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.

LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.

(T) TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK. SEE THIS SHEET FOR ADDITIONAL INFORMATION.

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

REVISED:

APPROVED: 1-23-2017

STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 (SHEET 5 OF 6)

S.P. 0704-110 (TH 22 = 39)

DISTRICT *: WSB & Associates
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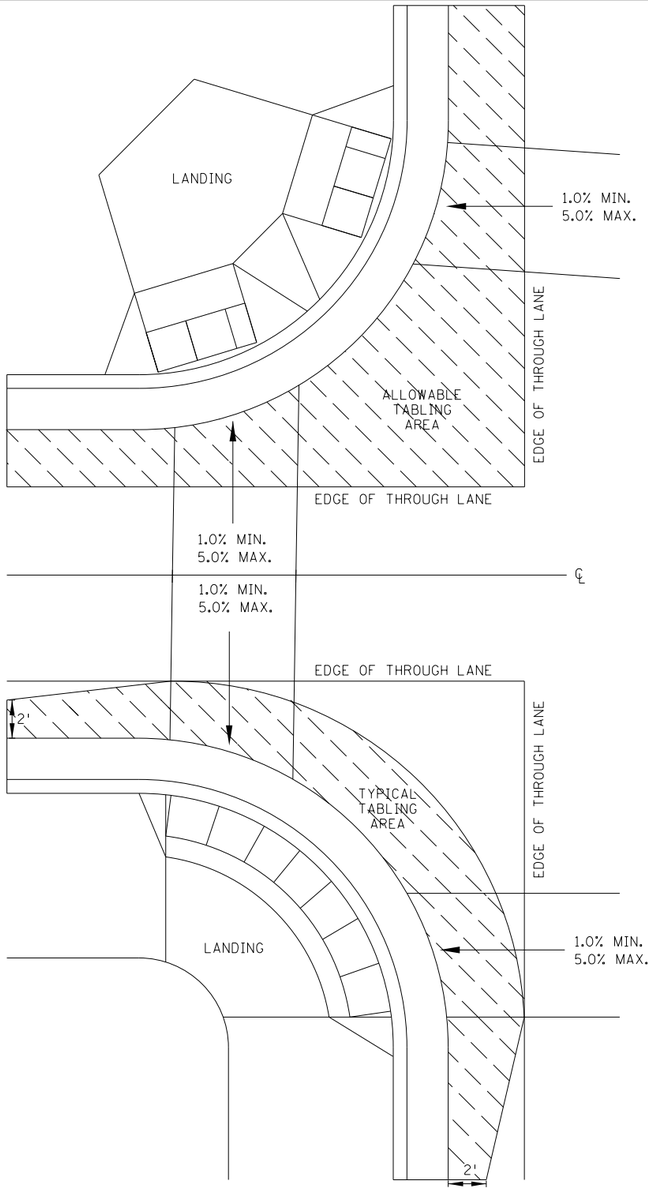
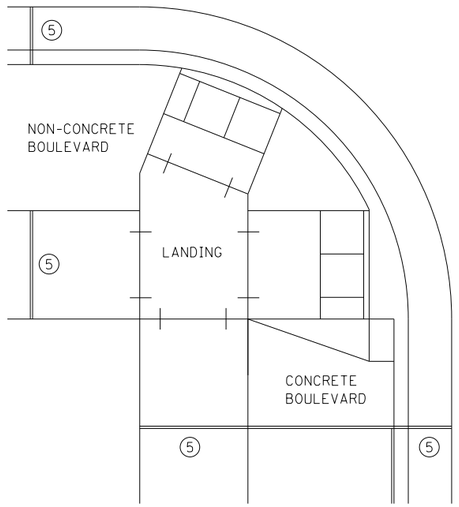
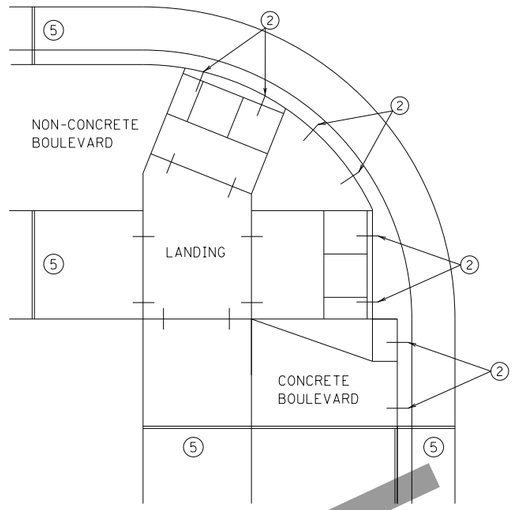


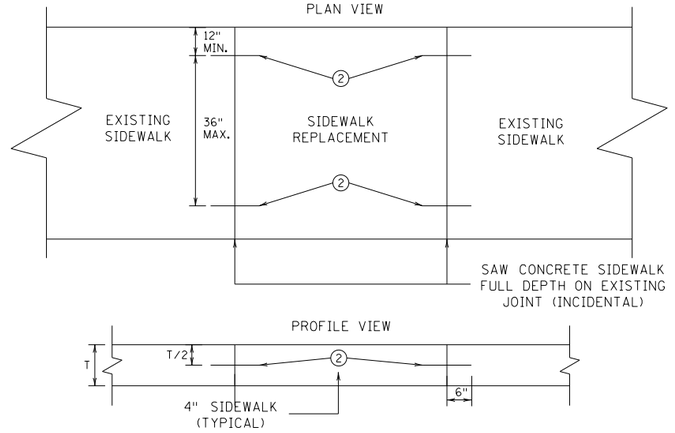
CURB LINE AND ROAD CROSSING ADJUSTMENTS



EXPANSION MATERIAL PLACEMENT FOR CONCRETE AND BITUMINOUS ROADWAYS

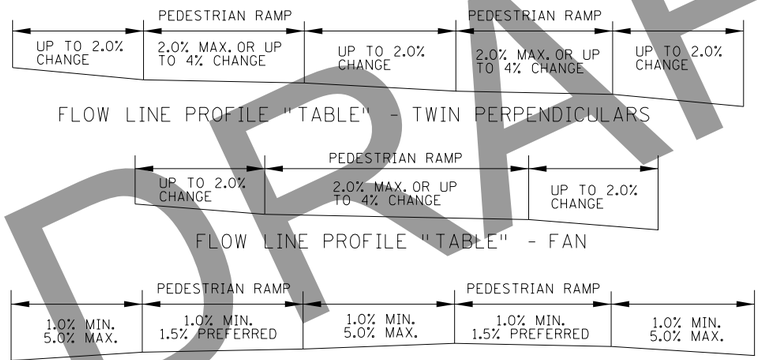


OPTIONAL CURB LINE REINFORCEMENT PLACEMENT ON BITUMINOUS ROADWAYS ④



OPTIONAL SIDEWALK REINFORCEMENT

SIDEWALK REINFORCEMENT TO BE USED ONLY WHEN SPECIFIED IN THE PLAN.

