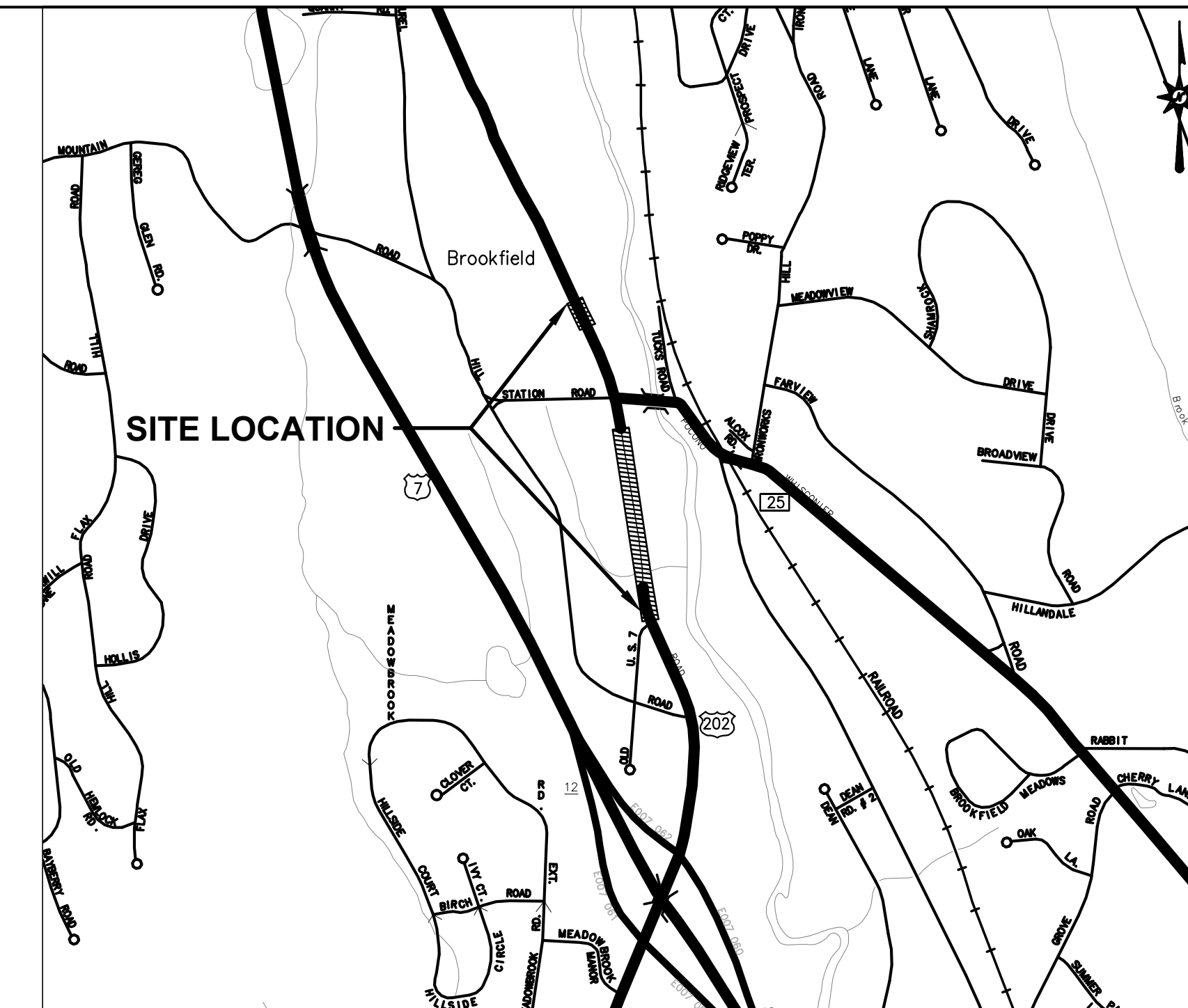


LOCATION MAP
N.T.S.

CONSTRUCTION PLANS FOR BROOKFIELD STREETScape PHASE II TOWN OF BROOKFIELD, CT



VICINITY MAP
SCALE: 1"=1000'

SEMI-FINAL DESIGN PLANS

JULY 2018

PREPARED FOR:
TOWN OF BROOKFIELD
ROUTE 202, FEDERAL ROAD
BROOKFIELD, CONNECTICUT, 06804

GENERAL NOTES:

CONNECTICUT DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION, FORM 817, DATED 2016; SUPPLEMENTAL SPECIFICATIONS, DATED JULY 2017; AND SPECIAL PROVISIONS.

ALL HORIZONTAL GEOMETRY ON THIS PROJECT IS BASED ON HORIZONTAL DATUM NAD83.

ALL ELEVATIONS ON THIS PROJECT BASED ON NAVD88.

DESIGN STANDARDS:

TOWN OF BROOKFIELD DESIGN STANDARDS

CONNECTICUT DEPARTMENT OF TRANSPORTATION HIGHWAY DESIGN MANUAL, 2003 EDITION.

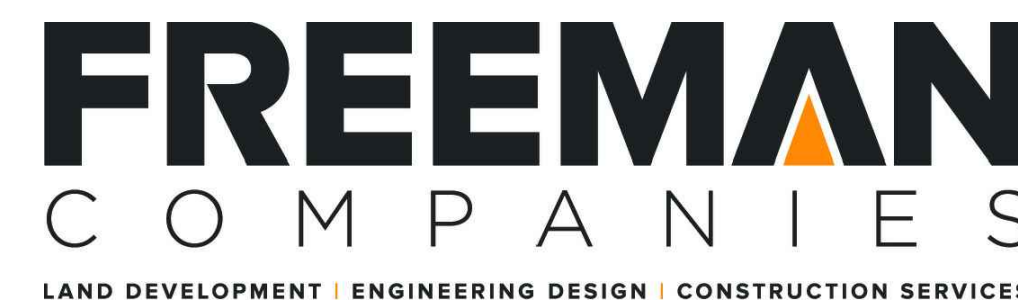
A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS 2011 EDITION, PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO).

CONNECTICUT DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL, 2003 EDITION.

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PRO-1-2	PROFILE PLAN
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SPM-1-2	SIGNAGE & PAVEMENT MARKING PLAN
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HW-0507_08	CATCH BASIN FRAMES AND GRATES
HW-0507_10	MANHOLE - FRAME AND COVER
HW-0811_01	CONCRETE CURBING
HW-0813_02	STONE CURBING
HW-0815_01	BITUMINOUS CONCRETE CURBING
HW-0921_01	DRIVEWAY RAMPS AND SIDEWALKS
HW-0949_01	PLANTING DETAILS FOR TREES
HW-0949_02	PLANTING DETAILS FOR SHRUBS
TR-1000_01	GENERAL CLAUSES (TEST PROCEDURES)
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TR-1002_01	TRAFFIC CONTROL FOUNDATIONS
TR-1010_01	CONCRETE HANDHOLE
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TR-1210_08	PAVEMENT MARKINGS FOR NON FREEWAYS
TR-1210_09	PAVEMENT MARKINGS FOR BICYCLE LANES, PARKING STALLS & RAILROAD GRADE CROSSINGS

PREPARED BY:



36 JOHN STREET
HARTFORD, CONNECTICUT 06106
TEL: (860) 251-9550
FAX: (860) 986 -7161

TOWN OF BROOKFIELD, CONNECTICUT

APPROVED BY:

STEVE DUNN
FIRST SELECTMAN

DATE

DESIGN BY: **FREEMAN COMPANIES**
LAND DEVELOPMENT | ENGINEERING DESIGN | CONSTRUCTION SERVICES

YUYANG LIN, P.E., PTOE.
CT. PROFESSIONAL ENGINEER REG. NO. 23422

DATE: 07/12/2018

DATES

ISSUE DATE: JULY 12, 2018
REVISION:

SURVEY NOTES

THIS SURVEY HAS BEEN PREPARED BY FREEMAN COMPANIES, LLC. IN ACCORDANCE WITH THE REGULATIONS OF CONNECTICUT STATE AGENCIES, SECTIONS 20-300b-1 THRU 20-300b-20 AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 26, 1996.

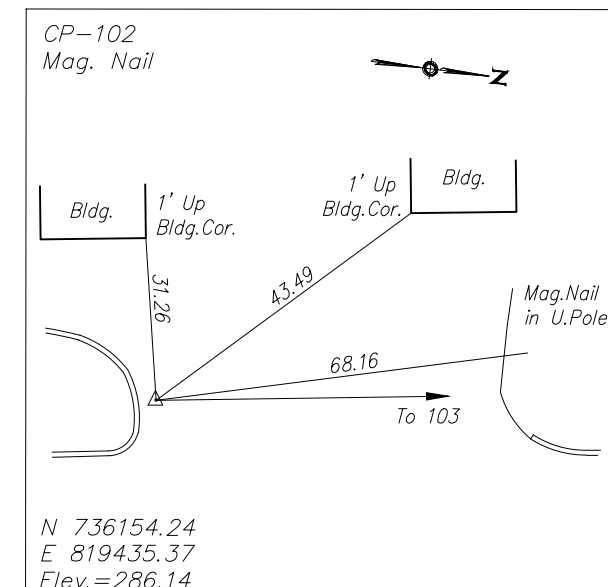
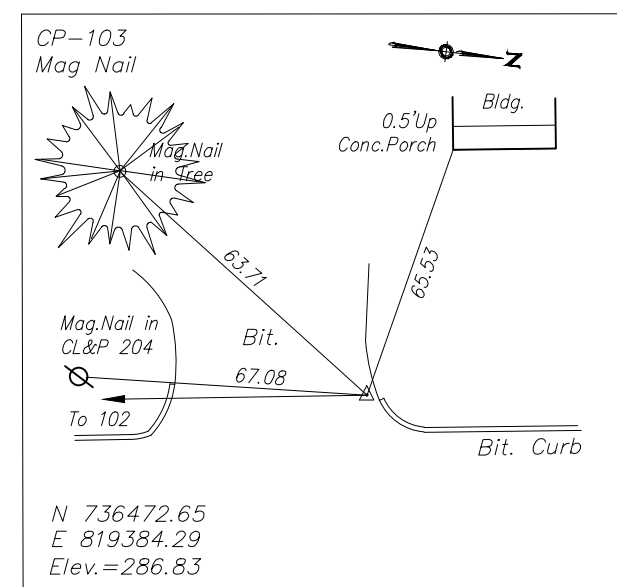
THE TYPE OF SURVEY PERFORMED IS A GENERAL LOCATION AND TOPOGRAPHIC SURVEY AND IS INTENDED TO DEPICT THE EXISTING CONDITIONS OF A PORTION OF FEDERAL ROAD.

THIS SURVEY CONFORMS TO HORIZONTAL ACCURACY CLASS A-2 IN REGARDS TO EXISTING CONDITIONS AND ROUTE 202 RIGHT OF WAY LINES, AND TOPOGRAPHIC ACCURACY T-2 IN REGARDS TO CONTOUR AND SPOT GRADE DATA. PROPERTY LINES CONFORM TO HORIZONTAL ACCURACY CLASS D.

NORTH ARROW AND COORDINATE VALUES REFER TO NAD83 AND ARE BASED UPON MAP REFERENCE "A".

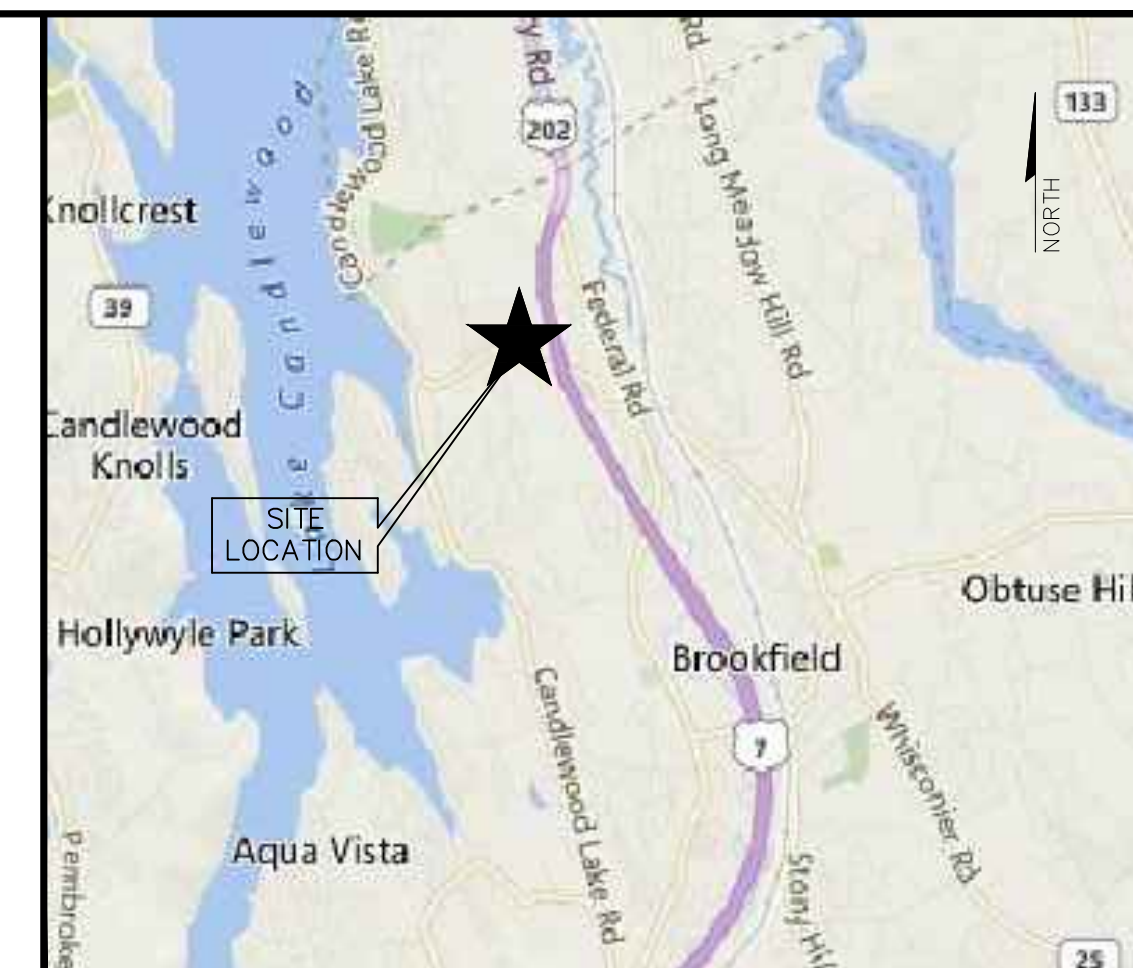
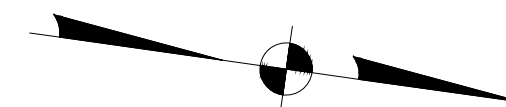
ELEVATIONS REFER TO NAVD 88 AND ARE BASED UPON MAP REFERENCE "A".

THE UNDERGROUND FEATURES DEPICTED HEREON ARE THE RESULT OF COMPILATION OF EXISTING MAPPING AND LOCATION OF UTILITY PAINT. ACTUAL LOCATION OF UNDERGROUND UTILITIES IS TO BE CONSIDERED TO BE APPROXIMATE AT BEST. OTHER UTILITIES MAY EXIST WHICH FREEMAN COMPANIES ARE UNAWARE OF. VERIFY INFORMATION IN THE FIELD, BEFORE ANY DIGGING OR SITE EXCAVATION CALL "CALL BEFORE YOU DIG" 1-800-922-4455.



LEGEND

- X --- X --- PROPERTY LINE
- S --- S --- WATER LINE
- G --- G --- SANITARY LINE
- G --- G --- GAS LINE
- OH --- OH --- OVERHEAD WIRES
- M.S.L. METAL STREET LIGHT
- METAL POST
- Hyd. UTILITY POLE
- Fire Hydrant
- Sign
- Water Valve
- Catch Basin
- Drainage Manhole
- Telephone Manhole
- Sanitary Manhole
- E.O.P. EDGE OF PAVEMENT
- Mailbox
- M. Well Monitoring Well
- Deciduous Tree



LOCATION MAP

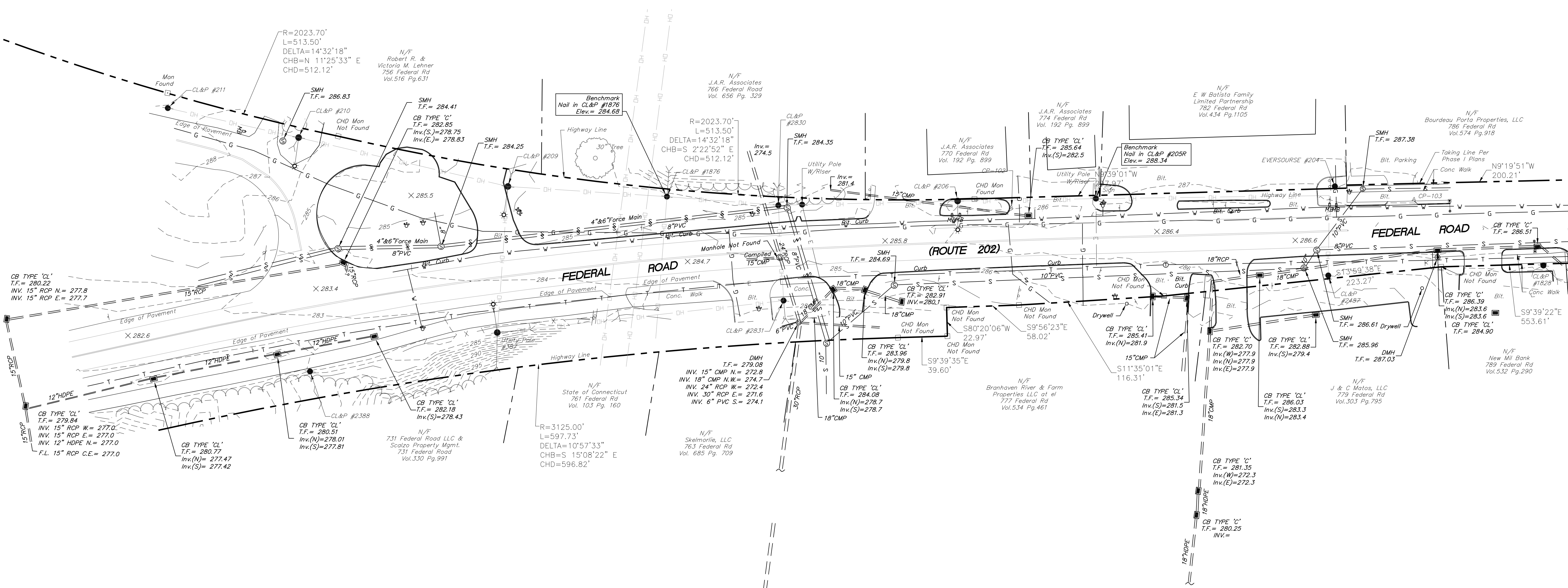
NOT TO SCALE

MAP REFERENCES

A. "TOPOGRAPHIC SURVEY, FEDERAL ROAD (ROUTE 202) & WHISCONIER ROAD (ROUTE 25), BROOKFIELD, CONNECTICUT" SCALE: 1"=20'; DATE: DECEMBER, 2013; AND PREPARED BY URS CORPORATION.

B. "STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP, TOWN OF BROOKFIELD, DANBURY + NEW MILFORD ROAD NORTHERLY 1,320 FEET NORTH OF POCONO ROAD" SCALE: 1"=40'; STAMPED PRELIMINARY, SHEET 3A OF 4, AND PREPARED BY CTDOT.

C. "CONNECTICUT STATE HIGHWAY DEPARTMENT RIGHT OF WAY MAP, TOWN OF BROOKFIELD, NEW MILFORD - DANBURY ROAD FROM THE BROOKFIELD CENTER ROAD NORTHERLY ABOUT 7,300 FEET, US ROUTE 7" SCALE: 1"=40'; DATE: JUNE 30, 1931; SHEET 3 OF 3; PREPARED BY CTDOT.



GRAPHIC SCALE



(IN FEET)
1 inch = 40 ft.

NO.	DATE	DESCRIPTION	REVISIONS
1.	4/19/2018	CTDOT Comments	



FREEMAN COMPANIES, LLC
36 JOHN STREET
MIDDLETOWN, CT 06456
WWW.FREEMANCS.COM
(860)211-9950
FAX:(860)966-7145

BROOKFIELD STREETScape PROJECT
PREPARED FOR
TOWN OF BROOKFIELD
RTE. 202 FEDERAL RD.
BROOKFIELD, CONNECTICUT

SURVEYED: L.K./N.C.
DRAFTED: M.G.
APPROVED: M.G.
SCALE: 1" = 40'
PROJECT NO.: 2017-0605
DATE: 6/13/2018
CAD FILE: 2017-0605-SV01

TITLE:
TOPOGRAPHIC SURVEY

SHEET NUMBER: 1 of 2

EX-1

TO MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

MICHAEL J. GARON L.S. #70366

NO CERTIFICATION IS EXPRESSED OR IMPLIED UNLESS THIS MAP BEARS THE ORIGINAL SIGNATURE AND EMBOSSED SEAL OF THE ABOVE NAMED LAND SURVEYOR.

SURVEY NOTES

THIS SURVEY HAS BEEN PREPARED BY FREEMAN COMPANIES, LLC. IN ACCORDANCE WITH THE REGULATIONS OF CONNECTICUT STATE AGENCIES, SECTIONS 20-300b-1 THRU 20-300b-20 AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 26, 1996.

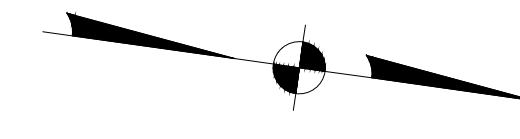
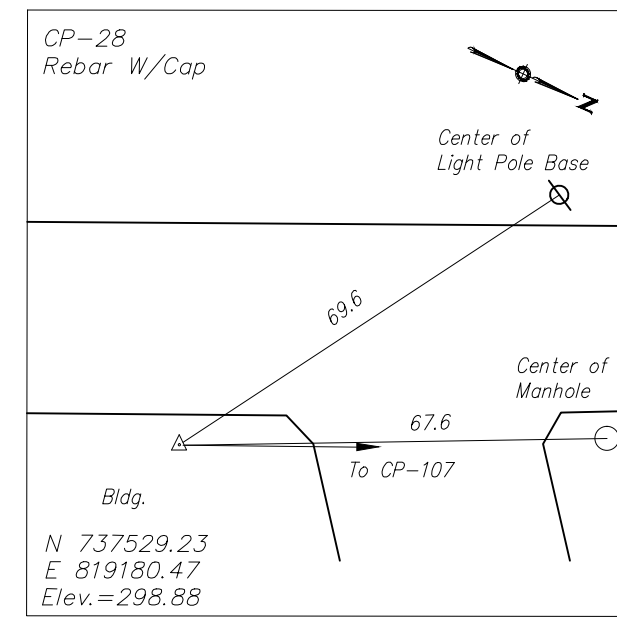
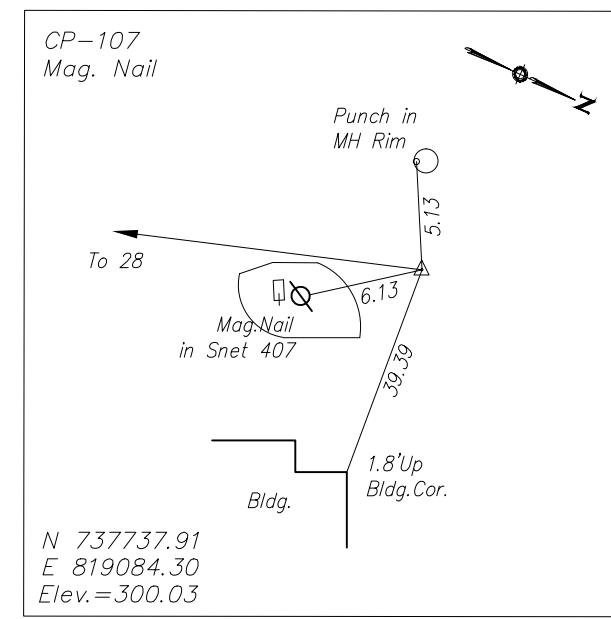
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LOCATION MAP

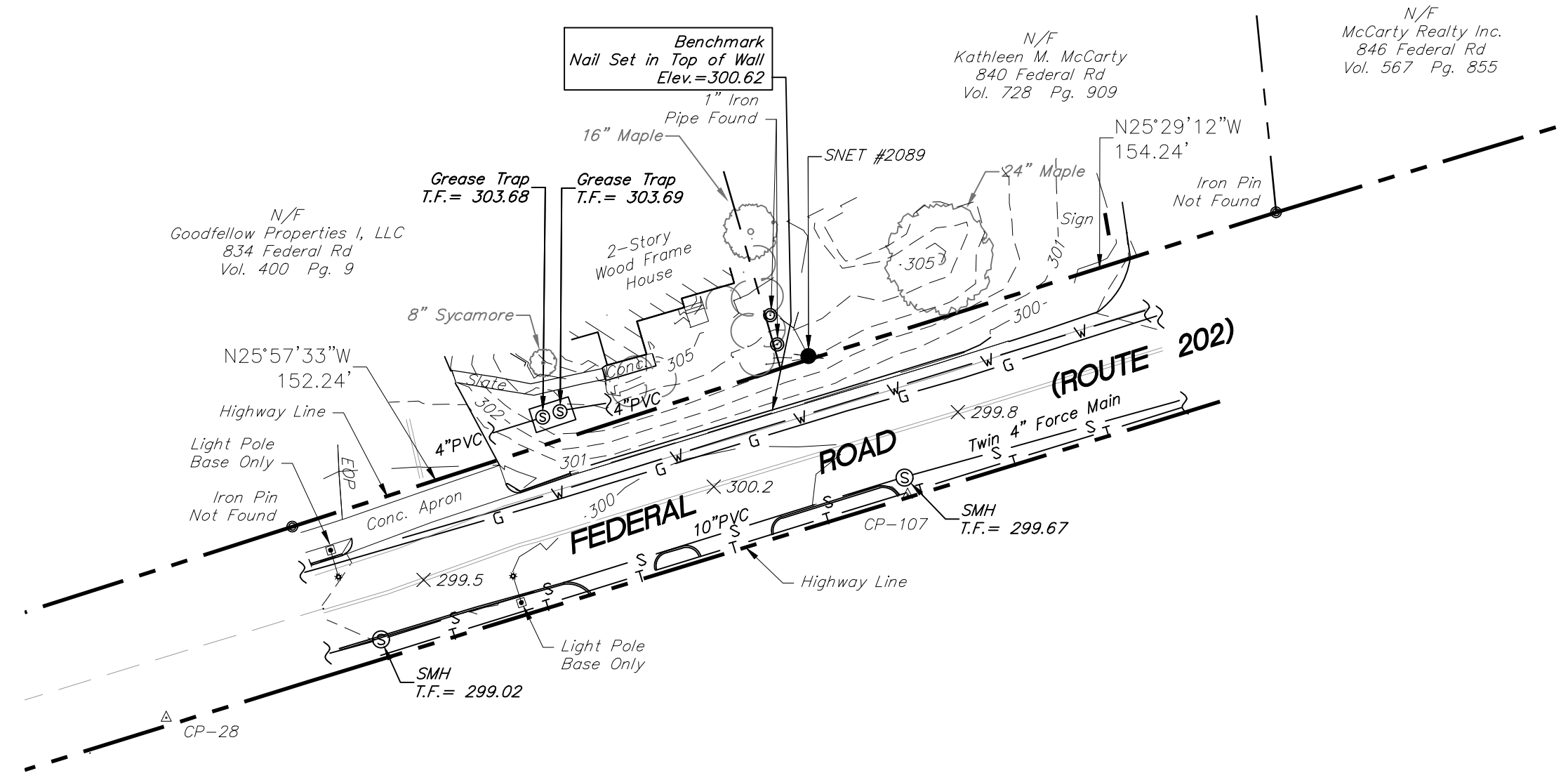
NOT TO SCALE

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LEGEND

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- S --- S --- WATER LINE
- G --- G --- SANITARY LINE
- OH --- OH --- GAS LINE
- DH --- DH --- OVERHEAD WIRES
- ⊙ P --- METAL STREET LIGHT
- --- METAL POST
- --- UTILITY POLE
- ⊙ Hyd --- FIRE HYDRANT
- --- SIGN
- ⊙ --- WATER VALVE
- ⊠ --- CATCH BASIN
- ⊙ --- DRAINAGE MANHOLE
- ⊙ --- TELEPHONE MANHOLE
- ⊙ --- SANITARY MANHOLE
- E.O.P. --- EDGE OF PAVEMENT
- M.B. --- MAILBOX
- M.Well --- MONITORING WELL
- --- DECIDUOUS TREE

GRAPHIC SCALE



TO MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

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36 JOHN STREET
MIDDLETOWN, CT 06456
WWW.FREEMANCS.COM
(860)211-9550
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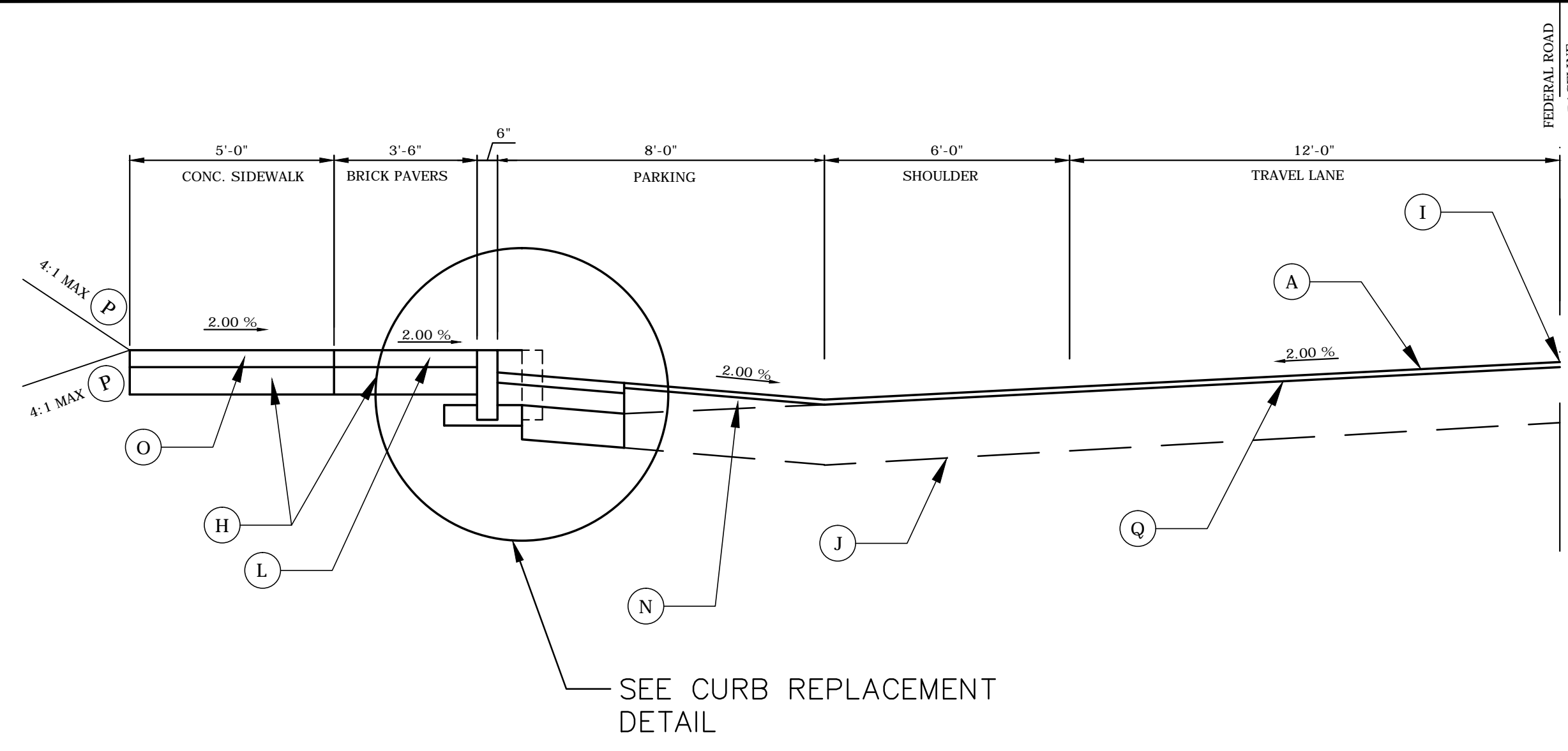
BROOKFIELD STREETScape PROJECT
PREPARED FOR
TOWN OF BROOKFIELD
RTE. 202 FEDERAL RD.
BROOKFIELD, CONNECTICUT

SURVEYED:	L.K./N.C.
DRAFTED:	M.G.
APPROVED:	M.G.
SCALE:	1" = 40'
PROJECT NO.:	2017-0605
DATE:	6/13/2018
CAD FILE:	2017-0605-SV01

TITLE:
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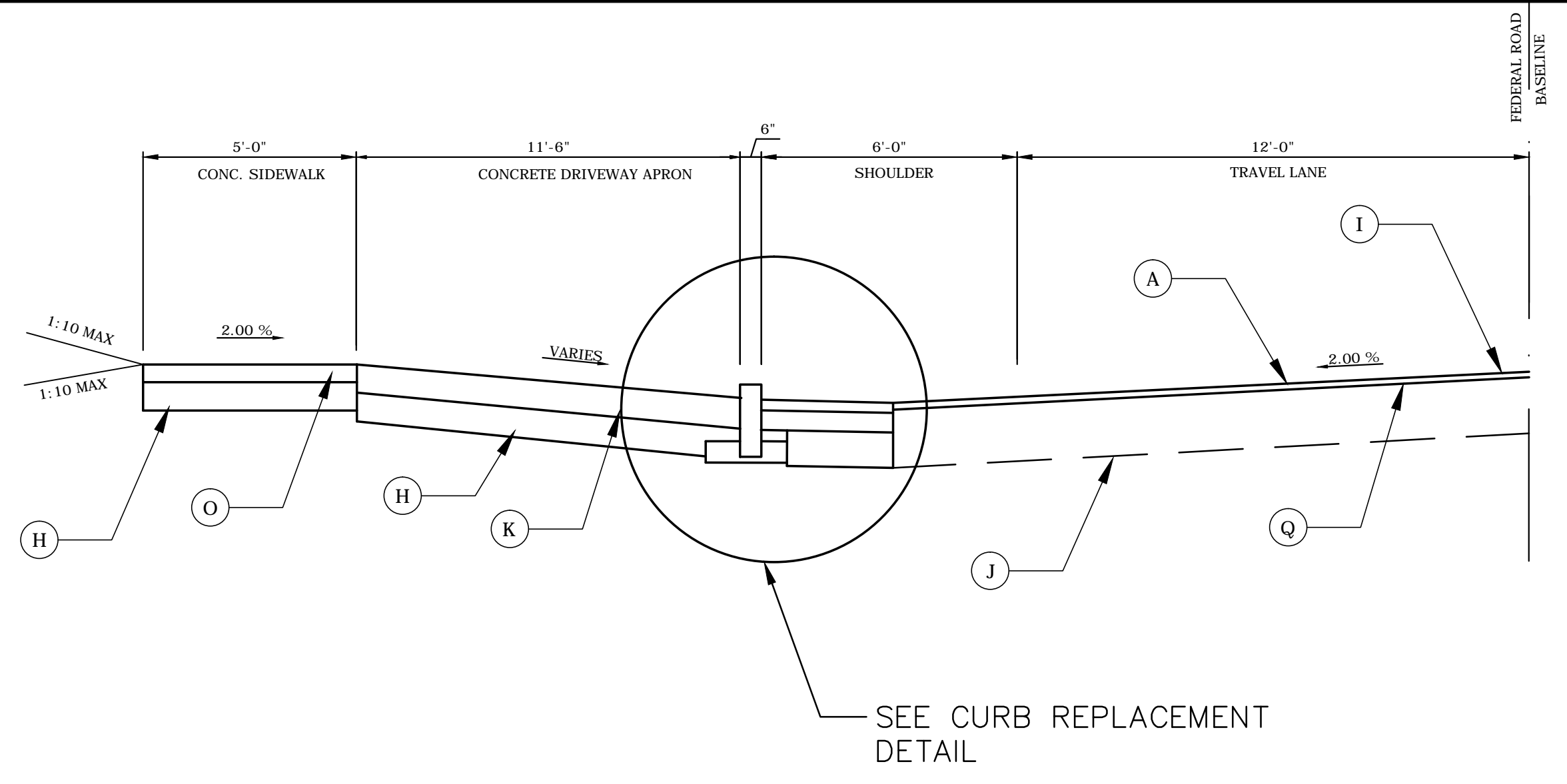
SHEET NUMBER: 2 of 2