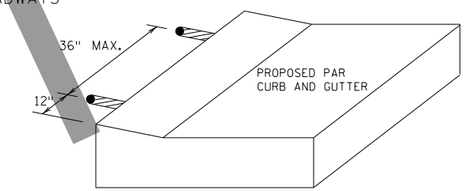


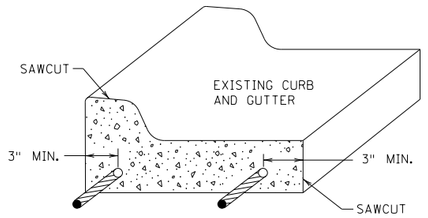
FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS

FLOW LINE PROFILE "TABLE" - FAN

FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS

FLOW LINE PROFILE RAISE - FAN

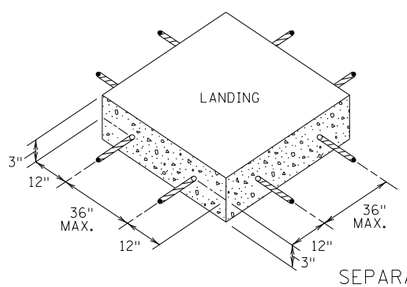


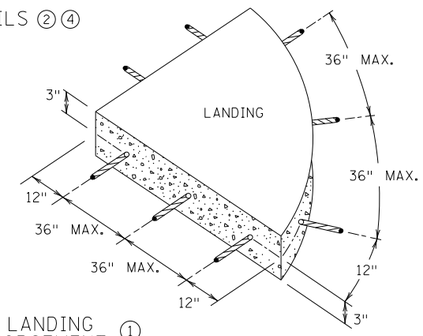


FOR USE ON CURB RAMP RETROFITS

CURB AND GUTTER REINFORCEMENT ③

OPTIONAL CURB LINE REINFORCEMENT DETAILS ②④





SEPARATE LANDING POUR REINFORCEMENT ①

"TABLING" OF CROSSWALKS MEANS MAINTAINING LESS THAN 2% CROSS SLOPE WITHIN A CROSSWALK, IS REQUIRED WHEN A ROADWAY IS IN A STOP OR YIELD CONDITION AND THE PROJECT SCOPE ALLOWS.

RECONSTRUCTION PROJECTS: ON FULL PAVEMENT REPLACEMENT PROJECTS "TABLING" OF ENTIRE CROSSWALK SHALL OCCUR WHEN FEASIBLE.

MILL & OVERLAY PROJECTS: "TABLING" OF FLOW LINES, IN FRONT OF THE PEDESTRIAN RAMP, IS REQUIRED WHEN THE EXISTING FLOW LINE IS GREATER THAN 2%. WARPING OF THE BITUMINOUS PAVEMENT CAN NOT EXTEND INTO THE THROUGH LANE. TABLE THE FLOW LINE TO 2% OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA;

1) 1.0% MIN. CROSS-SLOPE OF THE ROAD
2) 5.0% MAX. CROSS-SLOPE OF THE ROAD
3) "TABLE" FLOW LINE UP TO 4% CHANGE FROM EXISTING SLOPE IN FRONT OF PEDESTRIAN RAMP
4) UP TO 2% CHANGE IN FLOW LINE FROM EXISTING SLOPE BEYOND THE PEDESTRIAN CURB RAMP

STAND-ALONE ADA RETROFITS: FOLLOW MILL & OVERLAY CRITERIA ABOVE HOWEVER ALL PAVEMENT WARPING IS DONE WITH BITUMINOUS PATCHING ON BITUMINOUS ROADWAYS AND FULL-DEPTH APRON REPLACEMENT ON CONCRETE ROADWAYS.

RAISING OF CURB LINES SHOULD OCCUR IN VERTICALLY CONSTRAINED AREAS. RAISE THE CURB LINES ENOUGH TO ALLOW COMPLIANT RAMPS OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA;

1) 1.0% MIN. AND 5.0% MAXIMUM CROSS-SLOPE OF THE ROAD
2) 1.0% MIN. FLOW LINE (ON EITHER SIDE OF PEDESTRIAN RAMP) TO MAINTAIN POSITIVE DRAINAGE
3) 5.0% RECOMMENDED MAX. FLOW LINE
4) LONGITUDINAL THROUGH LANE ROADWAY TAPERS SHOULD BE 1" VERTICAL PER 15' HORIZONTAL

NOTES:

1. TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET FOR ALL SEPARATELY POURED INITIAL LANDINGS.
2. DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS AT 36" MAXIMUM CENTER TO CENTER (EPOXY COATED). BARS TO BE ADJUSTED TO MATCH RAMP GRADE.
3. DRILL AND GROUT 2 - NO. 4 X 12" LONG REINFORCEMENT BARS (EPOXY COATED). REINFORCEMENT REQUIRED FOR ALL CONSTRUCTION JOINTS WITHIN RADIUS.
4. THIS OPTIONAL CURB LINE REINFORCEMENT DETAIL SHOULD ONLY BE USED ON BITUMINOUS ROADWAYS WHEN SPECIFIED IN THE PLAN.
5. 1/2 IN. PREFORMED JOINT FILLER MATERIAL PER MNDOT SPEC. 3702.

PLOTTED/REVISED: 10/20/2017

DISTRICT *: WSB & Associates
USER NAME: $$@USER$NAME@$$$
PATH & FILENAME: K:\03265-010\Cad\Plan\cad7104100_spn01.dgn
FILE NAME: ©FILENAME©

REVISION:

APPROVED: JANUARY 23, 2017
OPERATIONS ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

REVISED:

APPROVED: 1-23-2017

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 (SHEET 6 OF 6)

S.P. 0704-110 (TH 22 = 39)

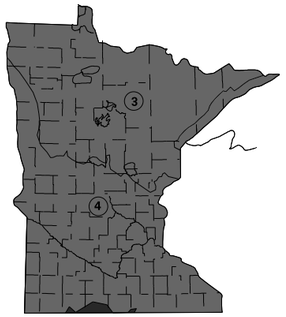
GENERAL NOTES

SEE SPECIAL PROVISIONS FOR SPECIFIC PROJECT REQUIREMENTS.	
REFER TO MnDOT SPECIFICATIONS 2571, 2572, 3861, FOR GENERAL REQUIREMENTS.	
COMPLETE PREPARATORY WORK BEFORE STARTING INITIAL PLANTING OPERATIONS.	
ACCEPT ALL PLANT STOCK IN ACCORDANCE WITH (MnDOT 3861) PRIOR TO PLANTING.	
THE CONTRACTOR WILL DEMONSTRATE COMPETENCY FOR SOIL CULTIVATION OPERATIONS IN ACCORDANCE WITH (MnDOT 2571.3D.2)	
THE CONTRACTOR WILL DEMONSTRATE COMPETENCY FOR ALL PLANT INSTALLATION OPERATIONS IN ACCORDANCE WITH (MnDOT 2571.3F1)	
RODENT PROTECTION	SEE SPECIAL PROVISIONS AND STANDARD PLANTING DETAILS (3 OF 3)
FERTILIZER	SEE SPECIAL PROVISIONS
COMPOST	MnDOT 3890 COMPOST GRADE 2 UNLESS OTHERWISE SPECIFIED.
MULCH MATERIAL	MnDOT 3882 MULCH MATERIAL TYPE 6 UNLESS OTHERWISE SPECIFIED.
MASS PLANTING BEDS	PREPARE MASS PLANTING BEDS FOR PLANTS PLACED AT 15′ OR LESS, UNLESS OTHERWISE SPECIFIED ON SHEETS. PLANT BEDS IN STAGGERED ROWS ON THE PERIMETER FIRST, THEN UNIFORMLY FILL IN WITH REMAINING PLANTS. USE TRIANGULAR SPACING, UNLESS SPECIFIED OTHERWISE. PROVIDE 5′ RADIUS CLEAR OF SHRUBS AROUND EACH DECIDUOUS TREE AND 8′ CLEAR RADIUS AROUND EACH CONIFER TREE. RADIUS WILL BE MEASURED FROM THE CENTER OF THE TREE TO THE CENTER OF THE SHRUB. NOTIFY ENGINEER OF GROSS PLANT QUANTITY SURPLUS OR DEFICIENCY IMMEDIATELY. MULCH ENTIRE MASS PLANTING BED. SEE STANDARD PLANTING DETAILS (3 OF 3)
TREE PAINTING (FROST CRACK PREVENTION)	PAINT OAK, LINDEN, LOCUST, MAPLE, CRABAPPLE AND MOUNTAIN ASH. ONLY UNDILUTED EXTERIOR WHITE LATEX PAINT IS ACCEPTABLE. PAINT TREE CIRCUMFERENCE FROM GROUND LINE TO FIRST MAJOR BRANCH.
PLANTING PLAN DIMENSIONS	STATED DIMENSIONS SUPERCEDE SCALING FROM PLAN.