EX-2



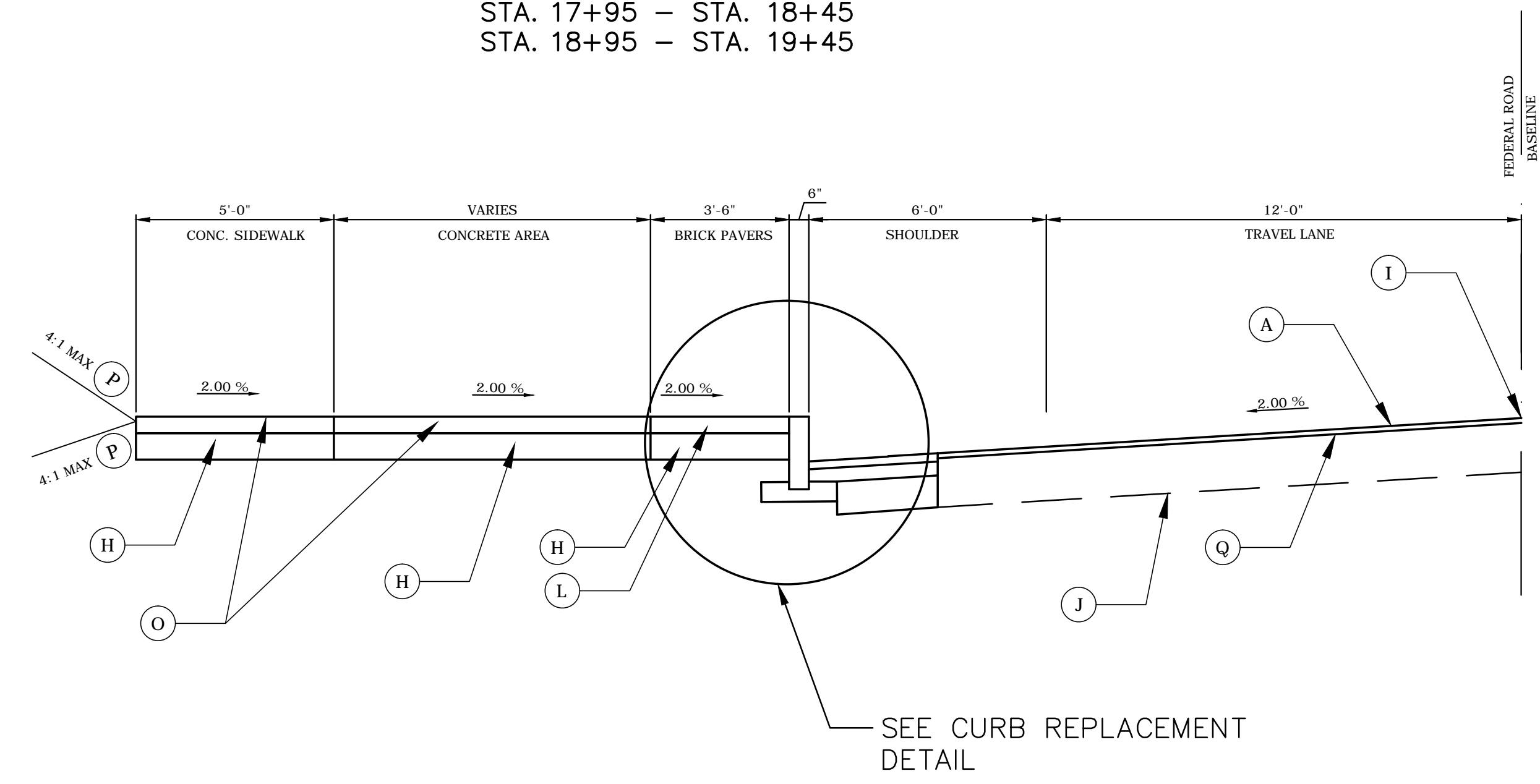
FEDERAL ROAD WEST SIDE TYPICAL SECTION NO. 1

STA. 14+00 – STA. 16+18
 STA. 16+95 – STA. 17+35
 STA. 17+95 – STA. 18+45
 STA. 18+95 – STA. 19+45



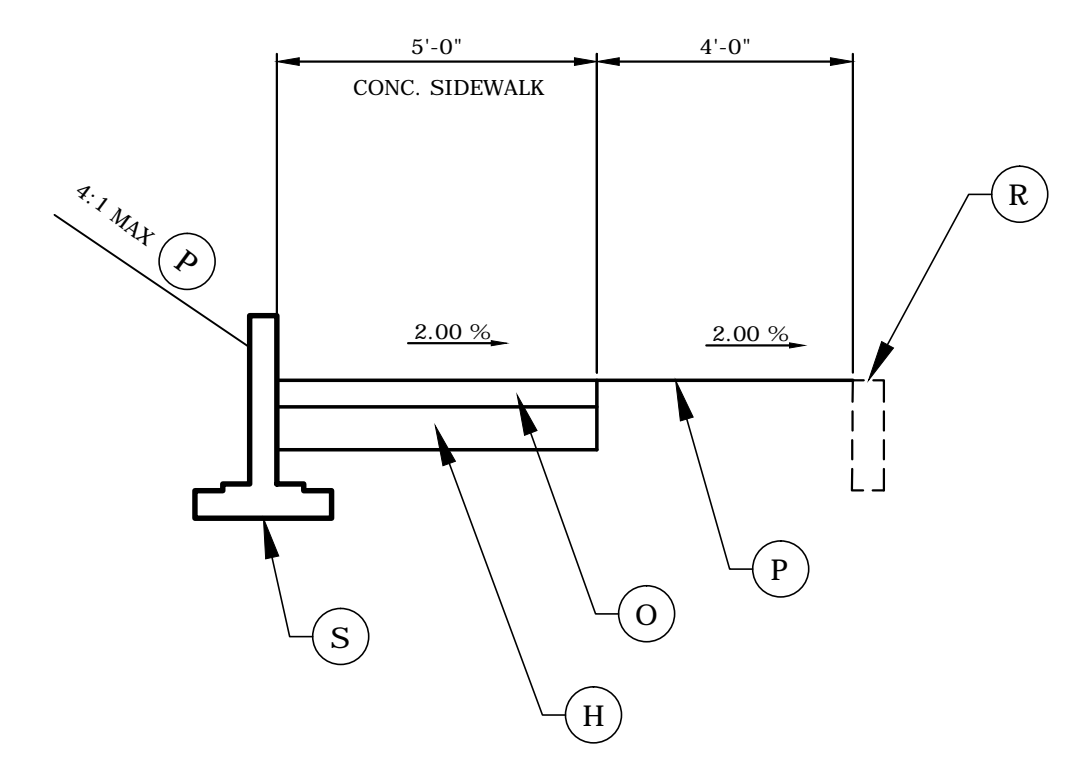
FEDERAL ROAD WEST SIDE TYPICAL SECTION NO. 2

STA. 16+53 – STA. 16+76
 STA. 17+59 – STA. 17+82
 STA. 18+57 – STA. 18+81
 STA. 19+81 – STA. 20+05



FEDERAL ROAD WEST SIDE TYPICAL SECTION NO. 3

STA. 13+65 – STA. 13+90
 STA. 16+20 – STA. 16+53
 STA. 16+76 – STA. 16+90
 STA. 17+35 – STA. 17+59
 STA. 17+80 – STA. 17+95
 STA. 18+45 – STA. 18+57
 STA. 18+80 – STA. 18+95
 STA. 19+68 – STA. 19+80
 STA. 20+05 – STA. 20+29

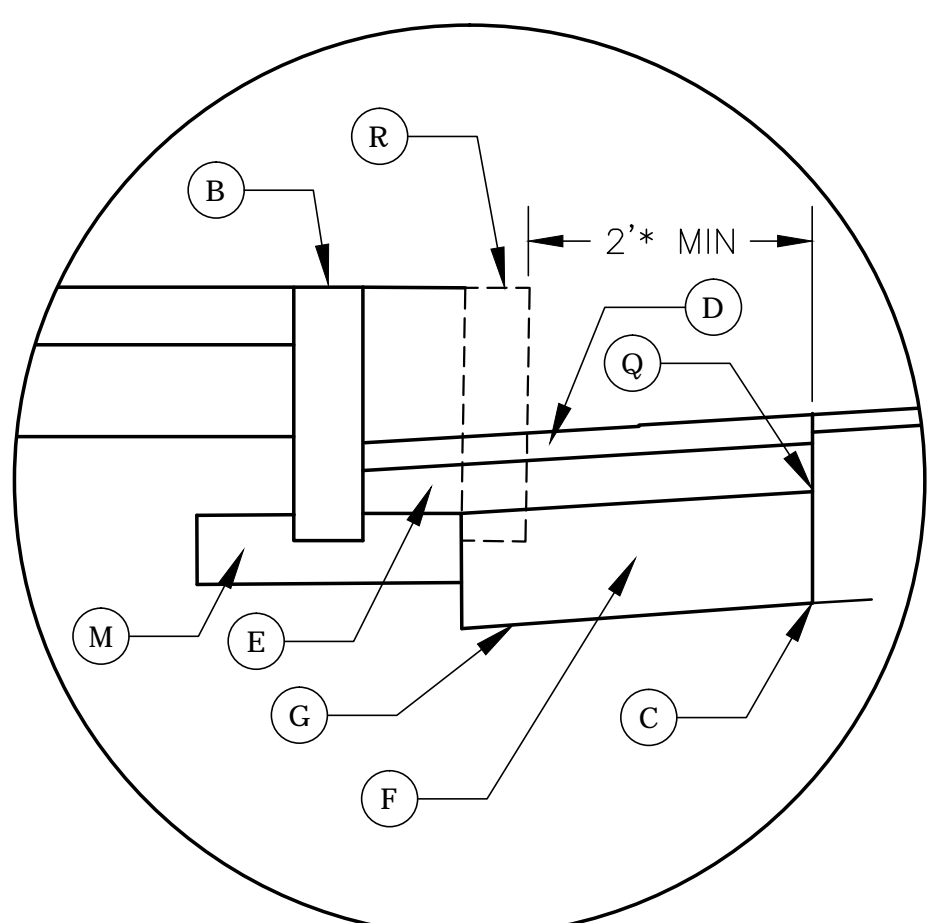


FEDERAL ROAD WEST SIDE TYPICAL SECTION NO. 4

STA. 112+46 – STA. 113+36

TYPICAL SECTION LEGEND

- (A) 1-1/2" MILL & 1-1/2" BITUMINOUS OVERLAY OF HMA S0.375 TRAFFIC LEVEL 2
- (B) GRANITE CURB
- (C) SAW CUT PAVEMENT
- (D) 3" HMA S0.375 TRAFFIC LEVEL 2 (PLACED IN TWO LIFTS)
- (E) 6" HMA S0.5 TRAFFIC LEVEL 2 (PLACED IN TWO LIFTS)
- (F) 10" SUBBASE
- (G) FORMATION OF SUBGRADE
- (H) 8" GRANULAR FILL
- (I) POINT OF APPLICATION OF GRADE
- (J) EXISTING ROADWAY STRUCTURE
- (K) 8" CLASS "C" CONCRETE
- (L) BRICK PAVERS
- (M) 6" GRANULAR FILL
- (N) HMA S0.375 SHIMMING (DEPTH VARIES FROM 0.5" TO 2.5")
- (O) 5" CLASS "F" CONCRETE
- (P) 4" TOPSOIL AND TURF ESTABLISHMENT
- (Q) TACK COAT
- (R) RESET EX. GRANITE CURB
- (S) EMBANKMENT WALL



CURB REPLACEMENT DETAIL

* 2' MIN FROM EXISTING CURB OR EDGE OF ROAD.

Freeman Companies, LLC - R:\2017\2017-0605 Brookfield Streetscape Phase 2\DWG\HW_MSH_2017_0605_TYP.dwg Jul 09, 2018-4:56pm Plotted By: plakkur

FREEMAN COMPANIES
 DBE | DAS | MBE | GWASDC CERTIFIED
 CIVIL | GEOTECHNICAL | SURVEY | ENVIRONMENTAL
 FREEMAN COMPANIES, LLC
 36 JOHN STREET
 HARTFORD, CT 06106
 WWW.FREEMANCOS.COM
 (860)251-9550
 TOLL FREE: (800)604-5141
 FAX: (860)286-7161
 ELEVATE YOUR EXPECTATIONS

PREPARED FOR
 TOWN OF BROOKFIELD
 100 POCONO ROAD
 BROOKFIELD, CONNECTICUT 06804

OWNER FOR
 TOWN OF BROOKFIELD
 100 POCONO ROAD
 BROOKFIELD, CONNECTICUT 06804

YUYANG LIN, P.E., PTOE NO. 23422

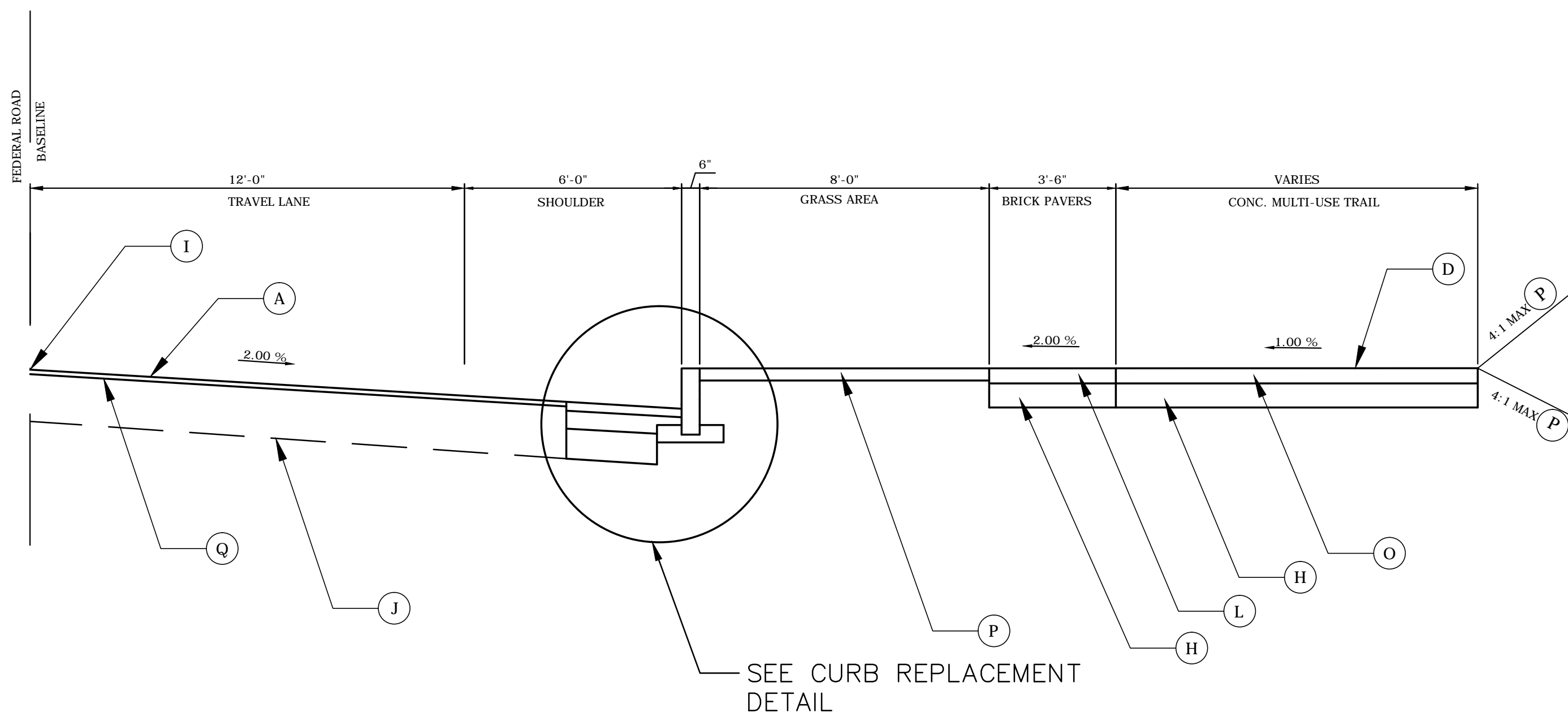
**BROOKFIELD STREETScape PHASE II
 ROUTE 202 (FEDERAL ROAD)
 BROOKFIELD, CONNECTICUT**

DESIGNED:	YL	
DRAFTED:	PT	
CHECKED:	RG	
APPROVED:		
SCALE:	NOT TO SCALE	
PROJECT NO.:	2017-0605	
DATE:	06/13/2018	
FILE:	HW_MSH_2017_0605_TYP	
NO.	DATE	DESCRIPTION
REVISIONS		

TITLE:
TYPICAL SECTION

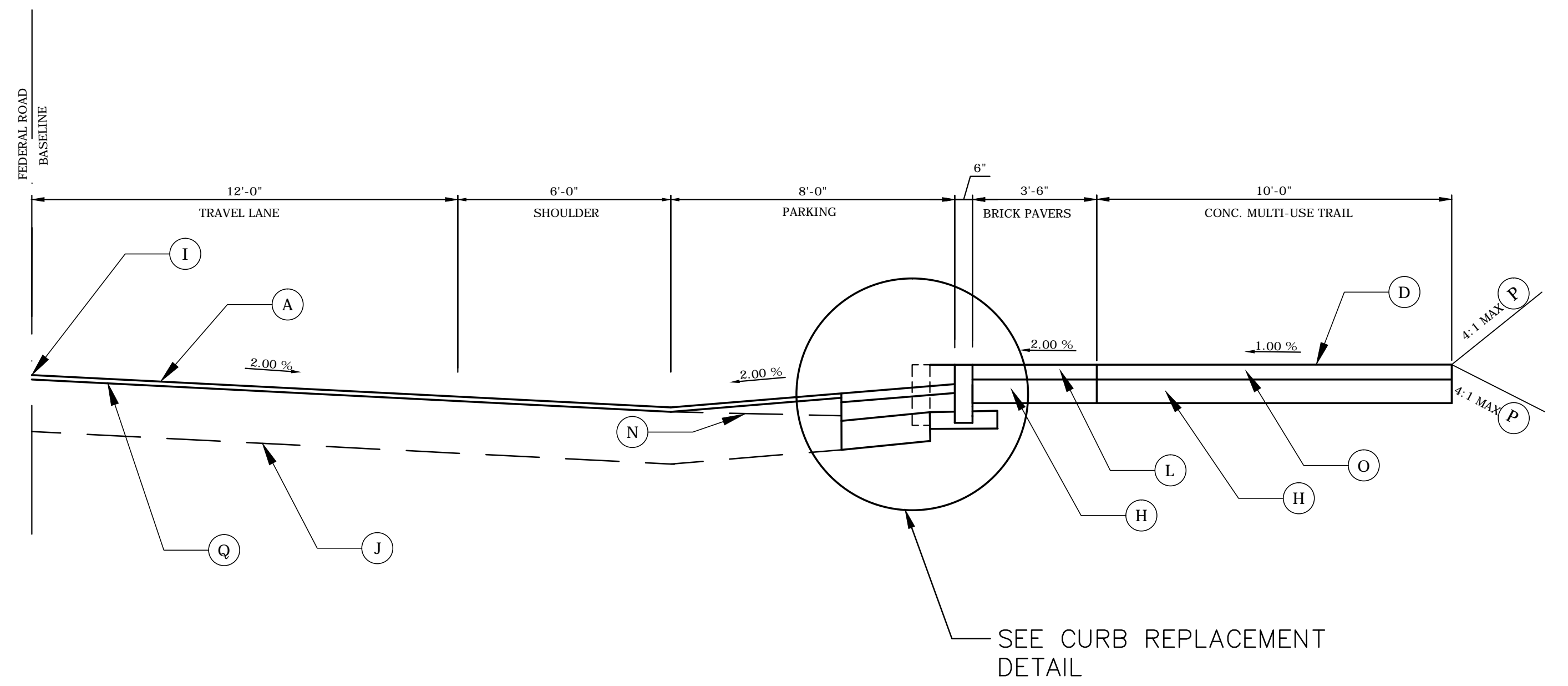
SHEET NUMBER:
TYP-1

THESE DRAWINGS SHALL NOT BE UTILIZED BY ANY PERSON, FIRM OR CORPORATION WITHOUT THE SPECIFIC WRITTEN PERMISSION OF FREEMAN COMPANIES, LLC