WATERING GUIDELINES (MnDOT 2571.3G)

PLANT TYPE	AVERAGE GALLONS OF WATER PER APPLICATION
MACHINE TRANSPLANTED TREES	50–100
BALLED AND BURLAPPED TREES	20
BARE ROOT AND CONTAINER TREES	15
BALLED AND BURLAPPED SHRUBS	10
BARE ROOT AND CONTAINER SHRUBS	7
WOODY SEEDLINGS	4
PERENNIALS AND VINES	3

IT IS THE CONTRACTOR'S RESPONSIBILITY TO MONITOR AND MAINTAIN SOIL MOISTURE AT ADEQUATE BUT NOT EXCESSIVE LEVELS. THE AMOUNTS LISTED ABOVE ARE GUIDELINES, NOT REQUIREMENTS.

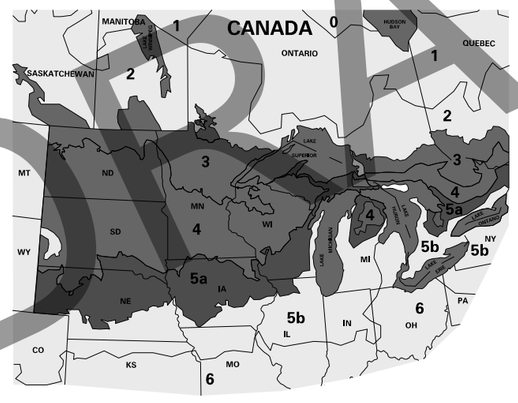


1. BARE ROOT PERENNIALS MUST BE PLACED IN THE SPRING NO LATER THAN JUNE 1ST OR FOLLOW THE FALL DECIDUOUS PLANTING DATES.
2. ACTUAL DATES MAY CHANGE DEPENDING UPON SEASONAL CONDITIONS, AS DETERMINED BY THE ENGINEER.
3. FALL PLANTING IS NOT ALLOWED FOR BARE ROOT FORM OF THE FOLLOWING SPECIES: HAWTHORN, DOGWOOD, POPLAR, HACKBERRY, LINDEN, IRONWOOD, HONEYLOCUST, BIRCH, MOUNTAIN ASH, MAPLE, WILLOW, CRABAPPLE, PLUM/CHERRY, OAKS, AND SUMAC.
4. ALL REPLACEMENT PLANTS MUST BE PLACED DURING THE MONTH OF MAY (SPRING PLANTING) AND SEPTEMBER (FALL PLANTING) DURING THE FIRST YEAR OF THE PLANT ESTABLISHMENT PERIOD.
5. MACHINE MOVED PLANTING DATES WILL BE SPECIFIED IN THE SPECIAL PROVISIONS.

PLANTING DATES BY ZONE

			3	4
SPRING	DECIDUOUS	BARE ROOT	APRIL 21 TO JUNE 1	APRIL 7 TO JUNE 1
		CONTAINER B&B	APRIL 21 TO JUNE 30	APRIL 7 TO JUNE 30
	CONIFEROUS		APRIL 21 TO JUNE 1	APRIL 7 TO MAY 17
	PERENNIALS		MAY 1 TO JUNE 30	MAY 1 TO JUNE 30
	SEEDLINGS		APRIL 21 TO JUNE 1	APRIL 7 TO JUNE 1
FALL	DECIDUOUS	BARE ROOT	OCT. 1 TO NOV. 1	OCT. 10 TO NOV. 15
		CONTAINER B&B	AUG. 25 TO OCT. 15	AUG. 25 TO NOV. 1
	CONIFEROUS		AUG. 25 TO SEPT. 15	AUG. 25 TO SEPT. 15
	PERENNIALS		AUG. 25 TO SEPT. 15	AUG. 25 TO SEPT. 15

PLANT INSTALLATION PERIOD



ACCEPTABLE ZONES		
ZONES	LEGEND	MIN. TEMP.
3		–34.4° TO –40 F
4		–28.9° TO –34.4 F
5a		–26.1° TO –28.9 F

UNACCEPTABLE ZONES	
ZONES	LEGEND
0, 1, 2, 5b and 6	

FOR ALL PLANT STOCK, DOCUMENT ACCEPTABILITY FOR HARDINESS IN THE MINNESOTA ZONE WHERE THE PROJECT SITE IS LOCATED, AS FOLLOWS:

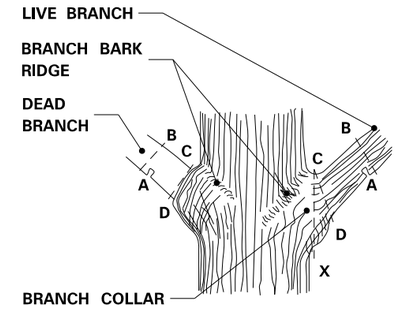
A. PLANT STOCK CONTINUOUSLY GROWN FOR AT LEAST THE LAST TWO YEARS WITHIN THE ACCEPTABLE LIMITS SHOWN.

OR

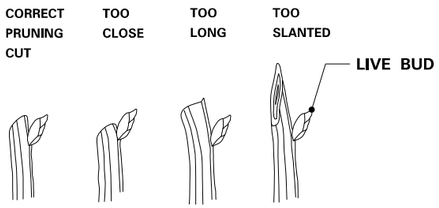
B. PLANT STOCK, GROWN OUTSIDE THE ACCEPTABLE GROWING RANGE LIMITS, HAVING SEED SOURCE OR ROOT AND GRAFT STOCK ORIGINATING FROM THE ACCEPTABLE LIMITS SHOWN.

ACCEPTABLE PLANT STOCK GROWING RANGE LIMITS

SOURCE: USDA PLANT HARDINESS ZONE MAP (MnDOT 3861.2C)



BRANCHES PRUNED AT TRUNK
(SHIGO METHOD)



BRANCHES PRUNED TO LIVE BUD

STEPS TO PRUNING WITH PRUNING SAW:
1. CUT PART WAY THROUGH THE BRANCH AT POINT A.
2. CUT COMPLETELY THROUGH BRANCH FROM POINT B TO A.
3. AT BRANCH COLLAR CUT FROM POINT C TO D.

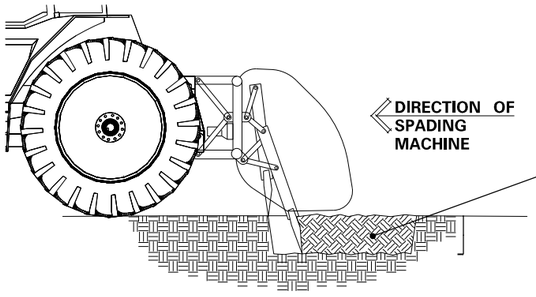
INCORRECT CUT FROM POINT C TO X (TOO CLOSE) WILL RESULT IN DISCONTINUOUS CALLUS FORMATION AFTER ONE SEASON OF GROWTH.

CORRECT CUT FROM POINT C TO D (LEAVING BRANCH COLLAR BUT NOT THE STUB FROM POINT B TO A) WILL RESULT IN CONTINUOUS DOUGHNUT SHAPED CALLUS FORMATION AFTER ONE SEASON OF GROWTH.

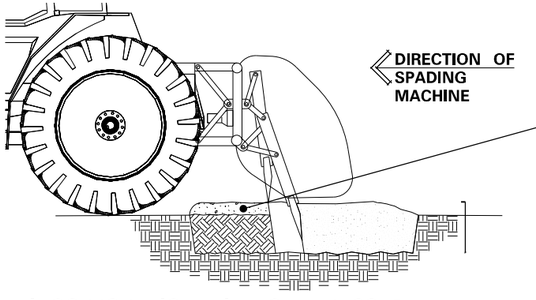
PRUNING NOTES:
1. PRUNE USING CLEAN AND SHARP SCISSOR–TYPE PRUNER OR PRUNING SAW.
2. THE BEST TIME TO PRUNE IS LATE DORMANT SEASON OR EARLY SPRING.
3. AVOID PRUNING OAKS IN APRIL, MAY, JUNE OR JULY.
4. IF PRUNING IS NECESSARY OR IF WOUNDS OCCUR TO OAK TREES IN APRIL, MAY, JUNE OR JULY, IMMEDIATELY PAINT CUT SURFACE OR WOUND WITH LATEX PAINT OR SHELLAC.