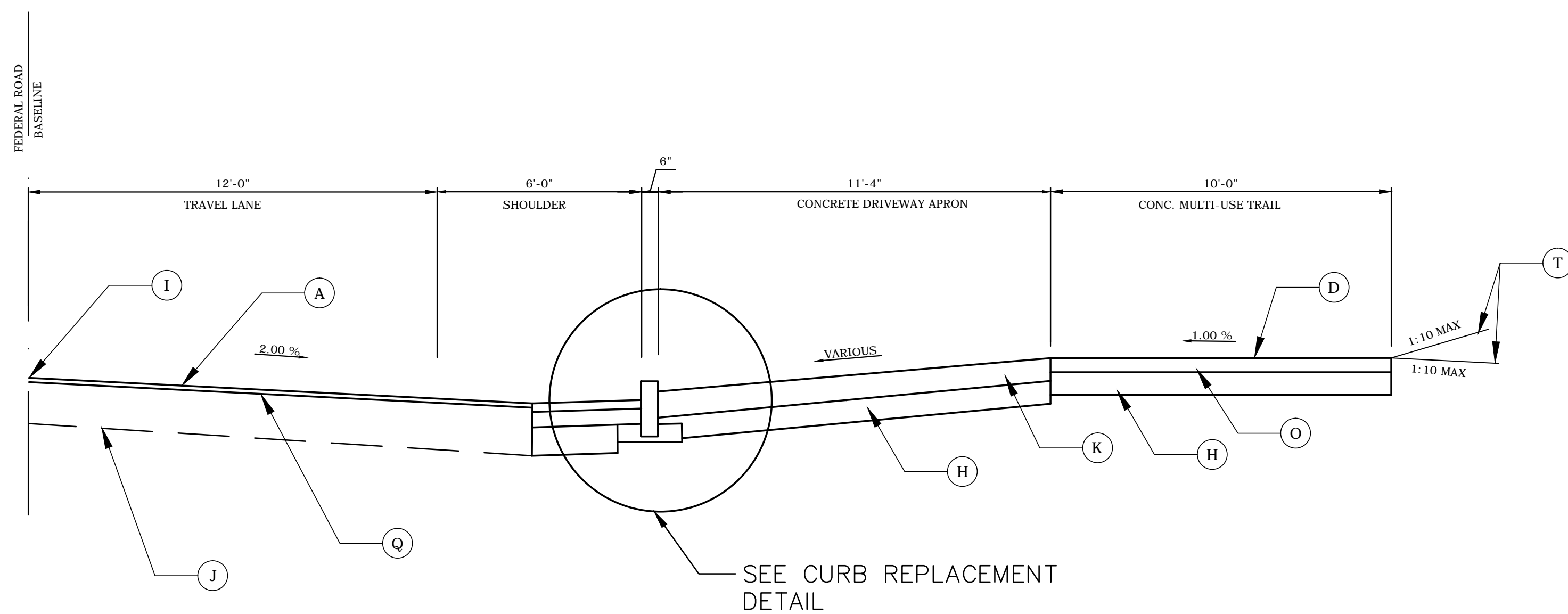
FEDERAL ROAD EAST SIDE TYPICAL SECTION NO. 1

STA. 12+50 - STA. 13+00



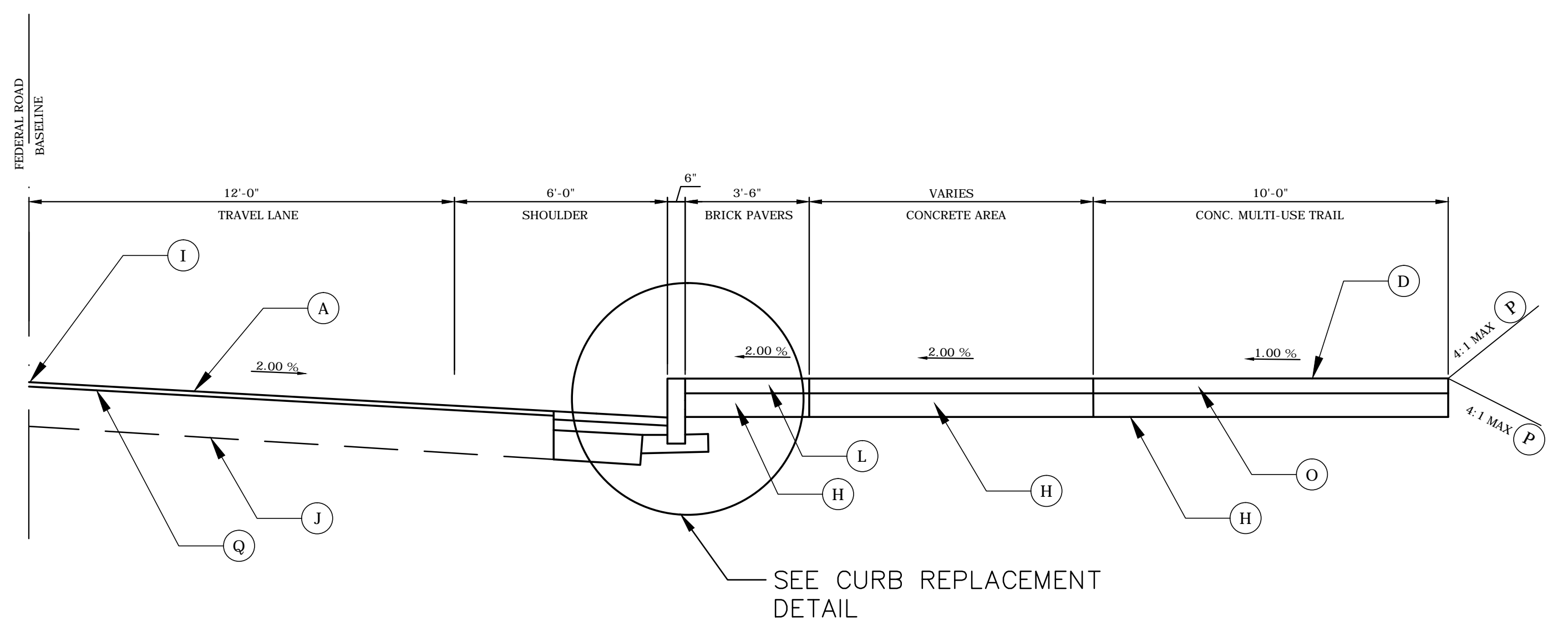
FEDERAL ROAD EAST SIDE TYPICAL SECTION NO. 2

STA. 13+00 - STA. 14+00
 STA. 14+70 - STA. 15+15
 STA. 16+60 - STA. 18+20



FEDERAL ROAD EAST SIDE TYPICAL SECTION NO. 3

STA. 14+36 - STA. 14+48
 STA. 15+38 - STA. 15+64
 STA. 16+17 - STA. 16+37
 STA. 18+75 - STA. 18+99
 STA. 19+23 - STA. 19+48

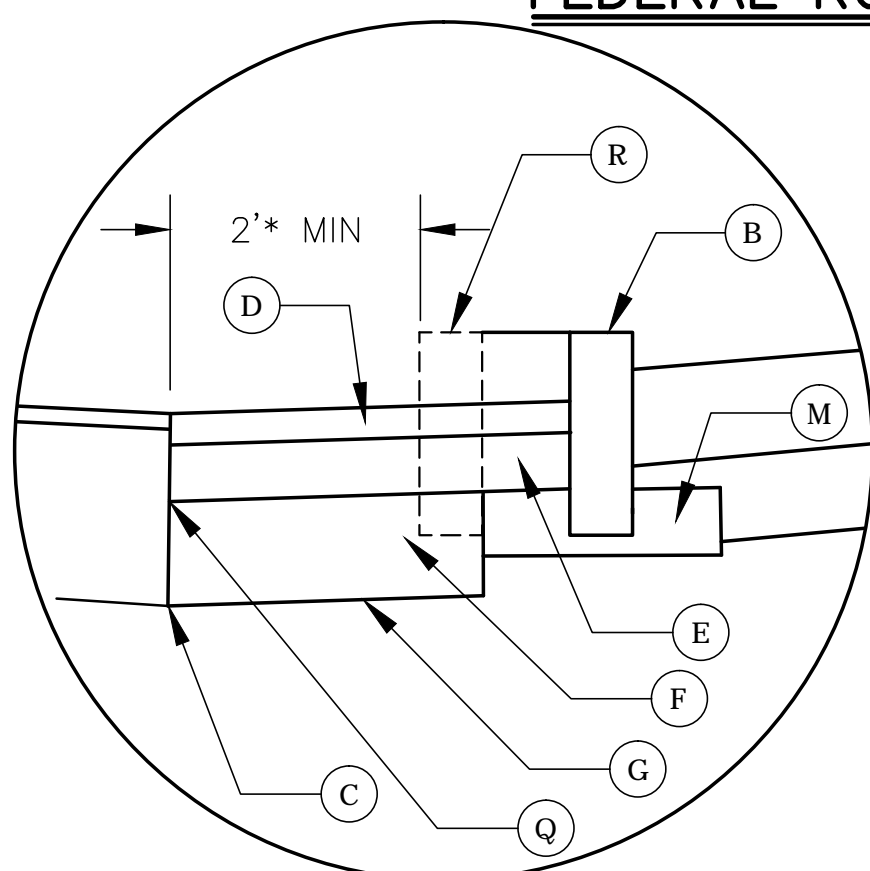


FEDERAL ROAD EAST SIDE TYPICAL SECTION NO. 4

STA. 14+10 - STA. 14+36
 STA. 14+50 - STA. 14+57
 STA. 15+25 - STA. 15+38
 STA. 15+65 - STA. 16+16
 STA. 16+38 - STA. 16+80
 STA. 18+40 - STA. 18+75
 STA. 18+99 - STA. 19+22
 STA. 19+49 - STA. 20+96

TYPICAL SECTION LEGEND

- (A) 1-1/2" MILL & 1-1/2" BITUMINOUS OVERLAY OF HMA S0.375 TRAFFIC LEVEL 2
- (B) GRANITE CURB
- (C) SAW CUT PAVEMENT
- (D) 3" HMA S0.375 TRAFFIC LEVEL 2 (PLACED IN TWO LIFTS)
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- (Q) TACK COAT
- (T) BITUMINOUS CONCRETE DRIVEWAY



CURB REPLACEMENT DETAIL

* 2' MIN FROM EXISTING CURB OR EDGE OF ROAD.



DISE | DAS | MBE | GNASDC CERTIFIED
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 ELEVATE YOUR EXPECTATIONS

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 BROOKFIELD,
 CONNECTICUT 06804
 OWNER FOR
 TOWN OF BROOKFIELD
 100 POCONO ROAD
 BROOKFIELD,
 CONNECTICUT 06804

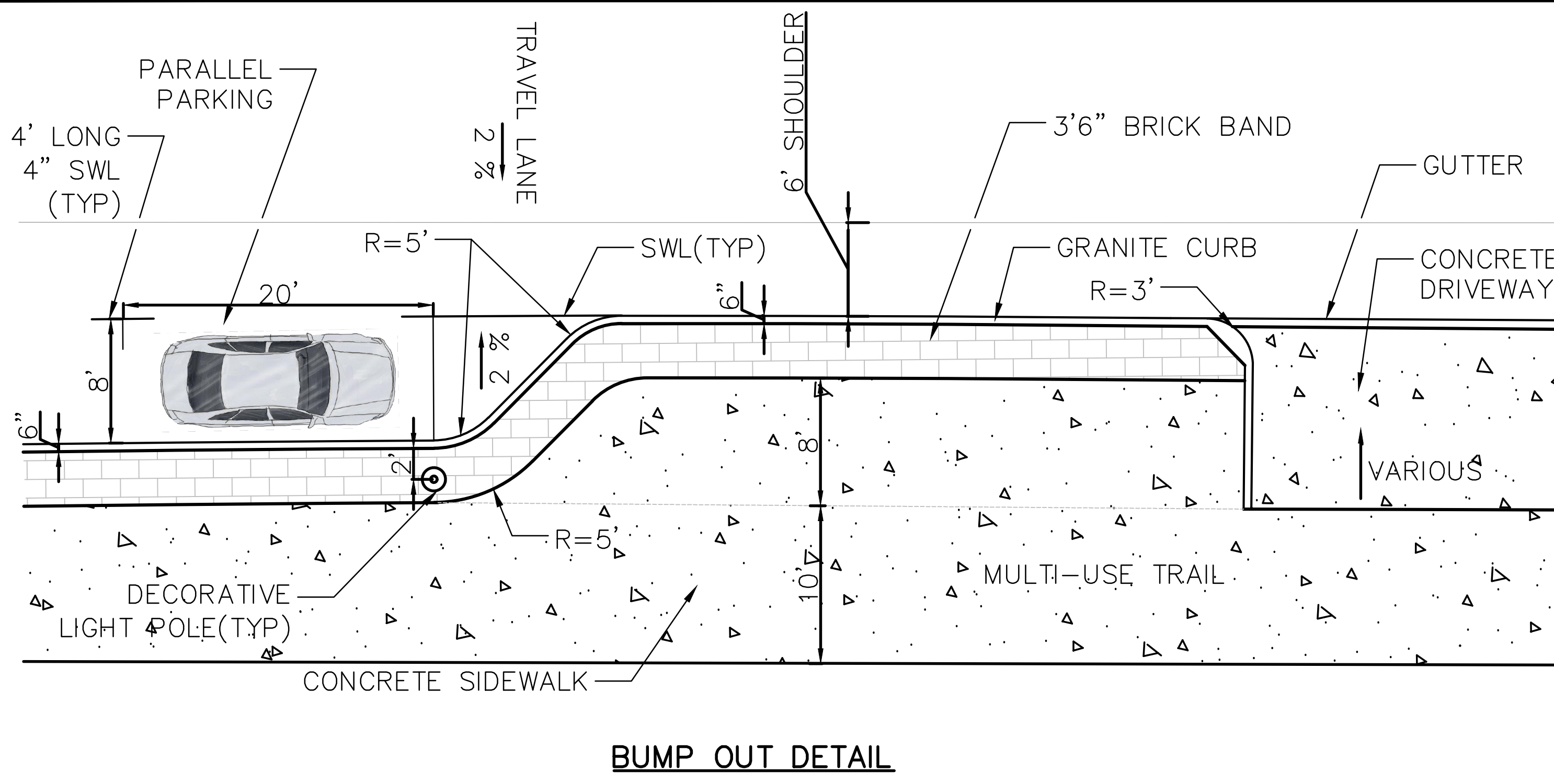
WUYANG LIN, PE, PTOE NO. 23422

**BROOKFIELD STREETScape PHASE II
 ROUTE 202 (FEDERAL ROAD)
 BROOKFIELD, CONNECTICUT**

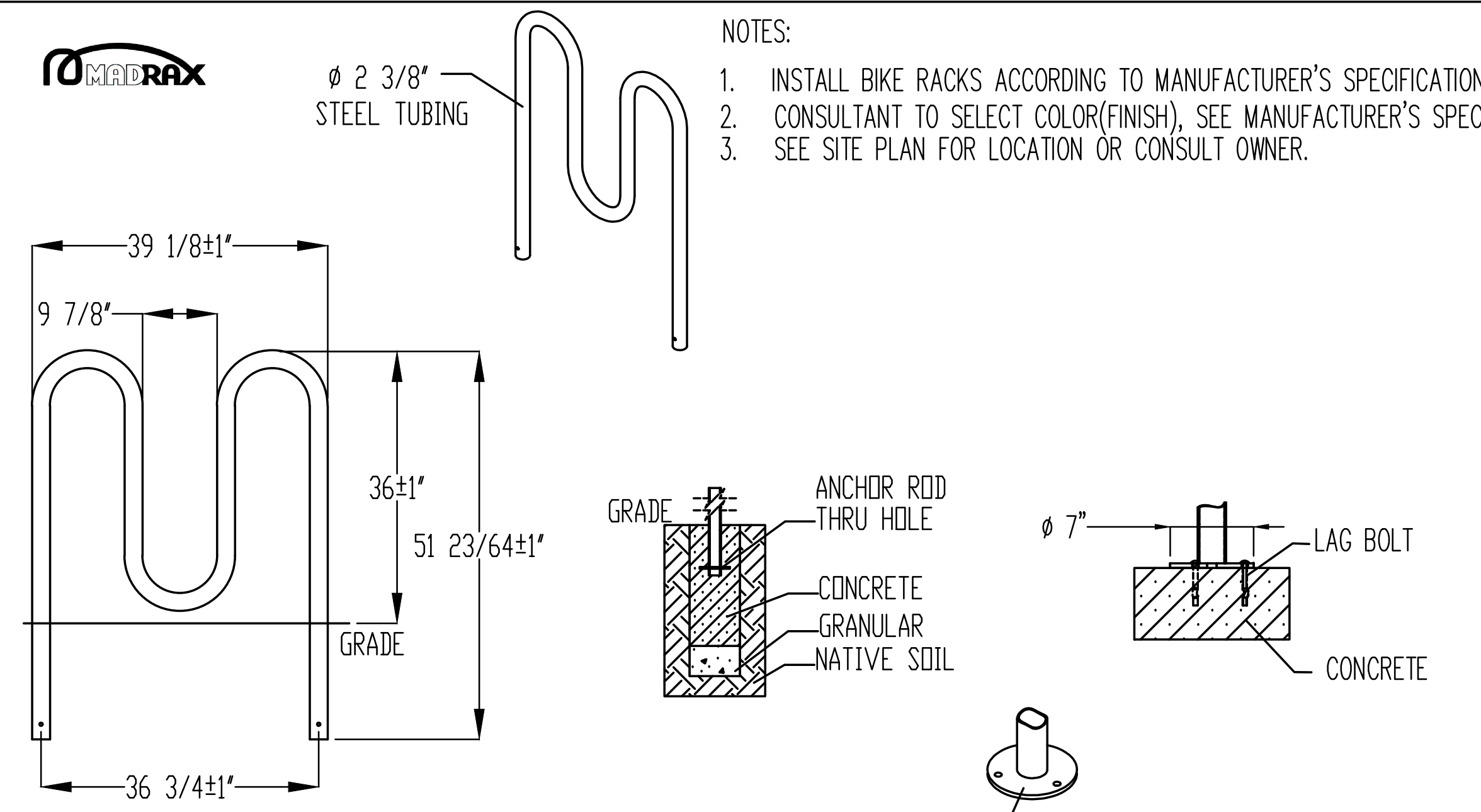
DESIGNED:	YL	
DRAFTED:	PT	
CHECKED:	RG	
APPROVED:		
SCALE:	NOT TO SCALE	
PROJECT NO.:	2017-0605	
DATE:	06/13/2018	
FILE:	HW_MSH_2017_0605_TYP	
NO.	DATE	DESCRIPTION
REVISIONS		

TITLE:
TYPICAL SECTION
 SHEET NUMBER:
TYP-2

Freeman Companies, LLC - R:\2017\2017-0605 Brookfield Streetscape Phase 2\DWG\HW_MSH_2017_0605_TYP.dwg Jul 09, 2018-4:56pm Plotted By: plakkur



BUMP OUT DETAIL



- NOTES:**
1. INSTALL BIKE RACKS ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
 2. CONSULTANT TO SELECT COLOR(FINISH), SEE MANUFACTURER'S SPECIFICATIONS.
 3. SEE SITE PLAN FOR LOCATION OR CONSULT OWNER.

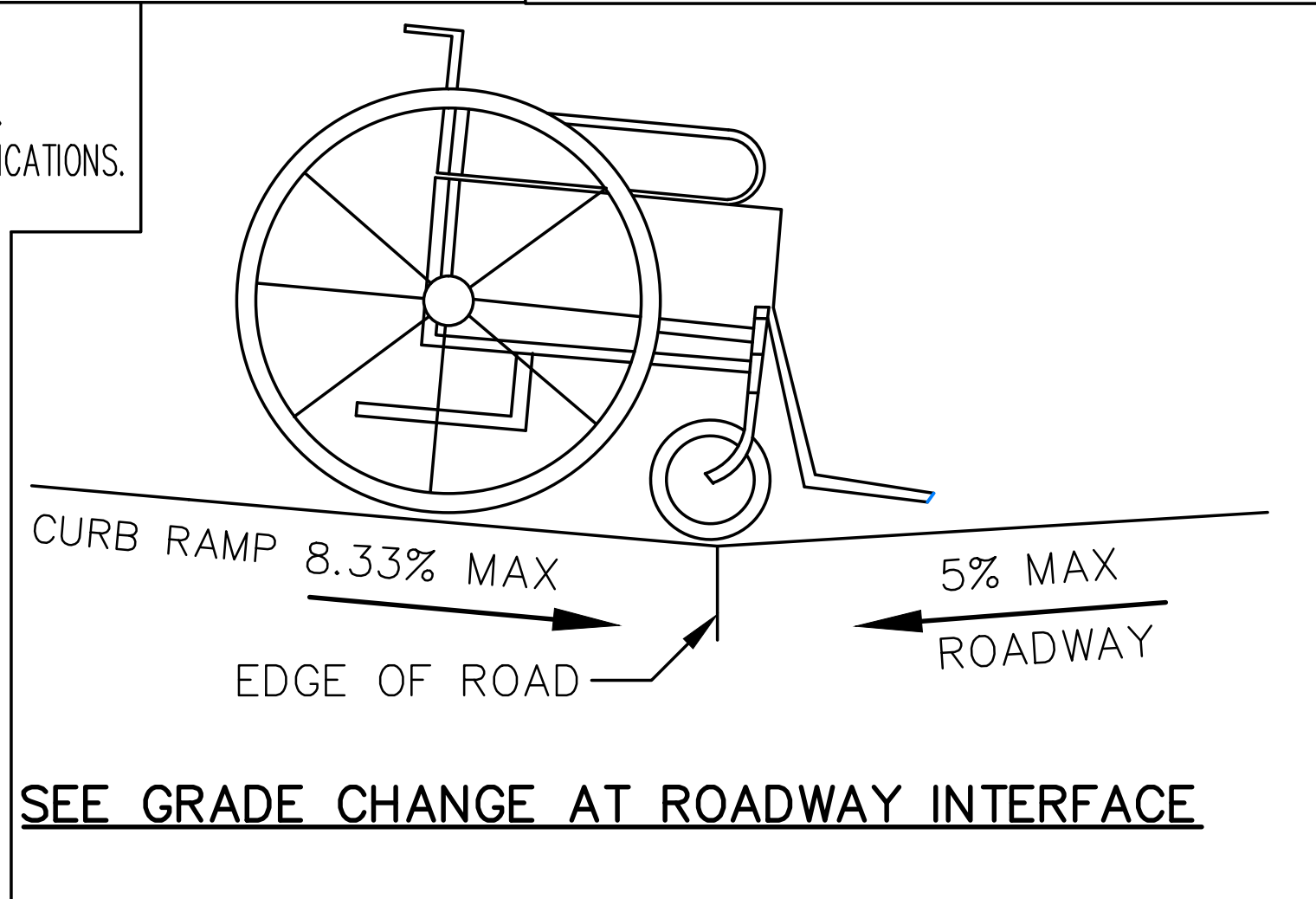
SECTION VIEWS

- IN GROUND MOUNT (IG) CHECK DESIRED MOUNT SURFACE FLANGE MOUNT (SF)

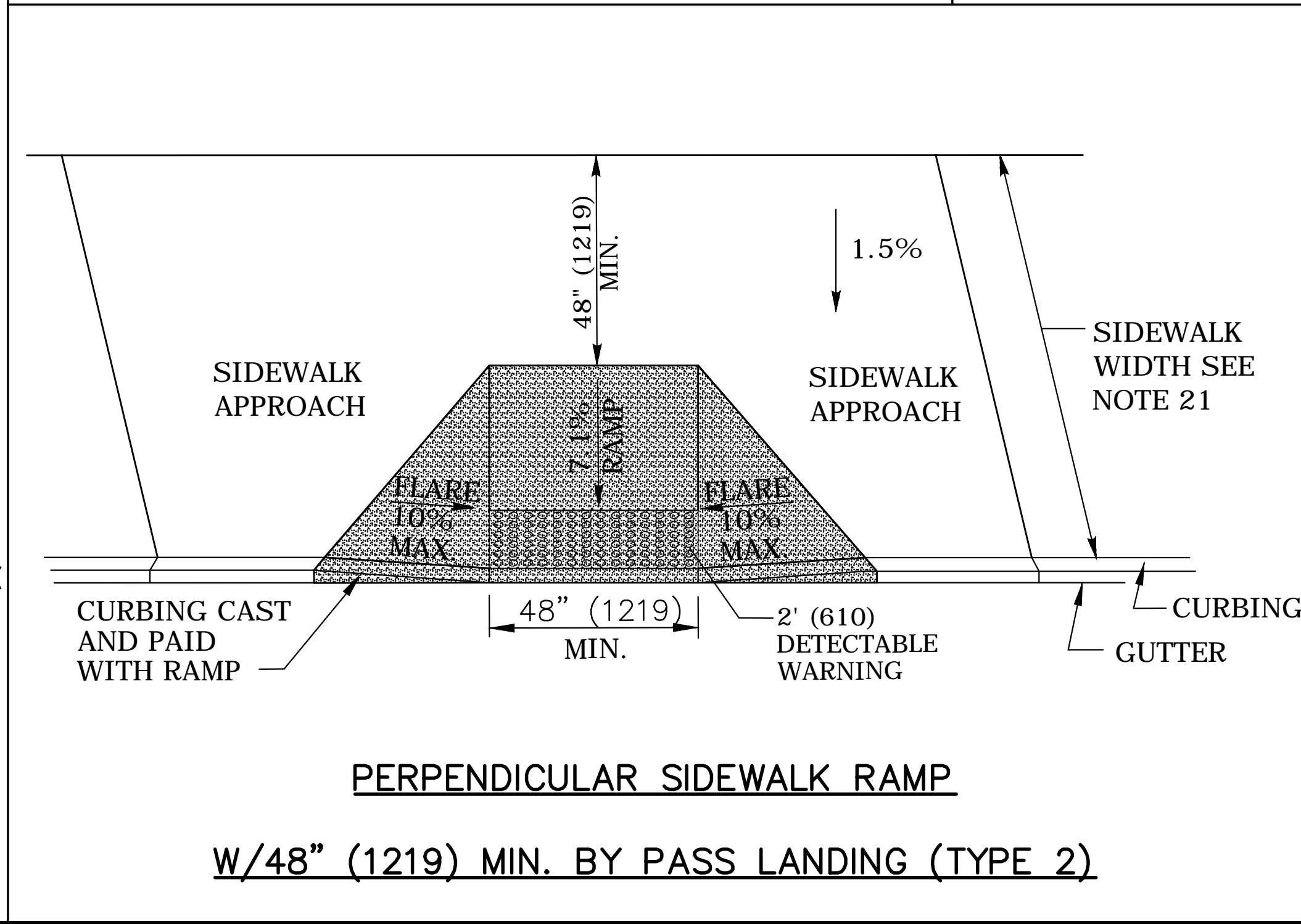
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PRODUCT: H36-5-IG(SF)
 DESCRIPTION: HEAVY DUTY CHALLENGER BIKE RACK
 5 BIKE, SURFACE OR IN GROUND MOUNT
 DATE: 5-31-17
 ENG: SMC

BICYCLE RACK



SEE GRADE CHANGE AT ROADWAY INTERFACE



PERPENDICULAR SIDEWALK RAMP

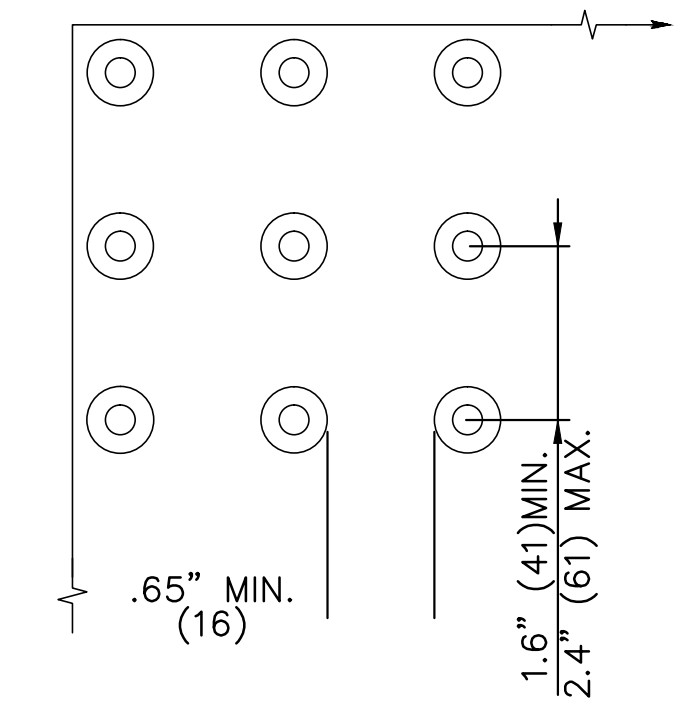
W/48" (1219) MIN. BY PASS LANDING (TYPE 2)

GENERAL NOTES:

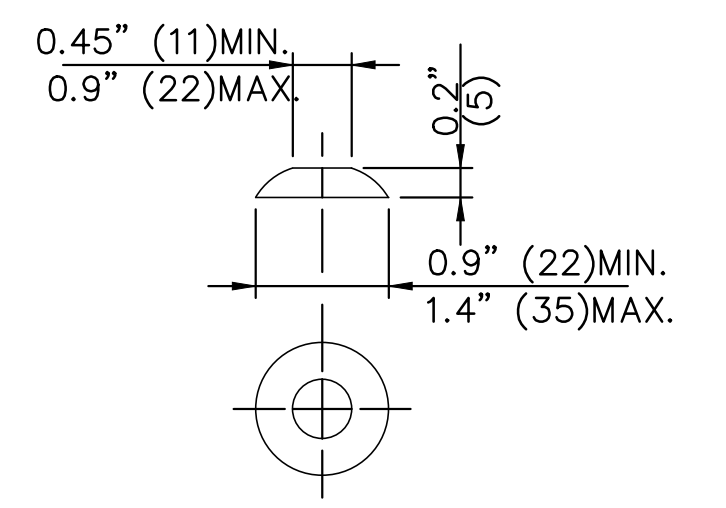
1. MAXIMUM SLOPES OF ADJOINING GUTTERS AND ROAD SURFACES IMMEDIATELY ADJACENT TO THE SIDEWALK RAMP SHOULD NOT EXCEED 5%. THE MAXIMUM GRADE DIFFERENCE BETWEEN THE GUTTER AND CURB RAMP SHALL NOT EXCEED 13%.
2. RAMP GRADE SHALL BE UNIFORM, FREE OF SAGS AND ABRUPT GRADE CHANGES.
3. ALL RAMP SHALL BE CONSTRUCTED OF CLASS "F" CONCRETE IN ACCORDANCE WITH CONNECTICUT STANDARD SPECIFICATIONS.
4. SIDEWALK RAMP SHALL HAVE A COARSE BROOM FINISH TRANSVERSE TO THE SLOPE OF THE RAMP. THE SURFACE OF ALL SIDEWALK RAMP SHALL BE STABLE, FIRM AND SLIP RESISTANT. SURFACE DISCONTINUITIES SHALL NOT EXCEED "(13) MAX. VERTICAL DISCONTINUITIES BETWEEN ." (6.4) AND "(13) MAX. SHALL BE BEVELED 1:2 MINIMUM APPLIED ACROSS THE ENTIRE LEVEL CHANGE.
5. DIAGONAL SIDEWALK RAMP AT MARKED CROSSINGS SHALL BE WHOLLY CONTAINED WITHIN THE MARKINGS, EXCLUDING ANY FLARED SIDES. DIAGONAL AND PERPENDICULAR RAMP SHALL HAVE THE RAMP CUT PERPENDICULAR TO THE TANGENT OF THE CURB RADIUS FOR THE DESIGNATED ACCESSIBLE ROUTE. BOTH LONGITUDINAL SIDES OF THE RAMP SHOULD BE THE SAME LENGTH. SKEWED RAMP SHOULD BE AVOIDED. FLARES ARE NOT CONSIDERED PART OF PEDESTRIAN ACCESS ROUTE. DIAGONAL RAMP SHOULD NOT BE INSTALLED WHERE CURB RADIUS IS LESS THAN 20'(6096).
6. REMOVAL OF EXISTING SIDEWALK FOR NEW RAMP INSTALLATIONS SHALL BE TO THE NEAREST EXPANSION OR CONTRACTION JOINT. 8.3% MAXIMUM SLOPE MAY NOT BE ACHIEVABLE DUE TO EXISTING SIDEWALK GRADE. IN RECOGNITION OF THIS, A LIMIT OF 15' (4572) FOR REMOVAL SHALL BE USED UNLESS OTHERWISE SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER. SAW CUT REQUIRED FOR DUMMY JOINTS SHALL BE INCLUDED IN THE COST OF "CONCRETE SIDEWALK RAMP" OR "CONCRETE SIDEWALK".
7. EXPANSION JOINTS IN CONCRETE SHALL MATCH THOSE IN ADJACENT SIDEWALKS BUT IN NO CASE SHALL THE SPACING BETWEEN EXPANSION JOINTS EXCEED 12' (3658) UNLESS OTHERWISE NOTED.
8. CONCRETE SIDEWALK RAMP SHALL BE PAID FOR UNDER THE ITEM "CONCRETE SIDEWALK RAMP", AS DEFINED BY THE CONSTRUCTION LIMITS ON THE PLANS AND SHALL BE FIELD VERIFIED.
9. SIDEWALK RAMP SHALL BE CONSTRUCTED WITH THE TOE AT THE GUTTER CAST INTEGRALLY WITH RAMP UNLESS DIRECTED OTHERWISE BY THE ENGINEER (SEE TYPICAL SECTION). CURB REMOVAL AND CAST IN PLACE CURBING REQUIRED FOR THE RAMP, SHALL BE INCLUDED WITH PAY ITEM "CONCRETE SIDEWALK RAMP". CURBING OUTSIDE LIMITS OF RAMP OR LANDING SHOWN ON SHEET 3 SHALL BE CONSTRUCTED AND PAID FOR IN ACCORDANCE WITH CONNECTICUT STANDARD SPECIFICATIONS.
10. PREFERRED LOCATION TO INSTALL DETECTABLE WARNING STRIP SHALL BE 6" (152) FROM THE EDGE OF ROAD ALONG THE FULL WIDTH OF THE RAMP. FOR ALTERNATE LOCATIONS, REFER TO DETECTABLE WARNING PLACEMENT DETAILS ON SHEET 4.
11. TO PERMIT WHEELCHAIR WHEELS TO ROLL BETWEEN DOMES, ALIGN DOMES ON A SQUARE GRID IN THE DIRECTION OF RUNNING SLOPE (PERPENDICULAR TO CURB OR SLOPE BREAK). THE TRANSITION FROM RAMP TO GUTTER SHALL BE FLUSH WITHOUT A LIP.
12. WHERE COMMERCIAL DRIVEWAYS ARE PROVIDED WITH TRAFFIC SIGNALS AND THE SIDEWALK IS CONTINUOUS THROUGH DRIVEWAY, DETECTABLE WARNINGS ARE REQUIRED AT THE JUNCTION BETWEEN THE PEDESTRIAN ROUTE AND DRIVEWAY.
13. CONSTRUCT A SIDEWALK CURB WHEN THERE IS INSUFFICIENT BUFFER AVAILABLE TO GRADE OR WHEN CALLED FOR IN PLANS. PAID FOR WITH SIDEWALK RAMP WHEN REQUIRED FOR RAMP.
14. THE TOP AND BOTTOM OF RAMP SHOULD BE PROVIDED WITH A 4' x 4' (1219 x 1219) MINIMUM LEVEL LANDING AREA WITH A CROSS SLOPE LESS THAN OR EQUAL TO 2% IN ANY DIRECTION.
15. UTILITY POLES, LUMINARIES, PEDESTRIAN OR SIGNAL POLES, GRATES, ACCESS COVERS, AND OTHER APPURTENANCES SHALL NOT BE LOCATED ON RAMP, LANDINGS, BLENDED TRANSITIONS, AND @ GUTTERS WITHIN THE PEDESTRIAN ACCESS ROUTE.
16. APPROACH SIDEWALK WIDTHS, GRASS STRIP OR UTILITY STRIP WIDTHS MAY VARY.
17. APPROACH SIDEWALK AND LANDING CROSS SLOPE SHALL NOT EXCEED 2%.
18. THE RUNNING OR CROSS SLOPES ON LANDINGS AT MID BLOCK CROSSING MAY BE WARPED TO MEET STREET OR HIGHWAY GRADE.
19. FOR PERPENDICULAR CURB RAMP A MIN. 4'(1.2m) x 4'(1.2m) LEVEL LANDING SHALL BE PROVIDED AT THE TOP OF CURB RAMP. WHERE THE LEVEL LANDING IS RESTRICTED AT THE BACK OF SIDEWALK THE LEVEL LANDING SHALL BE 4'(1.2m) x 5'(1.5m) WITH THE 5'(1.5m) DIMENSION PROVIDED IN THE DIRECTION OF THE RAMP RUN.
20. FOR PARALLEL CURB RAMP, A MIN. 4'(1.2m) x 4'(1.2m) LEVEL LANDING SHALL BE PROVIDED AT THE BOTTOM OF CURB RAMP. IF THE LEVEL LANDING IS RESTRICTED ON 2 OR MORE SIDES, THE LEVEL LANDING SHALL BE 4'(1.2m)x 5'(1.5m) WITH THE 5' (1.5m) DIMENSION PROVIDED IN THE DIRECTION OF THE PEDESTRIAN STREET CROSSING.
21. WHEN WIDTH OF SIDEWALK IS >48" AND A PERPENDICULAR SIDEWALK RAMP IS INSTALLED, THE FLARED SIDES SHALL BE 10% MAX. IF WIDTH OF SIDEWALK IS <48" THE FLARED SIDES MUST NOT EXCEED 8.33% (12:1).
22. SHADED AREAS ARE TYPICAL PAY LIMITS FOR CONCRETE SIDEWALK RAMP BUT, MAY VARY AS DIRECTED BY THE ENGINEER.
23. OPTIONAL RAMP, WHEN REQUIRED, SHALL BE PAID FOR AS PART OF CONCRETE SIDEWALK RAMP.