PRUNING

(MnDOT 2571.3E.1 and 2571.3K.2.a(9))



PRIMARY TILLAGE – PASS 1



INCORPORATION TILLAGE – PASS 2

PLANTING SOIL

(MnDOT 2571.3D)

REVISION:

APPROVED: DECEMBER 11, 2015

CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

REVISED:

STATE DESIGN ENGINEER

APPROVED: 12-11-2015

STANDARD PLANTING DETAILS

STANDARD PLAN 5-297.301 (SHEET 1 OF 3)

S.P. 0704-110 (TH 22 = 39) SHEET NO. 109 OF 112

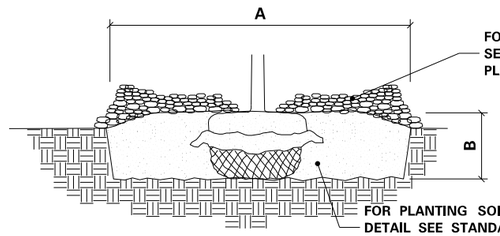
PLOTTED/REVISED: 10/20/2017

DISTRICT #: WSB & Associates
USER NAME: $$@USER$NAME@$$
PATH & FILENAME: K:\03265-01\Cad\Plan\cad704100_spn02.dgn
FILE NAME: @FILENAME@

PLANTING HOLE DIMENSIONS

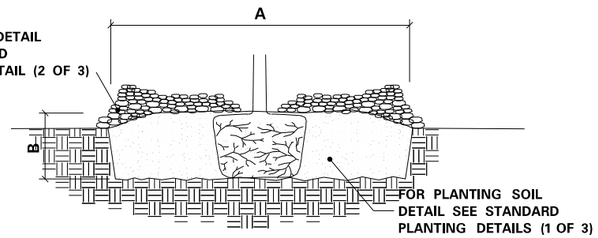
HOLE DEPTH FOR B&B AND CONTAINER PLANTS SHALL NOT EXCEED MEASUREMENT FROM ROOT FLAIR TO BOTTOM OF SOIL BALL.

PLANT TYPE	PLANT SIZE UP TO AND INCLUDING	(A) MINIMUM HOLE WIDTH	(B) APPROXIMATE HOLE DEPTH
DECIDUOUS & ORNAMENTAL TREES	3' B.R.	46"	13"
	4' B.R	46"	14"
	5' B.R.	48"	14"
	6' B.R.	54"	15"
	7' B.R	60"	16"
	8' B.R.	66"	19"
	0.75" B.R.	48'	12"
	1" B.R.	54"	14"
	1.25" B.R.	60"	14"
	1.5 B.R.	66"	15"
	1.75" B.R	72"	16"
	2" B.R.	84"	19"
	4' B.B.	42"	11"
	5' B.B.	48"	12"
	6' B.B.	52"	14"
	8' B.B.	66"	16"
	10' B.B.	66"	16"
	12' B.B.	48"	16"
	1" B.B.	54"	14"
	1.25" B.B.	56"	15"
	1.5" B.B.	61"	15"
	1.75" B.B.	66"	16"
	2" B.B.	72"	16"
	2.5" B.B.	84"	19"
	3" B.B.	96"	20"
	3.5" B.B.	114"	23"
	4" B.B.	126"	25"
DECIDUOUS SHRUBS, ROSES AND PERENNIALS	12" B.R.	24"	7"
	15" B.R.	28"	8"
	18" B.R.	30"	8"
	2' B.R.	33"	9"
	3' B.R.	42"	11"
	4' B.B.	48"	12"
	5' B.R.	54"	14"
	6' B.R.	60"	14"
PERENNIAL HOLE DEPTH AND WIDTH SHALL BE BASED UPON ON-CENTER SPACING IN A CONTINUOUS TRENCH.	18" B.B.	27"	7"
	2' B.B.	30"	8"
	3' B.B.	36"	9"
	4' B.B.	42"	11"
	5' B.B.	48"	12"
	6' B.B.	54"	14"



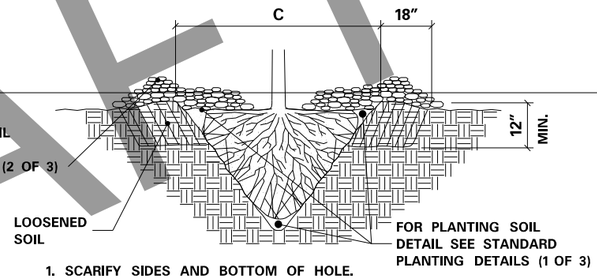
1. SCARIFY SIDES AND BOTTOM OF HOLE.
2. PROCEED WITH CORRECTIVE PRUNING.
3. SET PLANT ON UNDISTURBED NATIVE SOIL OR THOROUGHLY COMPACTED PLANTING SOIL. PLACE PLANT SO THE ROOT FLARE IS AT OR UP TO 2" ABOVE THE FINISHED GRADE WITH BURLAP AND WIRE BASKET, (IF USED), INTACT.
4. SLIT REMAINING TREATED BURLAP AT 6" INTERVALS.
5. BACKFILL TO WITHIN APPROXIMATELY 12" OF THE TOP OF THE ROOTBALL, THEN WATER PLANT.
6. REMOVE THE TOP 1/3 OF THE BASKET OR THE TOP TWO HORIZONTAL RINGS WHICHEVER IS GREATER. REMOVE ALL BURLAP AND NAILS FROM THE TOP 1/3 OF THE BALL. REMOVE ALL TWINE. REMOVE OR CORRECT STEM GIRDLING ROOTS.
7. PLUMB AND BACKFILL WITH PLANTING SOIL.
8. WATER THOROUGHLY WITHIN 2 HOURS TO SETTLE PLANTS AND FILL VOIDS.
9. BACK FILL VOIDS AND WATER A SECOND TIME.
10. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.

BALLED & BURLAPPED STOCK



1. SCARIFY SIDES AND BOTTOM OF HOLE.
2. PROCEED WITH CORRECTIVE PRUNING OF TOP AND ROOT.
3. REMOVE CONTAINER AND SCORE OUTSIDE OF SOIL MASS TO REDIRECT AND PREVENT CIRCLING FIBROUS ROOTS. REMOVE OR CORRECT STEM GIRDLING ROOTS.
4. SET PLANT ON UNDISTURBED NATIVE SOIL OR THOROUGHLY COMPACTED PLANTING SOIL. INSTALL PLANT SO THE TOP OF THE ROOT FLARE IS AT OR UP TO 2" ABOVE THE FINISHED GRADE.
5. PLUMB AND BACKFILL WITH PLANTING SOIL.
6. WATER THOROUGHLY WITHIN 2 HOURS TO SETTLE PLANT AND FILL VOIDS.
7. BACK FILL VOIDS AND WATER A SECOND TIME.
8. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.

CONTAINER STOCK



1. SCARIFY SIDES AND BOTTOM OF HOLE.
2. PROCEED WITH CORRECTIVE PRUNING.
3. SET PLANT ON NATIVE SOIL AT SAME DEPTH AS IT WAS PREVIOUSLY GROWN.
4. PLUMB AND BACKFILL WITH PLANTING SOIL.
5. AFTER PLANTING, LOOSEN THE SOIL IMMEDIATELY ADJACENT TO THE ROOT BALL TO A MINIMUM DISTANCE OF 18" AND A MINIMUM DEPTH OF 12".
6. WATER THOROUGHLY WITHIN 2 HOURS TO SETTLE PLANT AND FILL VOIDS.
7. BACK FILL VOIDS AND WATER A SECOND TIME.
8. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.

MINIMUM TREE SPADE SIZE REQUIREMENTS

(C) SPADE DIAMETER SIZE	OAK TREE, CALIPER	DECIDUOUS / ORNAMENTAL TREE,CALIPER	CONIFEROUS TREE, HEIGHT
42"	1" to 1.5"	2" to 3"	5' to 7'
60"	1.5" to 2.5"	3" to 4"	7' to 9'
78"	2.5" to 3.5"	4" to 6"	9' to 14'
85"	3.5" to 5"	6" to 8"	14' to 18'

MACHINE MOVED STOCK

PLANTING HOLE DIMENSIONS

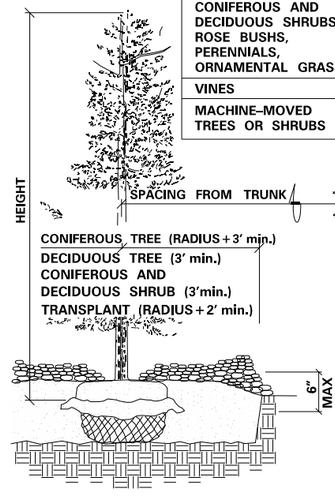
HOLE DEPTH FOR B&B AND CONTAINER PLANTS SHALL NOT EXCEED MEASUREMENT FROM ROOT FLAIR TO BOTTOM OF SOIL BALL.

PLANT TYPE	PLANT SIZE UP TO AND INCLUDING	(A) MINIMUM HOLE WIDTH	(B) APPROXIMATE HOLE DEPTH
CONIFEROUS TREES	2' B.B	36"	10"
	3' B.B	42"	11"
	4' B.B	51"	13"
	5' B.B	60"	13"
	6' B.B	66"	15"
AT LEAST 2/3 OF ALL CONIFER BRANCHES WILL CONTAIN TERMINAL BUDS	7' B.B	72"	16"
	8' B.B	81"	18"
	9' B.B	90"	20"
	10' B.B	102"	21"
	12' B.B	114"	24"
CONIFEROUS SHRUBS (UPRIGHT)	18" B.B.	24"	7"
	3' B.B.	48"	12"
CONIFEROUS SHRUBS (SPREADING)	18" SPR B.B.	30"	8"
	2' SPR B.B.	36"	9"
CONTAINER GROWN PLANTS	CELLPACKS / PLUGS	6"	2.5"
	2.25" CONT.	7"	3"
	3.5" CONT.	10"	3"
	4" CONT.	11"	4"
	4.5" CONT.	13"	4"
	6"/1 QT CONT.	15"	5.5"
	1# CONT.	18"	6"
	2# CONT.	23"	7.5"
	3# CONT.	29"	8.5"
	5# CONT.	30"	11"
	7# CONT.	37"	11"
	15# CONT.	44"	14"
	10# CONT.	45"	15"
	20# CONT.	60"	16"
	25# CONT.	72"	17"
SEEDLINGS	6" SEEDLING	15"	14"
	9" SEEDLING	18"	14"
	12" SEEDLING	23"	16"
	18" SEEDLING	30"	16"
	2' SEEDLING	36"	18"
VINES	1 YR. MED B.R.	15"	11"
	1 YR. NO. 1 B.R.	17"	14"
	2 YR. MED. B.R.	33"	12"
	2 YR. NO. 1 B.R.	42"	15"

MULCH AREA CALCULATOR

TYPE OF PLANT	SQ. FT. PER PLANT
CONIFEROUS TREES	$\left[\left(\frac{3/5 \times \text{HEIGHT}}{2}\right)+3\right]^2 \times \pi$
DECIDUOUS AND ORNAMENTAL TREES	$3^2 \times \pi$
CONIFEROUS AND DECIDUOUS SHRUBS, ROSE BUSHS, PERENNIALS, ORNAMENTAL GRASS	SPACING x SPACING
VINES	SPACING x 2
MACHINE-MOVED TREES OR SHRUBS	$\left[\left(\frac{\text{SPADE DIAMETER}}{2}\right)+1\right]^2 \times \pi$

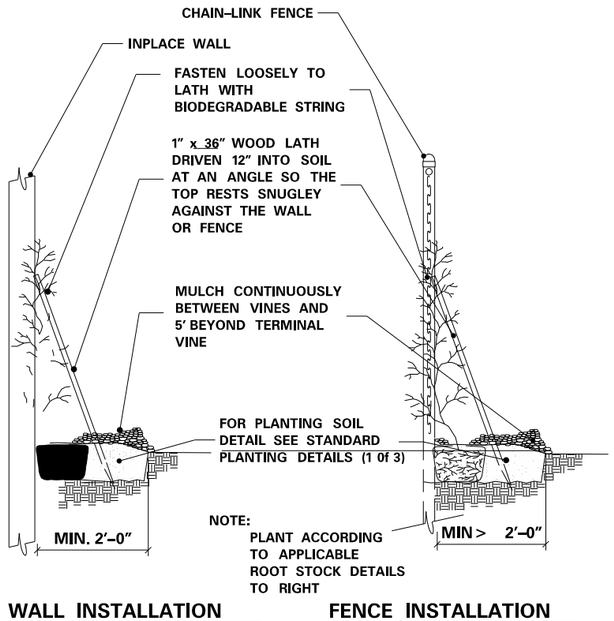
$\pi = 3.1416$



1. PULL MULCH BACK NO LESS THAN 3" AND NO MORE THAN 6" FROM TREES AND SHRUBS AT THE TRUNK OR MAIN STEM.
2. SUBSIDING OR DETERIORATING MULCH IS ACCEPTABLE THROUGHOUT THE ESTABLISHED PERIOD IF THE MULCH DEPTH IS MAINTAINED AT A MINIMUM 3" DEPTH.
3. ADD MULCH WHEN BELOW THE 3" MINIMUM DEPTH; DO NOT EXCEED THE 6" MAXIMUM DEPTH.
4. MULCH CONTAMINATED WITH SOIL MUST BE REMOVED AND REPLACED.

MULCH

(MnDOT 2571.3H)



WALL INSTALLATION

FENCE INSTALLATION

INSTALLATION OF VINES

1. SOAK ROOTS IN WATER FOR AT LEAST ONE HOUR BUT NOT MORE THAN 24 HOURS PRIOR TO PLANTING.
2. SCARIFY SIDES AND BOTTOM OF HOLE.
3. PROCEED WITH CORRECTIVE PRUNING OF THE TOP AND ROOTS.
4. TRANSFER PLANT DIRECTLY FROM WATER TO HOLE. SET PLANT SO THE ROOT FLARE IS AT THE FINISHED SOIL ELEVATION. SPREAD ROOTS OUT EVENLY. PLUMB AND IMMEDIATELY BACKFILL WITH PLANTING SOIL.
5. WATER THOROUGHLY WITHIN 2 HOURS TO SETTLE PLANTS AND FILL VOIDS.
6. BACK FILL VOIDS AND WATER A SECOND TIME.
7. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.

BARE ROOT STOCK

INSTALLATION OF PLANTS

(MnDOT 2571.3F)

REVISION:

APPROVED: DECEMBER 11, 2015

CHIEF ENVIRONMENTAL OFFICER

REVISED:

APPROVED: 12-11-2015

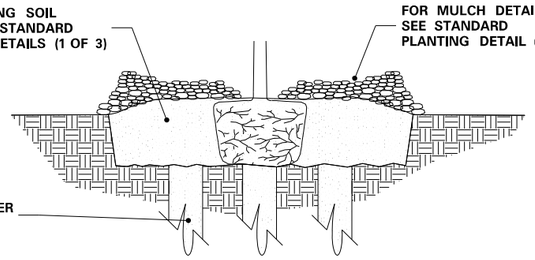
STATE DESIGN ENGINEER

STANDARD PLANTING DETAILS

STANDARD PLAN 5-297.301 (SHEET 2 OF 3)

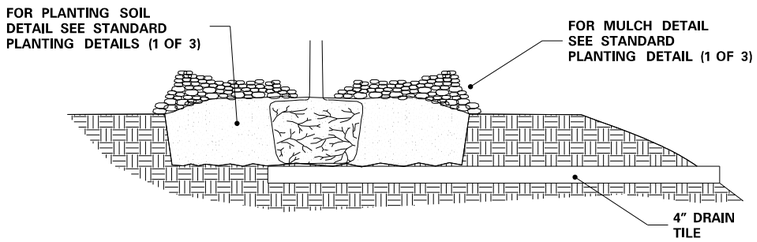
S.P. 0704-110 (TH 22 = 39)