GENERAL NOTES

1. RAMPED MEDIANS SHALL HAVE A CURB RAMP AT EITHER END AND LEVEL LANDING A MINIMUM OF 5' x 5' (1.5m x 1.5m) IN BETWEEN. CUT-THROUGH MEDIANS SHALL BE A MINIMUM OF 6' (1.8m) LONG AND 5' (1.5m) WIDE. FOR ALL MEDIANS, CUT-THROUGH OR RAMPED, A 2' (610) STRIP OF DETECTABLE WARNINGS SHALL BE INSTALLED AT THE ENTRANCE AND EXIT.
2. SEE GENERAL NOTES ON ABOVE.



DOMES SPACING



DOMES SECTION

STANDARD DOME ON DETECTABLE WARNING TILES

**BROOKFIELD STREETSCAPE PHASE II
 ROUTE 202 (FEDERAL ROAD)
 BROOKFIELD, CONNECTICUT**

FREEMAN COMPANIES
 CIVIL | GEOTECHNICAL | SURVEY | ENVIRONMENTAL
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 FAX: (860)251-7151
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PREPARED FOR
 TOWN OF BROOKFIELD
 100 POCOON ROAD
 BROOKFIELD,
 CONNECTICUT 06804

OWNER FOR
 TOWN OF BROOKFIELD
 100 POCOON ROAD
 BROOKFIELD,
 CONNECTICUT 06804

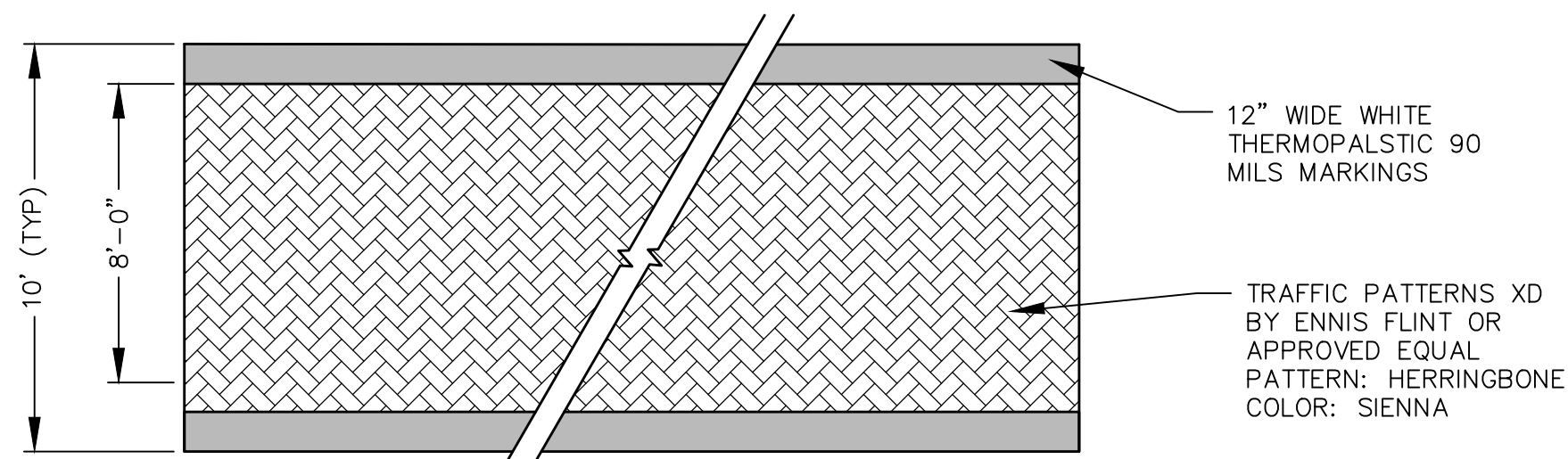
YUYANG LIN, PE, PTOE NO. 23422

NO.		DATE	DESCRIPTION
-		-	-
REVISIONS			

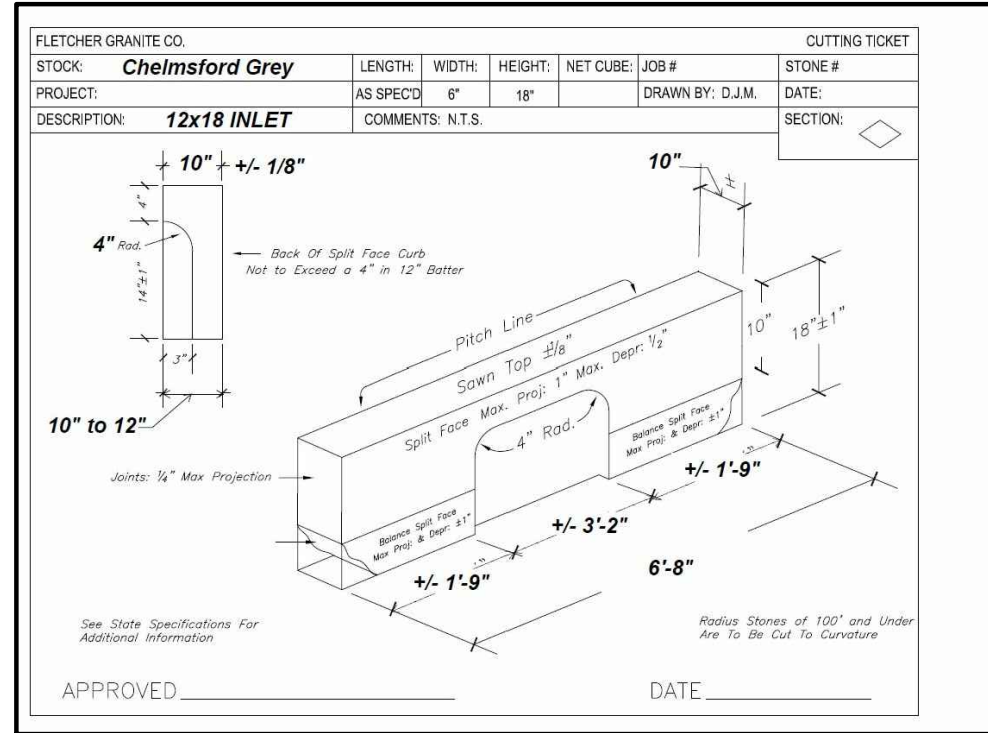
DESIGNED: YL	TITLE: MISCELLANEOUS DETAILS
DRAFTED: PT	SHEET NUMBER: MDS-1
CHECKED: RG	
APPROVED:	
SCALE: AS NOTED	
PROJECT NO.: 2017-0605	
DATE: 06/13/2018	
FILE: HW_MST_2017_0605_MDS-1	

Freeman Companies, LLC - R:\2017\2017-0605 Brookfield Streetscape Phase 2\DWG\HW_MST_2017_0605_MDS-1.dwg Jul 12, 2018--10:53am Plotted By: plakkuri

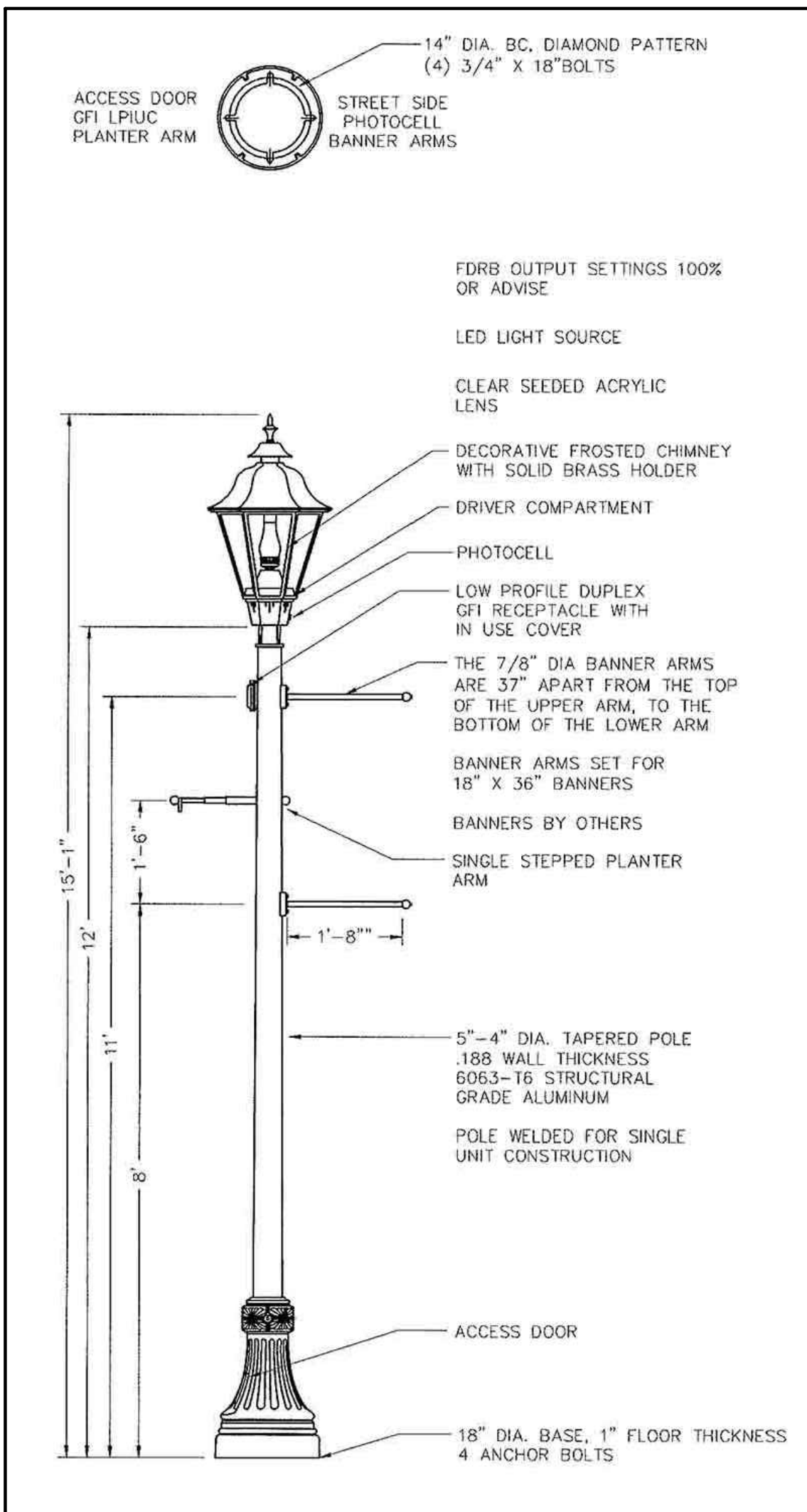
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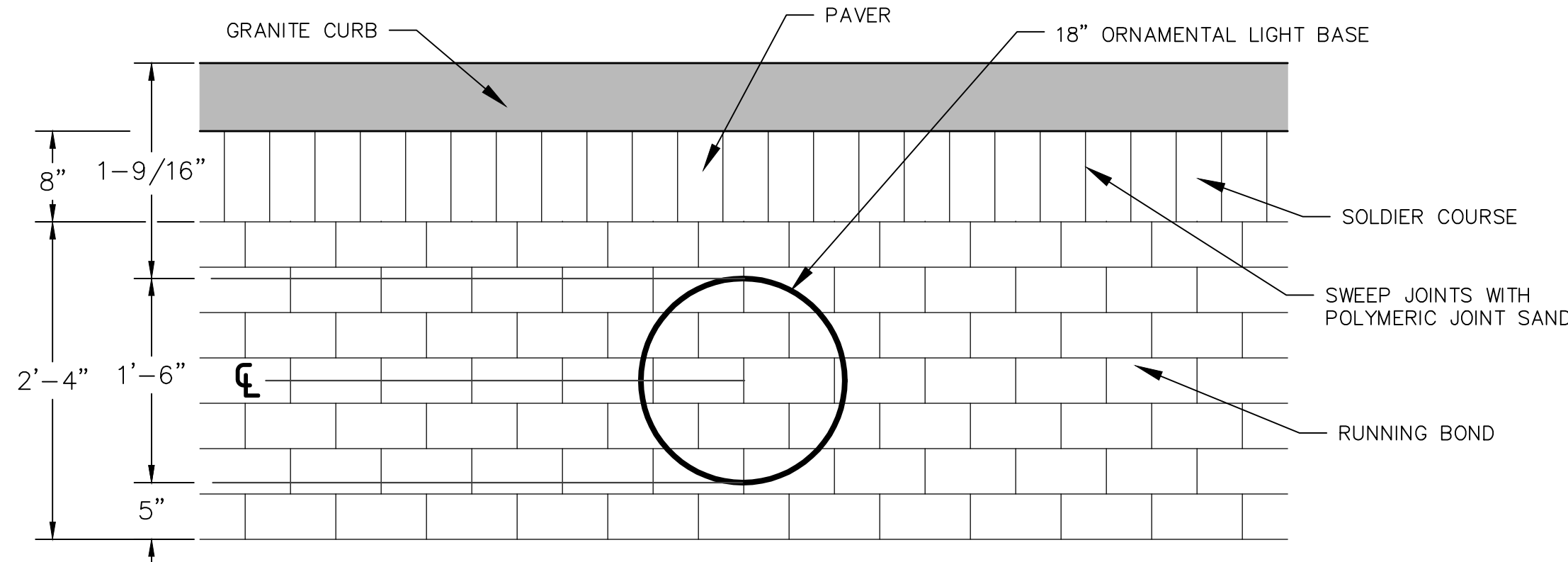
STAMPED THERMOPLASTIC CROSSWALK