SHEET NO. 110 OF 112



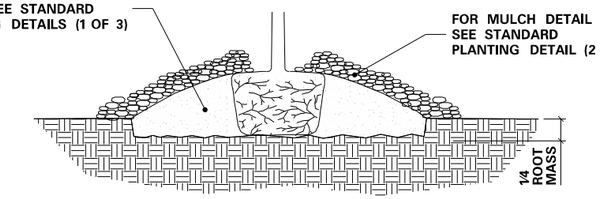
1. EXCAVATE HOLE OR BED TO ALLOW PLACING THE TOP OF ROOT MASS 1"–3" HIGHER THAN FINISHED GRADE.
2. AUGER 8" DIAMETER HOLES ENTIRELY THROUGH IMPERVIOUS OR POORLY DRAINED HARD PAN SOIL LAYER TO ADEQUATELY DRAIN SUBSOIL.
3. TEST FOR POSITIVE DRAINAGE. RE–AUGER AN ADDITIONAL 8" IF NECESSARY FOR POSITIVE DRAINAGE.
4. THOROUGHLY BACKFILL AUGER HOLES WITH A UNIFORM INCORPORATED MIXTURE OF 50% SAND AND 50% INPLACE SOIL.
5. COMPLETE PLANTING ACCORDING TO ROOT TYPE. SEE STANDARD PLANTING DETAILS (2 OF 3).

GRANULAR FILTER



1. EXCAVATE HOLE OR BED TO ALLOW PLACING THE TOP OF THE ROOT MASS 1"–3" HIGHER THAN FINISHED GRADE.
2. INSTALL 4" MINIMUM DIAMETER DRAIN TILE DAYLIGHTING AT A LOWER GRADE.
3. COMPLETE PLANTING ACCORDING TO ROOT TYPE. SEE STANDARD PLANTING DETAILS (2 OF 3).

TILE DRAINAGE



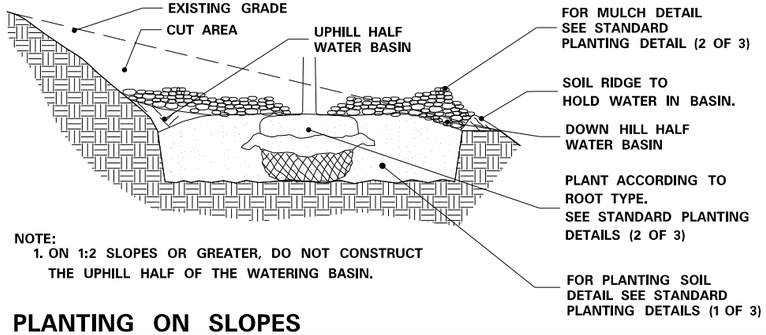
1. EXCAVATE HOLE OR BED 1/4 THE DEPTH OF THE ROOT MASS.
2. SET ROOT MASS IN HOLE.
3. CONSTRUCT BERM WITH PLANTING SOIL. EXTEND THE BERM BASE TO A WIDTH OF 3 TIMES THE BERM HEIGHT.
4. COMPLETE PLANTING ACCORDING ROOT TYPE. SEE STANDARD PLANTING DETAILS (2 OF 3).

MINI–BERM

NOTE:
1. THE NEED FOR USING PLANTING DETAILS FOR POORLY DRAINED SOILS AND WHICH TYPE TO USE ARE DETERMINED BY THE CONTRACTOR, SUBJECT TO ENGINEER APPROVAL.

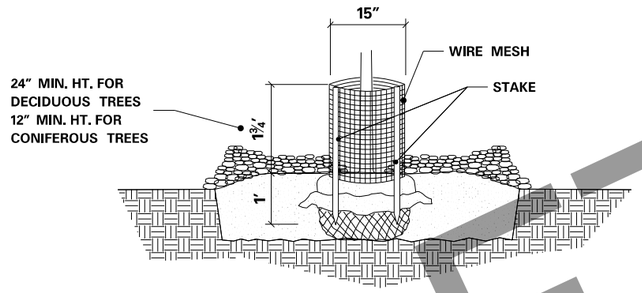
PLANTING DETAIL FOR POORLY DRAINED SOILS

(MnDOT 2571.3D.2(8))



NOTE:
1. ON 1:2 SLOPES OR GREATER, DO NOT CONSTRUCT THE UPHILL HALF OF THE WATERING BASIN.

PLANTING ON SLOPES

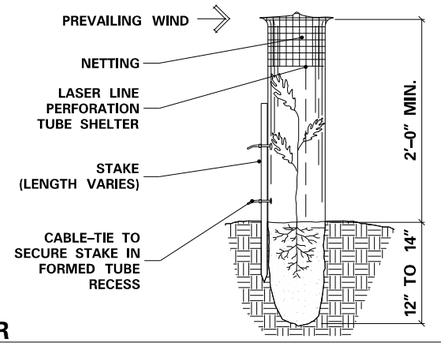


1. FORM A DOUBLE–LAYERED CYLINDER USING 0.25" GRID GALVANIZED WELDED WIRE MESH (HARDWARE CLOTH). OVERLAP THE CUT END 2".
2. DRIVE TWO 1" x 1" OPPOSING HEARTWOOD WHITE OAK STAKES INTO THE GROUND, 7" FROM THE CENTER OF THE TREE STEM.
3. SECURE THE MESH CYLINDER TO THE OUTSIDE OF THE STAKES USING EITHER, SCREWS AND WASHERS OR CABLE–TIES ALONG THE OVERLAP. SPACE APPROXIMATELY 4" ON CENTER ALONG THE OVERLAP.
   a. SCREWS SHALL BE ROUND HEAD GALVANIZED 1/8" DIA. x 3/4" LONG WITH WASHERS.
   OR
   b. CABLE–TIES SHALL BE NYLON, AT LEAST 8" LONG AND BETWEEN 75LB TO 120LB TENSILE STRENGTH.
4. EMBED THE LOWER EDGE OF THE MESH CYLINDER 1" BELOW THE SOIL SURFACE WITHOUT DISTURBING THE TREE ROOTS.
5. CUT EDGES WILL NOT BE PERMITTED AT THE TOP OF THE CYLINDER. STAKE WILL BE FLUSH WITH THE TOP OF THE CYLINDER.
6. MULCH WITHIN THE CYLINDER SHALL NOT EXCEED 3" DEPTH AND SHALL BE PULLED BACK FROM THE TRUNK AS SPECIFIED IN MULCH PLACEMENT DETAIL.
7. THE BOTTOM WHORL OF PINE AND LARCH BRANCHES MAY HAVE TO BE REMOVED TO PERMIT INSTALLATION OF 12" MIN. HEIGHT RODENT GUARDS.
8. INSTALL ON ALL DECIDUOUS, PINE AND LARCH TREES, DO NOT PLACE ON SPRUCE TREES.

RODENT PROTECTION

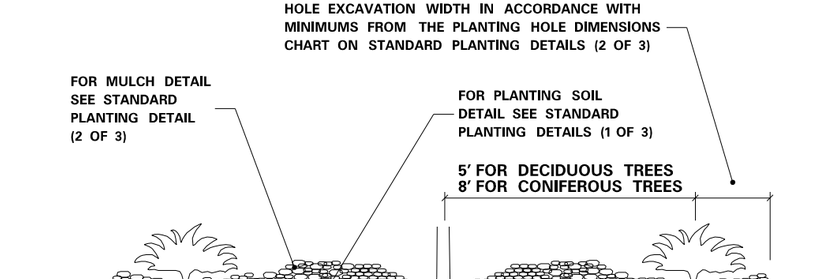
(MnDOT 2571.3I.2)

1. USE SEAMLESS, EXTRUDED, TWIN–WALL, RIGID AND SEMI TRANSLUCENT POLYPROPYLENE TUBES WITH A LASER LINE PERFORATION AND AN OUTWARD–FLARED TOP RIM.
2. SECURE SHELTER WITH NYLON CABLE–TIES ATTACHED TO A 1" x 1" WHITE OAK STAKE TO PREVENT DISLODGING OR TWISTING.
3. EMBED THE BOTTOM OF THE TUBE A MINIMUM OF 1" BELOW THE SOIL SURFACE WITHOUT DISTURBING THE TREE ROOTS.
4. PLACE A PLASTIC PHOTODEGRADABLE NETTING COVER AND SLEEVE OVER THE TOP OF THE TUBE. PULL NETTING DOWN AS SHOWN.

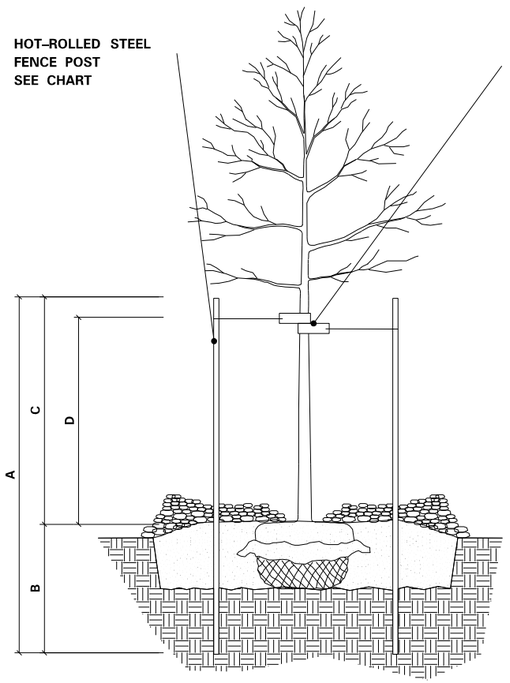


SEEDLING TREE SHELTER

(MnDOT 2571.3I.4)



PLANT SPACING IN MASS BEDS



1. STEEL POSTS TO BE NOTCHED OR DRILLED TO RETAIN GUY WIRES. PLACE OUTSIDE OF ROOT BALL. DRIVE PLUMB REGARDLESS OF GROUND SLOPE.
2. REQUESTS TO SUBSTITUTE RUBBER HOSE AND WIRE GUYING SYSTEMS WILL NOT BE APPROVED.
3. TREE STAKING IS NOT REQUIRED UNLESS SPECIFIED OR NECESSARY TO MAINTAIN TREES IN A PLUMB CONDITION WHERE VANDALISM, SOIL, OR WIND CONDITIONS ARE A PROBLEM, OR AS DIRECTED BY THE ENGINEER.
4. REMOVE WITHIN ONE YEAR.

STEEL POST SIZING

CALIPER	STEEL POST TYPE	A	B	C	D
LESS THAN 4 INCHES	HOT–ROLLED STEEL FENCE POST (MnDOT 3403) OR APPROVED EQUAL.	7'–0"	3'–0" MIN.	4'–0"	3'–0"
GREATER THAN 4 INCHES	10', 2.2 LB. FLANGED CHANNEL SIGN POST (MnDOT 3401) OR APPROVED EQUAL.	10'–0"	4'–0" MIN.	6'–0"	5'–0"

STAKING AND GUYING

(MnDOT 2571.3I.1)

REVISION:

APPROVED: DECEMBER 11, 2015
CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

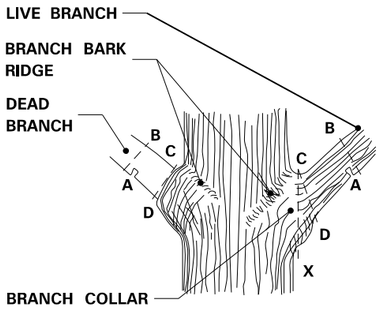
REVISED:

APPROVED: 12-11-2015

STANDARD PLANTING DETAILS

STANDARD PLAN 5-297.301 (SHEET 3 OF 3)

S.P. 0704-110 (TH 22 = 39) SHEET NO. 111 OF 112



BRANCHES PRUNED AT TRUNK

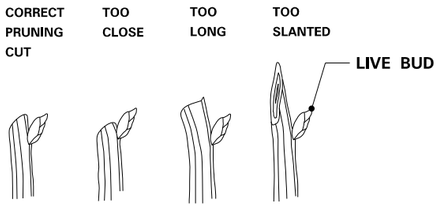
(SHIGO METHOD)

STEPS TO PRUNING WITH PRUNING SAW:

1. CUT PART WAY THROUGH THE BRANCH AT POINT A.
2. CUT COMPLETELY THROUGH BRANCH FROM POINT B TO A.
3. AT BRANCH COLLAR CUT FROM POINT C TO D.

INCORRECT CUT FROM POINT C TO X (TOO CLOSE) WILL RESULT IN DISCONTINUOUS CALLUS FORMATION AFTER ONE SEASON OF GROWTH.

CORRECT CUT FROM POINT C TO D (LEAVING BRANCH COLLAR BUT NOT THE STUB FROM POINT B TO A) WILL RESULT IN CONTINUOUS DOUGHNUT SHAPED CALLUS FORMATION AFTER ONE SEASON OF GROWTH.



BRANCHES PRUNED TO LIVE BUD

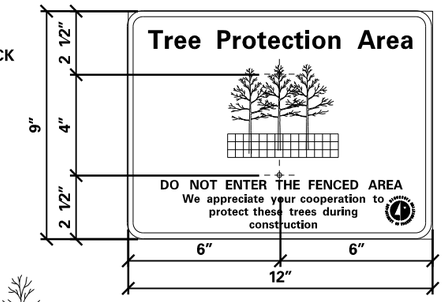
PRUNING NOTES:

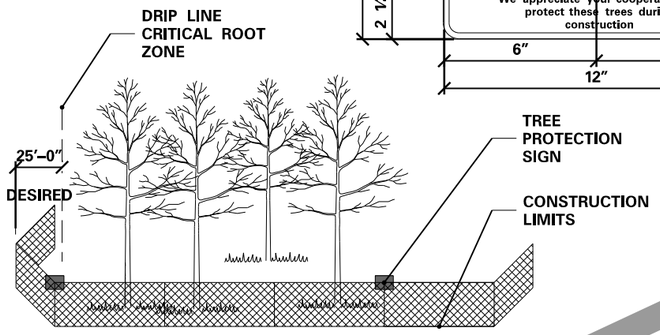
1. PRUNE USING CLEAN AND SHARP SCISSOR-TYPE PRUNER OR PRUNING SAW.
2. THE BEST TIME TO PRUNE IS LATE DORMANT SEASON OR EARLY SPRING.
3. AVOID PRUNING OAKS IN APRIL, MAY, JUNE OR JULY.
4. IF PRUNING IS NECESSARY OR IF WOUNDS OCCUR TO OAK TREES IN APRIL, MAY, JUNE OR JULY, IMMEDIATELY PAINT CUT SURFACE OR WOUND WITH LATEX PAINT OR SHELLAC.

PRUNING

(MnDOT 2571.3E.1 and 2571.3K.2.a(9))

1. FABRICATE 12" X 9" X 3⁄8" SIGN WITH 0.75" RADIUS CORNERS.
2. SIGN SHALL BE WHITE WITH BLACK LETTERING.
3. ATTACH SIGN TO POST USING 1" LENGTH WOOD SCREWS.