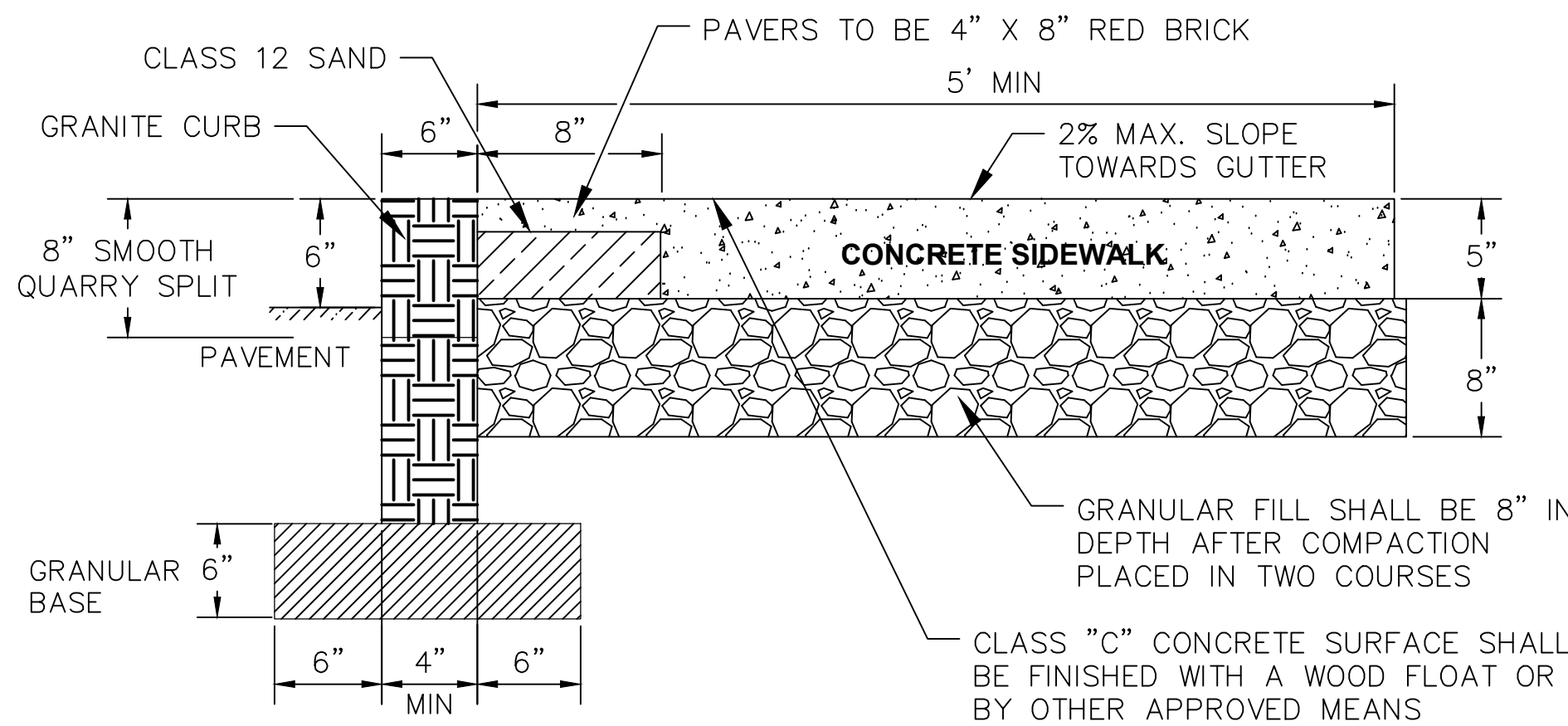
GRANITE CURB INLET



ORNAMENTAL LIGHT

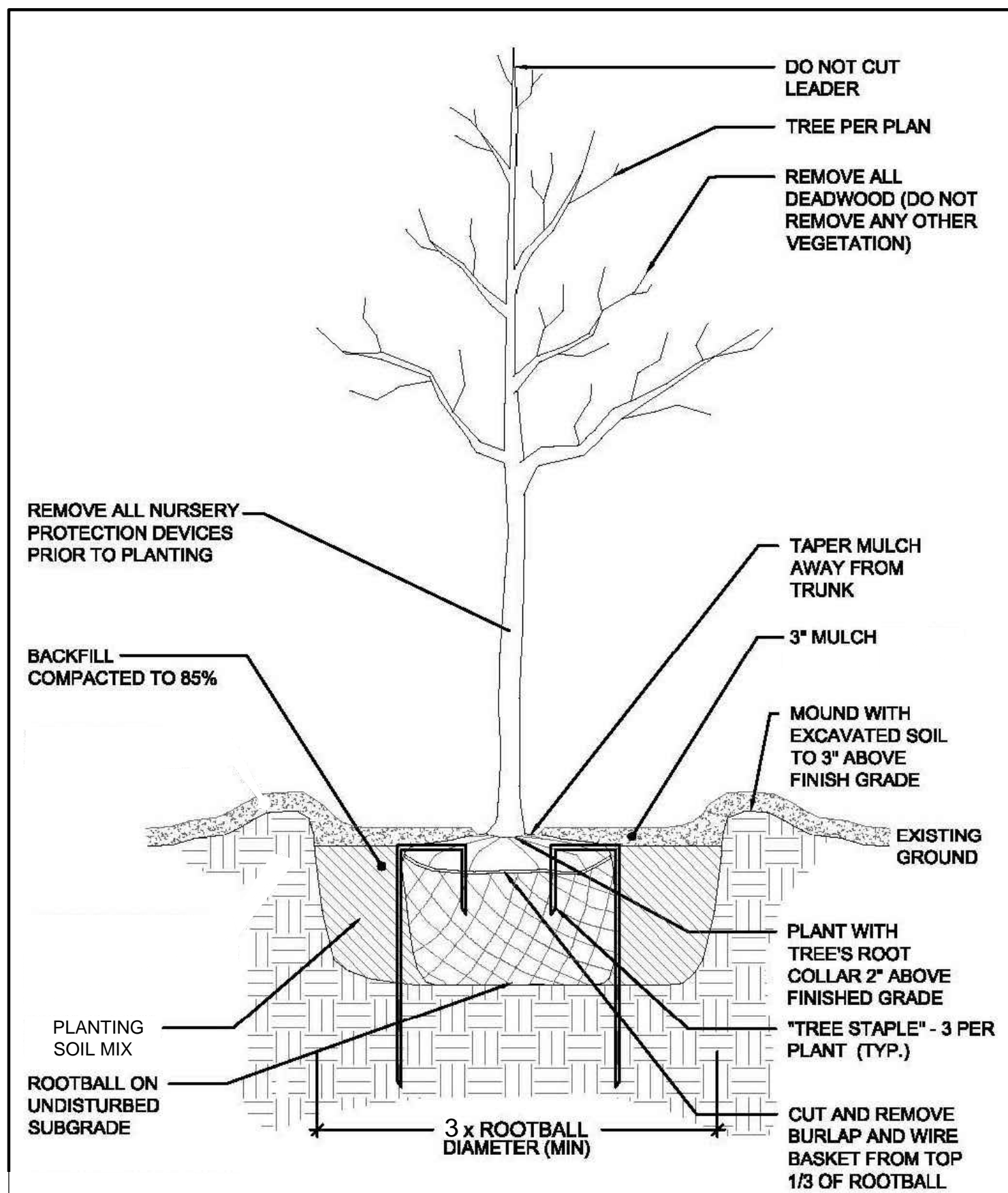


PAVERS PLAN VIEW

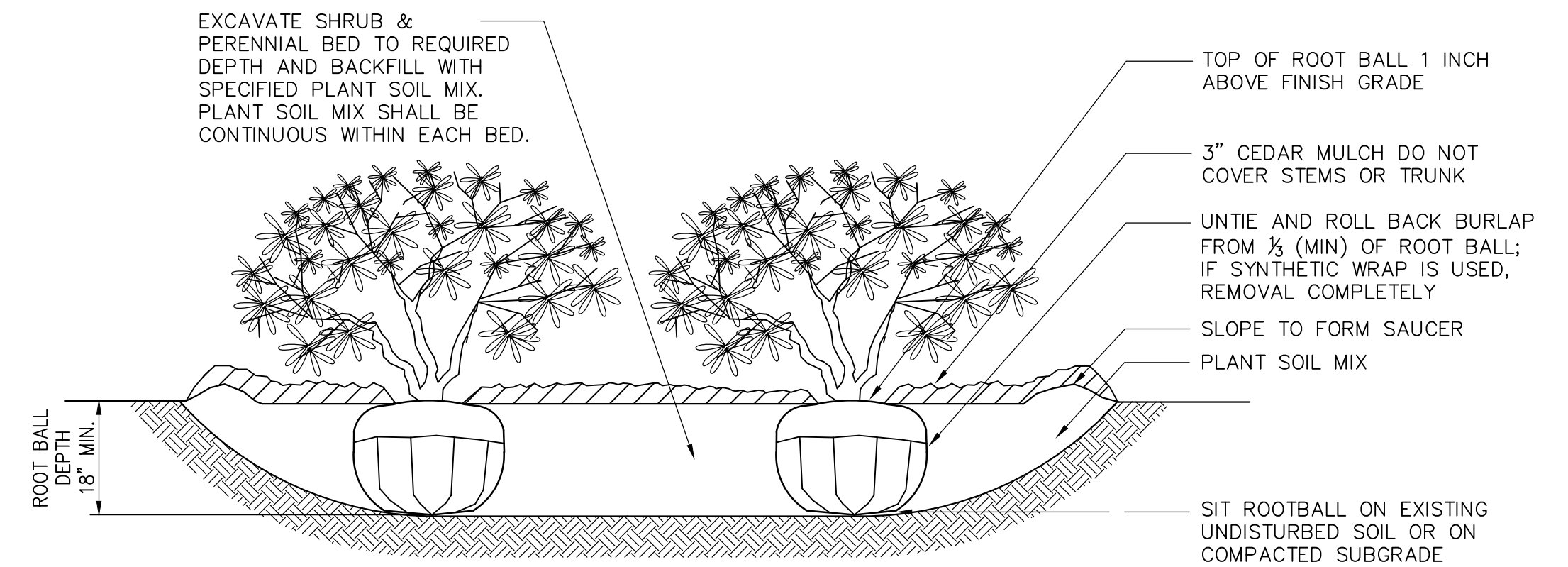


SIDEWALK PAVEMENT SECTION WITH BRICK PAVERS

NOTE:
 1/2" PREMOLDED EXPANSION JOINT MATERIAL AT ALL HARD JOINTS (B/W SECTION OF SIDEWALK, BUILDINGS, POLE FOUNDATION)



TREE STAKING & PLANTING



NOTE:
 1. LOOSEN ROOTS AT THE OUTER EDGE OF ROOTBALL OF CONTAINER GROWN SHRUBS.

PLANTING BED

UB 24-2 Specifications 24" DeepRoot® Tree Root Barrier

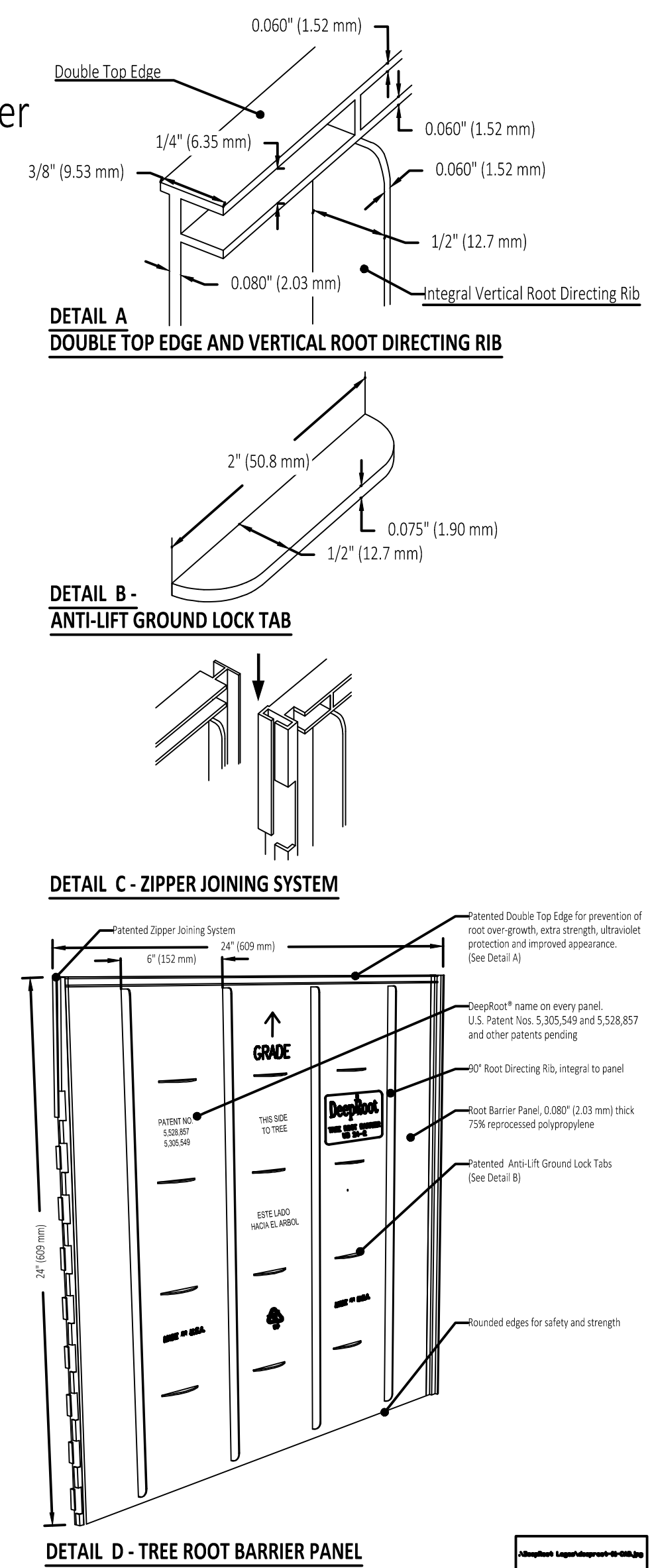
Specified tree root barrier is a mechanical barrier and root deflector used to prevent tree roots from damaging hardscapes and landscapes. Assembled in 24" (609 mm) long modules to create varying lengths for linear applications, or perimeter surround applications in varying sizes.

A. Materials
 1. The contractor shall furnish and install tree root barrier as specified. The tree root barrier shall be either product #UB 24-2 as manufactured by DeepRoot® Green Infrastructure, LLC, 530 Washington Street, San Francisco, CA, www.deeproot.com (800.458.7668).

- Root barrier shall be recyclable, black, injection molded panels with 0.80" (2.03 mm) wall thickness in modules 24" (609 mm) long and 24" (609 mm) deep.
 - Root barrier shall be manufactured with 75% reprocessed polypropylene with added ultraviolet inhibitors.
 - Root barrier shall be comprised of 24" (60.96 cm) panels. Each panel shall have no less than four (4) Molded Integral Vertical Root Directing Ribs of a minimum 0.075" (1.90 mm) thickness, protruding 1/2" (12.7 mm) at 90° from interior of the barrier panel, spaced 6" (152.4 mm) apart. (See Details A & D)
 - Root barrier shall have a Double Top Edge consisting of two parallel, integral, horizontal ribs at the top of the panel at 0.060" (1.52 mm) thickness, 3/8" (9.53 mm) wide and 1/4" (6.35 mm) apart with the lower rib attached to the vertical Root Directing Ribs (See Detail A).
 - Root barrier shall have a minimum of twelve (12) Anti-Lift Ground Lock Tabs consisting of integral horizontal ridges of minimum 0.075" (1.90 mm) thickness in the shape of a segment of an oblong, the 2" (50.8 mm) chord of the segment joining the panel wall and the segment, protruding 3/8" (9.53 mm) from the panel. The twelve ground locks on each panel shall be about equally spaced between each of the vertical root directing ribs (Four (4) between each set of ribs, see Details B & D).
 - Root barrier shall have an integrated Zipper Joining System for assembly by sliding one panel into another (See Detail C).
- U.S. Patents: 5,305,549; and 5,528,857. Other Patents Pending.

Properties	Typical Value	ASTM Test Method
Tensile strength @ yield - Wall	2,354 PSI	D638
Tensile strength @ yield - Hinge	2,846 PSI	D638
Yield Elongation - Wall	7.44%	D638
Yield Elongation - Hinge	7.01%	D638
Flexural Modulus	119,625 PSI	D790B
Notched Izod Impact - Wall	3.84 (ft-lbs)	D256A
Rockwell Hardness r. scale - Wall	84.4	D785A

NOTE:
 ROOT BARRIER AS MANUFACTURED BY DEEP ROOT PARTNERS, LP OR APPROVED EQUAL.



ROOT BARRIER

**BROOKFIELD STREETScape Phase II
 ROUTE 202 (FEDERAL ROAD)
 BROOKFIELD, CONNECTICUT**

FREEMAN COMPANIES
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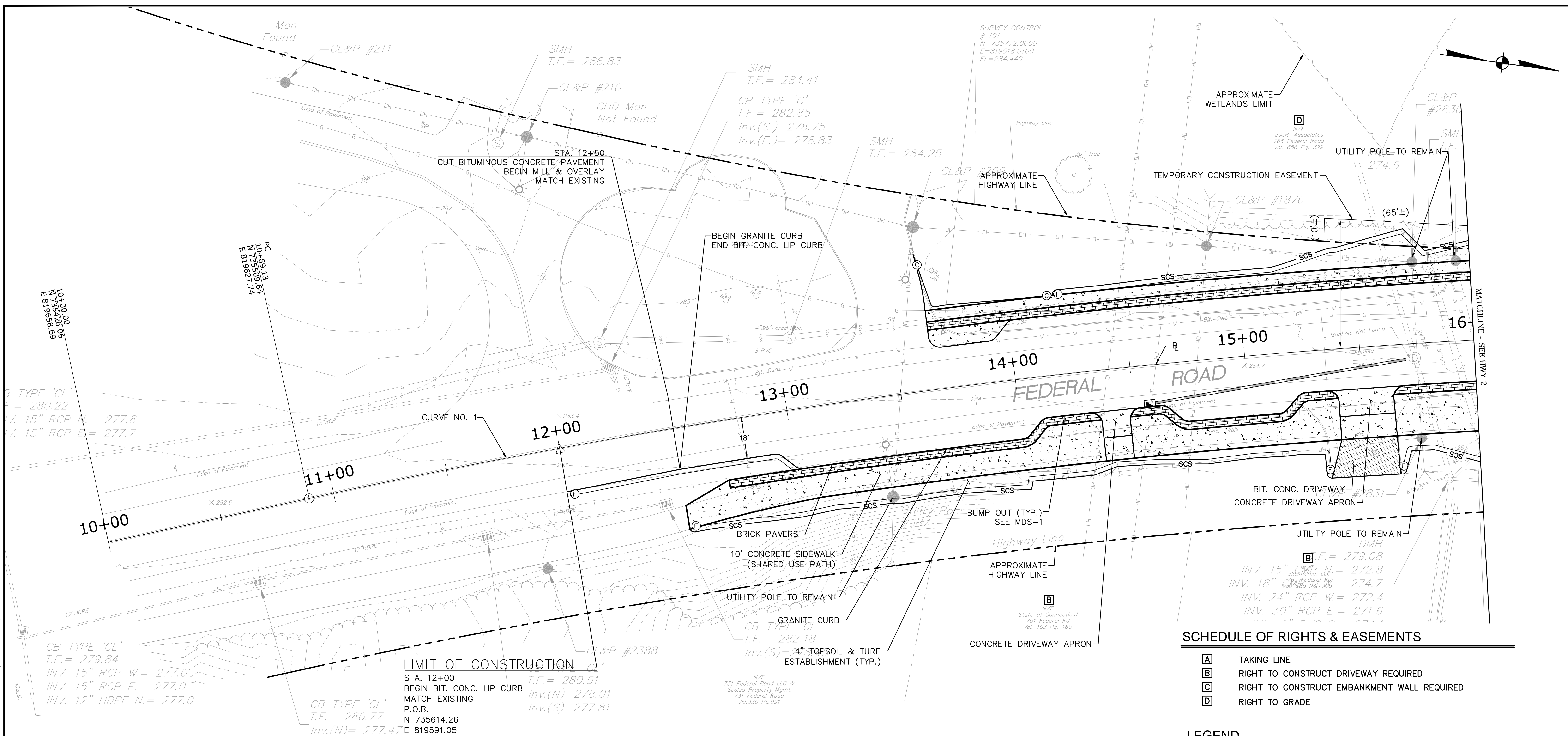
NO. 23423

NO. 23423

DESIGNED: YL
 DRAFTED: KM
 CHECKED: RG
 APPROVED:
 SCALE: NOT TO SCALE
 PROJECT NO.: 2017-0605
 DATE: 06/26/2018
 FILE: HW_MST_2017_0605_MDS-2

TITLE: MISCELLANEOUS DETAILS
 SHEET NUMBER: MDS-2

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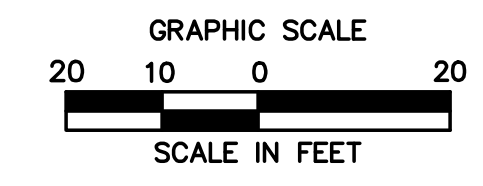


SCHEDULE OF RIGHTS & EASEMENTS

- A** TAKING LINE
- B** RIGHT TO CONSTRUCT DRIVEWAY REQUIRED
- C** RIGHT TO CONSTRUCT EMBANKMENT WALL REQUIRED
- D** RIGHT TO GRADE

LEGEND

- BIT. CONCRETE
- CONCRETE SIDEWALK / CONCRETE DRIVEWAY APRON
- BRICK PAVERS
- EMBANKMENT WALL
- FILL/CUT APPROXIMATE SLOPE LIMITS
- SEDIMENTATION CONTROL SYSTEM
- WETLANDS
- TAKING LINE
- EASEMENT LINE



NOTES

- ALL SOIL DISTURBANCES SHALL BE TREATED WITH 4" TOPSOIL & TURF ESTABLISHMENT.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ELEVATIONS PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL COORDINATE WITH THE ENGINEER REGARDING THE LIMITS OF RESTORATION TO ENSURE A SMOOTH TRANSITION FROM NEW CONSTRUCTION TO EXISTING CONDITIONS.
- CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" (CBYD) 1-800-922-4455 PRIOR TO COMMENCING CONSTRUCTION.
- EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANS OR AS DIRECTED BY THE ENGINEER.
- CONTRACTOR SHALL COORDINATE WITH APPROPRIATE UTILITY FOR MANHOLES, GATES, BOXES AND FRAMES ETC., AFFECTED BY THE CONSTRUCTION ACTIVITIES WHICH ARE NOT IDENTIFIED AS BEING REMOVED SHALL BE RESET OR RECONSTRUCTED (AS REQUIRED) TO THE PROPER GRADE.