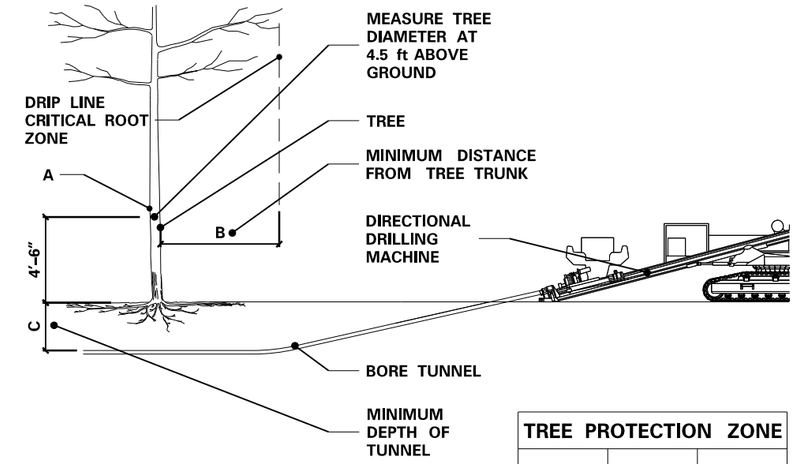




1. FURNISH AND INSTALL TEMPORARY FENCE AT THE TREE'S DRIPLINE OR CONSTRUCTION LIMITS AS SPECIFIED, PRIOR TO ANY CONSTRUCTION.
2. WHEN POSSIBLE PLACE FENCE 25 FEET BEYOND THE DRIP LINE.
3. PLACE TREE PROTECTION SIGNS ALONG FENCE AT 50' INTERVALS.

TEMPORARY FENCE

(MnDOT 2572.3A.1)



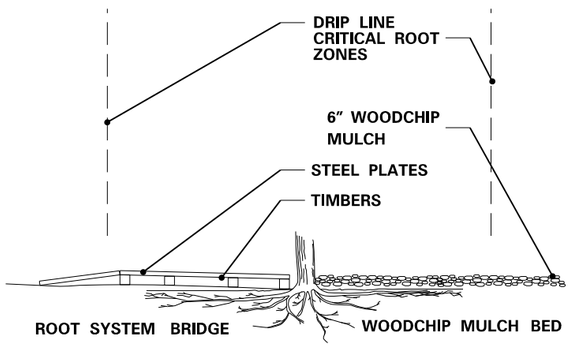
NOTE:

1. (A) IS THE DIAMETER OF TREES MEASURED 4'–6" FEET ABOVE THE GROUND AND IS TERMED THE "DIAMETER AT BREAST HEIGHT," (DBH).
2. USING A TREE DIAMETER TAPE, WRAP THE TAPE AROUND THE GIRTH OF THE TREE, AT THE DBH, BEING CAREFUL NOT TO TWIST THE TAPE.

TREE PROTECTION ZONE		
A	B	C
< 2"	2'	2'
2–4"	4'	2.5'
> 4–9"	6'	2.5'
> 9–14"	10'	3'
> 14–19"	12'	3.25'
> 19"	15'	4'

UTILITY CONSTRUCTION

(MnDOT 2572.3A.5)



IF CONSTRUCTION VEHICLES MUST PASS OVER ROOT ZONES, THE CONTRACTOR MUST EITHER:

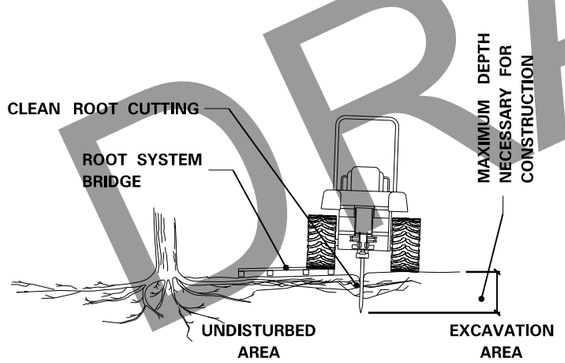
1. CONSTRUCT ROOT SYSTEM BRIDGES WITH STEEL PLATE SUPPORTED ON WOOD TIMBERS PLACED RADIALLY TO THE TREE TRUNK.

OR

2. PLACE A 6 INCH LAYER OF WOODCHIP MULCH OVER A TYPE III GEOTEXTILE (MnDOT 3733).

OTHER VEGETATION PROTECTION MEASURES

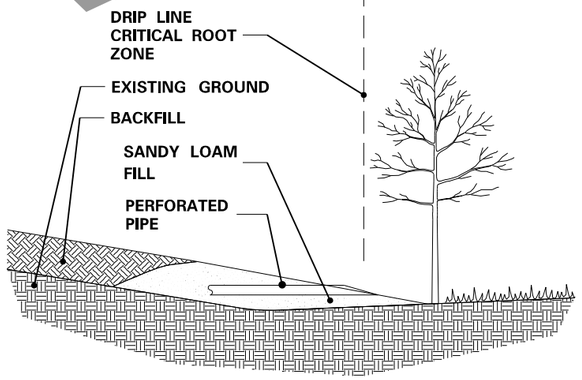
(MnDOT 2572.3A.12)



1. WHEN DESIGNATED IN THE PLAN OR DIRECTED BY THE ENGINEER, PRIOR TO EXCAVATION, ALL TREE ROOTS WILL BE CLEANLY CUT BY A VIBRATORY PLOW OR OTHER APPROVED ROOT CUTTER.
2. THE TREE ROOTS WILL BE CUT CLEANLY TO THE MINIMUM DEPTH NECESSARY FOR CONSTRUCTION.
3. IMMEDIATELY, AND CLEANLY CUT DAMAGED AND EXPOSED ROOTS.
4. ROOT ENDS EXPOSED BY EXCAVATION ACTIVITIES SHALL BE IMMEDIATELY COVERED WITH A 6" LAYER OF ADJACENT SOIL.
5. EXPOSED CUT OAK ROOTS SHALL BE IMMEDIATELY (WITHIN 5 MINUTES) TREATED WITH A WOUND DRESSING MATERIAL CONSISTING OF LATEX PAINT OR SHELLAC.

CLEAN ROOT CUTTING

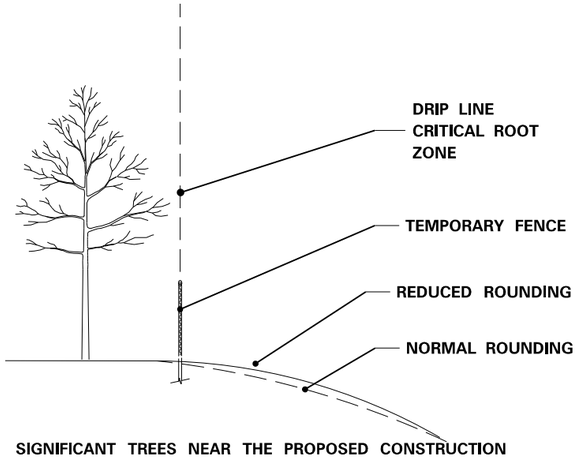
(MnDOT 2572.3A.2)



1. ANY FILL REQUIRED WITHIN THE DRIP LINE OF TREES, IS UNCOMPACTED ROOTING TOPSOIL BORROW.
2. EXCESSIVE FILL MAY REQUIRE PLACING PERFORATED PIPE WITH AT LEAST ONE DAYLIGHTED END OPENING AS AN AERATION SYSTEM.

ROOTING TOPSOIL BORROW

(MnDOT 2572.3A.4)



SIGNIFICANT TREES NEAR THE PROPOSED CONSTRUCTION LIMITS WILL BE IDENTIFIED IN THE PLAN OR BY THE ENGINEER AND WILL BE PRESERVED BY THE CONTRACTOR.

1. PLACE THE TEMPORARY FENCE.
2. REDUCE SLOPE ROUNDING WHERE ROOT ZONES ARE DISTURBED BY NORMAL SLOPE ROUNDING.
3. VARY BACKSLOPE STEEPNESS TO AVOID TREE LOSS OR UNNECESSARY ROOT DAMAGE.

SLOPE ROUNDING

PLOTTED/REVISED: 10/20/2017

DISTRICT *: WSB & Associates
USER NAME: $$@USER$NAME@$$
PATH & FILENAME: K:\03265-01\Cad\Plan\cad704100_spn02.dgn
FILE NAME: @FILENAME@

REVISION:

APPROVED: DECEMBER 11, 2015

CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

REVISED:

APPROVED: 12-11-2015

PROTECTION AND RESTORATION OF VEGETATION

STANDARD PLAN 5-297.302 (SHEET 1 OF 1)

S.P. 0704-110 (TH 22 = 39)

SHEET NO. 112 OF 112