GAS								
TEST PIT #	BASELINE		NORTHING	EASTING	GROUND ELEVATION (FT)	TOP OF PIPE ELEVATION (FT)	DESCRIPTION	RELOCATION ANTICIPATED
	STATION	OFFSET						
G-1	15+35	10.00 RT	735939.185	819512.349			The existing gas main may conflict with the proposed 12" RCP	
EXISTING MANHOLE								
M-1	15+70	7.00 RT	735972.760	819502.144			the existing manhole needs to be located in order to tie proposed RCP	

CURVE NO. 1 DATA	
Δ	10.6616 RIGHT
R	3200'
T	298.589'
L	595.454'

ROUTE 202 (FEDERAL ROAD)			
DESIGN CLASSIFICATION	DESIGN SPEED	TYPE OF ROADSIDE DEVELOPMENT	ADT
URBAN COLLECTOR STREET	35 MPH	HIGH DENSITY COMMERCIAL	9000

**BROOKFIELD STREETSCAPE PHASE II
ROUTE 202 (FEDERAL ROAD)
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FREEMAN COMPANIES
LAND DEVELOPMENT | ENGINEERING DESIGN | CONSTRUCTION SERVICES
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 CONNECTICUT 06804

TUYANG LIN, PE, PTOE NO. 23422

DESIGNED: YL
 DRAFTED: PT
 CHECKED: RG
 APPROVED: _____
 SCALE: AS NOTED
 PROJECT NO.: 2017-0605
 DATE: 05/10/2018
 FILE: HW_MST_2017_0605_HWY

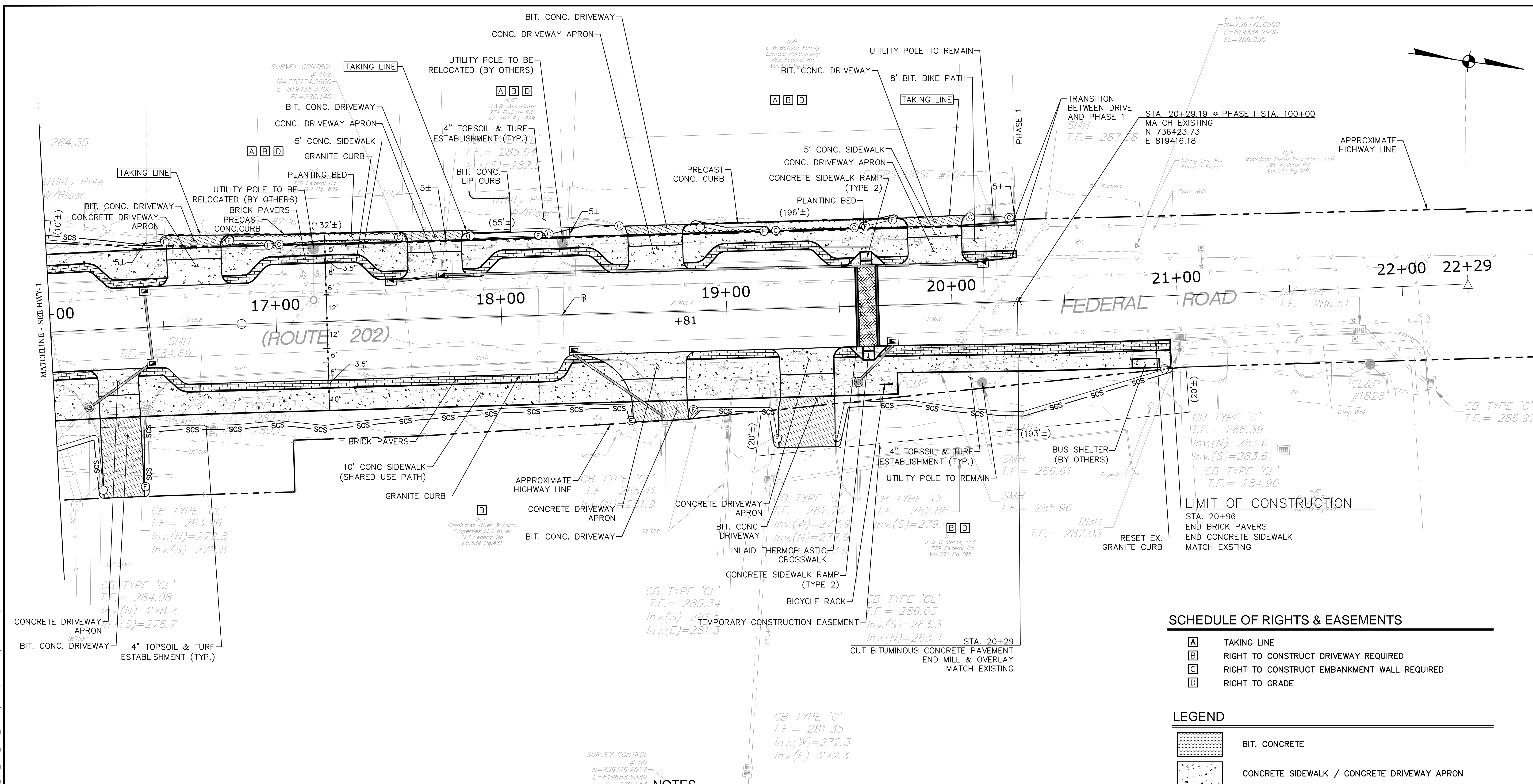
NO. DATE DESCRIPTION REVISIONS

TITLE:
ROADWAY PLAN

SHEET NUMBER:
HWY-1

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WATER (AQUARIUM)								
TEST PIT #	BASELINE		NORTHING	EASTING	GROUND ELEVATION (FT)	TOP OF PIPE ELEVATION (FT)	DESCRIPTION	RELOCATION ANTICIPATED
	STATION	OFFSET						
W-1	16+43	17.00 LT	736040.085	819464.430			The existing gas main may conflict with the proposed 12" RCP. The existing watermain may conflict with the proposed CB	
TELEPHONE								
T-1	16+31	24.00 RT	736035.300	819507.076			The existing telephone line may conflict with the proposed 12" RCP	
T-2	18+40	23.00 RT	736240.659	819470.655			The existing telephone line may conflict with the proposed 12" RCP	
T-3	19+65	24.00 RT	736364.408	819450.618			The existing telephone line may conflict with the proposed 12" RCP	
SANITARY SEWER								
S-1	18+50	30.00 RT	736251.168	819475.956			The existing sewer line may conflict with the proposed 12" RCP	

SURVEY CONTROL # 50
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 E=819658.5380
 EL=279.343

NOTES

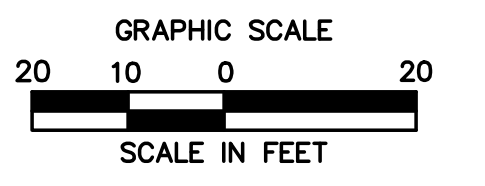
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- CONCRETE SIDEWALK / CONCRETE DRIVEWAY APRON
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- FILL/CUT APPROXIMATE SLOPE LIMITS
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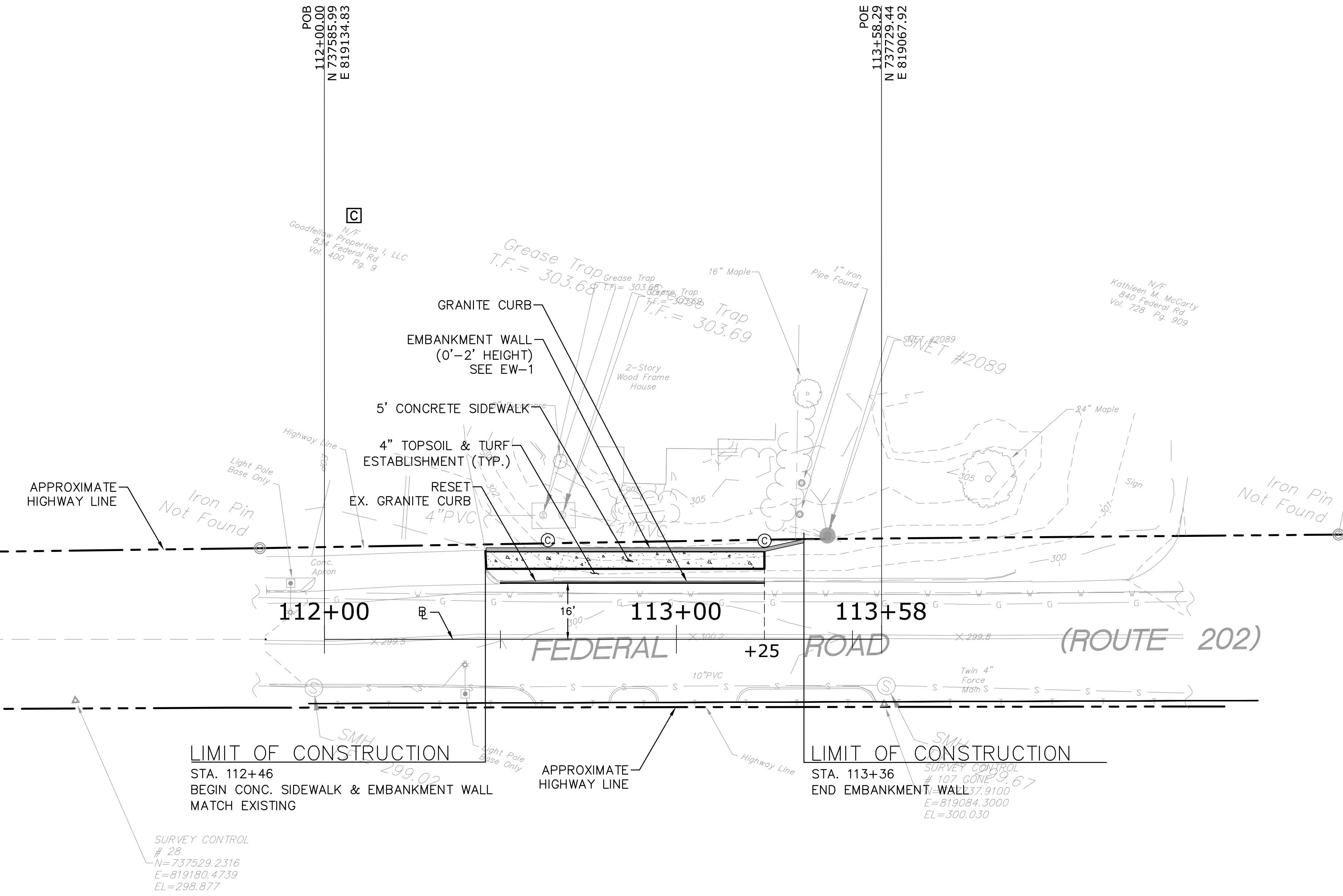
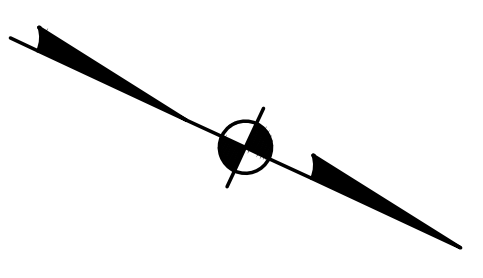
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 CHECKED: RG
 APPROVED:
 SCALE: AS NOTED
 PROJECT NO.: 2017-0605
 DATE: 05/10/2018
 FILE: HW_MST_2017_0605_HWY

TITILE: ROADWAY PLAN

SHEET NUMBER:
HWY-2

NO.	DATE	DESCRIPTION

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LIMIT OF CONSTRUCTION
 STA. 112+46
 BEGIN CONC. SIDEWALK & EMBANKMENT WALL
 MATCH EXISTING

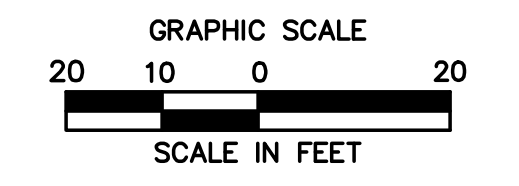
LIMIT OF CONSTRUCTION
 STA. 113+36
 END EMBANKMENT WALL

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NOTES

1. ALL SOIL DISTURBANCES SHALL BE TREATED WITH 4" TOPSOIL & TURF ESTABLISHMENT.
2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ELEVATIONS PRIOR TO CONSTRUCTION.
3. CONTRACTOR SHALL COORDINATE WITH THE ENGINEER REGARDING THE LIMITS OF RESTORATION TO ENSURE A SMOOTH TRANSITION FROM NEW CONSTRUCTION TO EXISTING CONDITIONS.
4. CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" (CBYD) 1-800-922-4455 PRIOR TO COMMENCING CONSTRUCTION.
5. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANS OR AS DIRECTED BY THE ENGINEER.
6. CONTRACTOR SHALL COORDINATE WITH APPROPRIATE UTILITY FOR MANHOLES, GATES, BOXES AND FRAMES ETC., AFFECTED BY THE CONSTRUCTION ACTIVITIES WHICH ARE NOT IDENTIFIED AS BEING REMOVED SHALL BE RESET OR RECONSTRUCTED (AS REQUIRED) TO THE PROPER GRADE.

Freeman Companies, LLC - R:\2017\2017-0605 Brookfield Streetscape Phase 2\DWG\HW_MST_2017_0605_Hwy.dwg Jul 09, 2018-2:25pm Plotted By: pitakuri

FREEMAN COMPANIES
 LAND DEVELOPMENT | ENGINEERING DESIGN | CONSTRUCTION SERVICES
 DBE | DAS | MBE | GWASDC CERTIFIED
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 FREEMAN COMPANIES, LLC
 36 JOHN STREET
 HARTFORD, CT 06106
 WWW.FREEMANCOS.COM
 (860)251-9550
 TOLL FREE: (800)904-5141
 FAX: (860)988-7161
 ELEVATE YOUR EXPECTATIONS

PREPARED FOR
 TOWN OF BROOKFIELD
 100 POCONO ROAD
 BROOKFIELD,
 CONNECTICUT 06804

OWNER FOR
 TOWN OF BROOKFIELD
 100 POCONO ROAD
 BROOKFIELD,
 CONNECTICUT 06804

TUYANG LIN, PE, PDS
 NO. 23422

**BROOKFIELD STREETSCAPE PHASE II
 ROUTE 202 (FEDERAL ROAD)
 BROOKFIELD, CONNECTICUT**

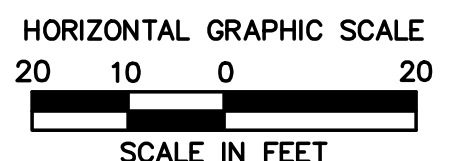
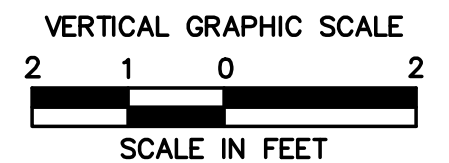
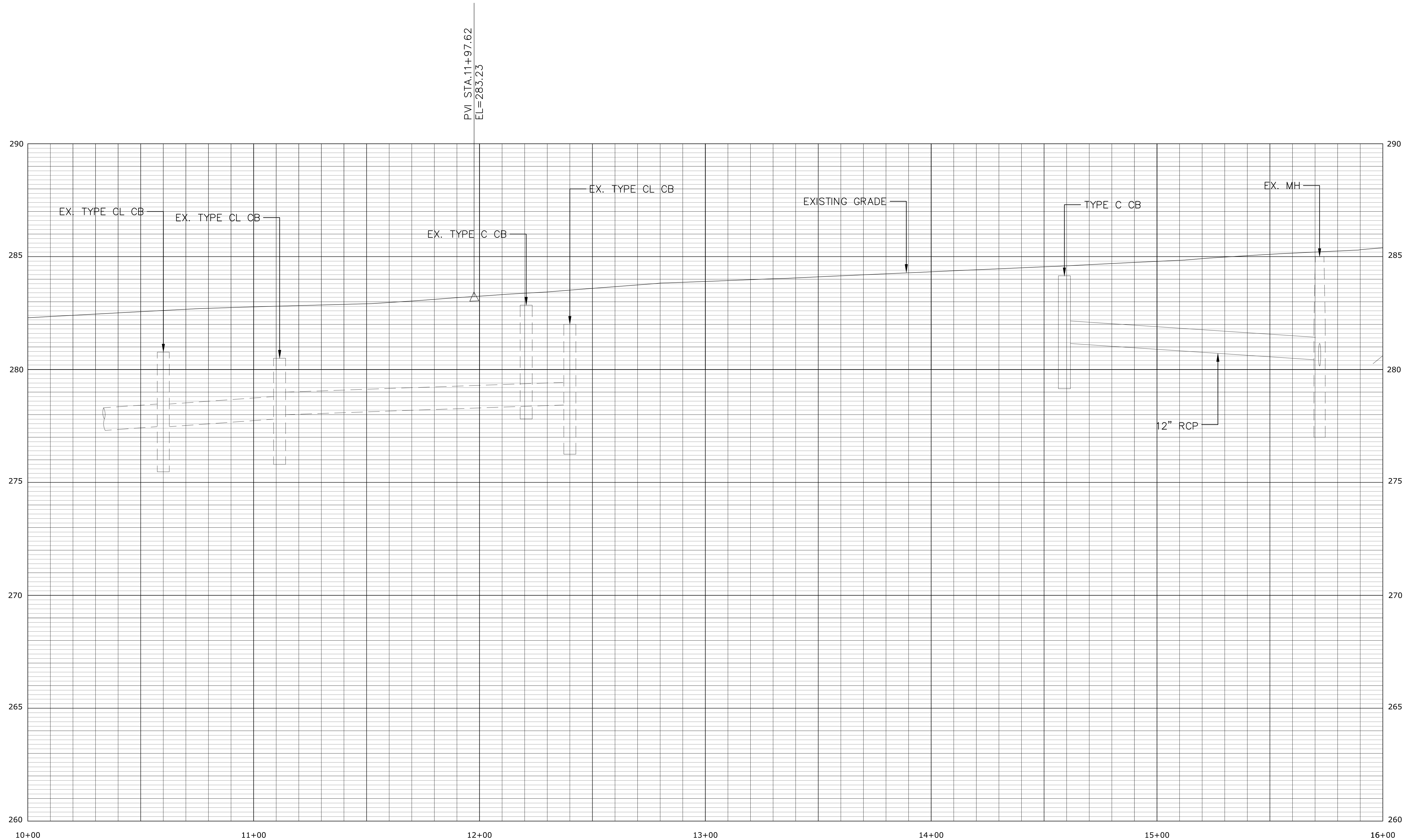
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DRAFTED:	MK
CHECKED:	RG
APPROVED:	
SCALE:	AS NOTED
PROJECT NO.:	2017-0605
DATE:	01/26/2018
FILE:	HW_MST_2017_0605_HWY

TITLE:	ROADWAY PLAN
SHEET NUMBER:	HWY-3

NO.	DATE	DESCRIPTION

THESE DRAWINGS SHALL NOT BE UTILIZED BY ANY PERSON, FIRM OR CORPORATION WITHOUT THE SPECIFIC WRITTEN PERMISSION OF FREEMAN COMPANIES, LLC

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 BROOKFIELD,
 CONNECTICUT 06804

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 CONNECTICUT 06804

TUYANG LIN, P.E., PTOE NO. 23432

BROOKFIELD STREETScape PHASE II ROUTE 202 (FEDERAL ROAD) BROOKFIELD, CONNECTICUT

NO.	DATE	DESCRIPTION

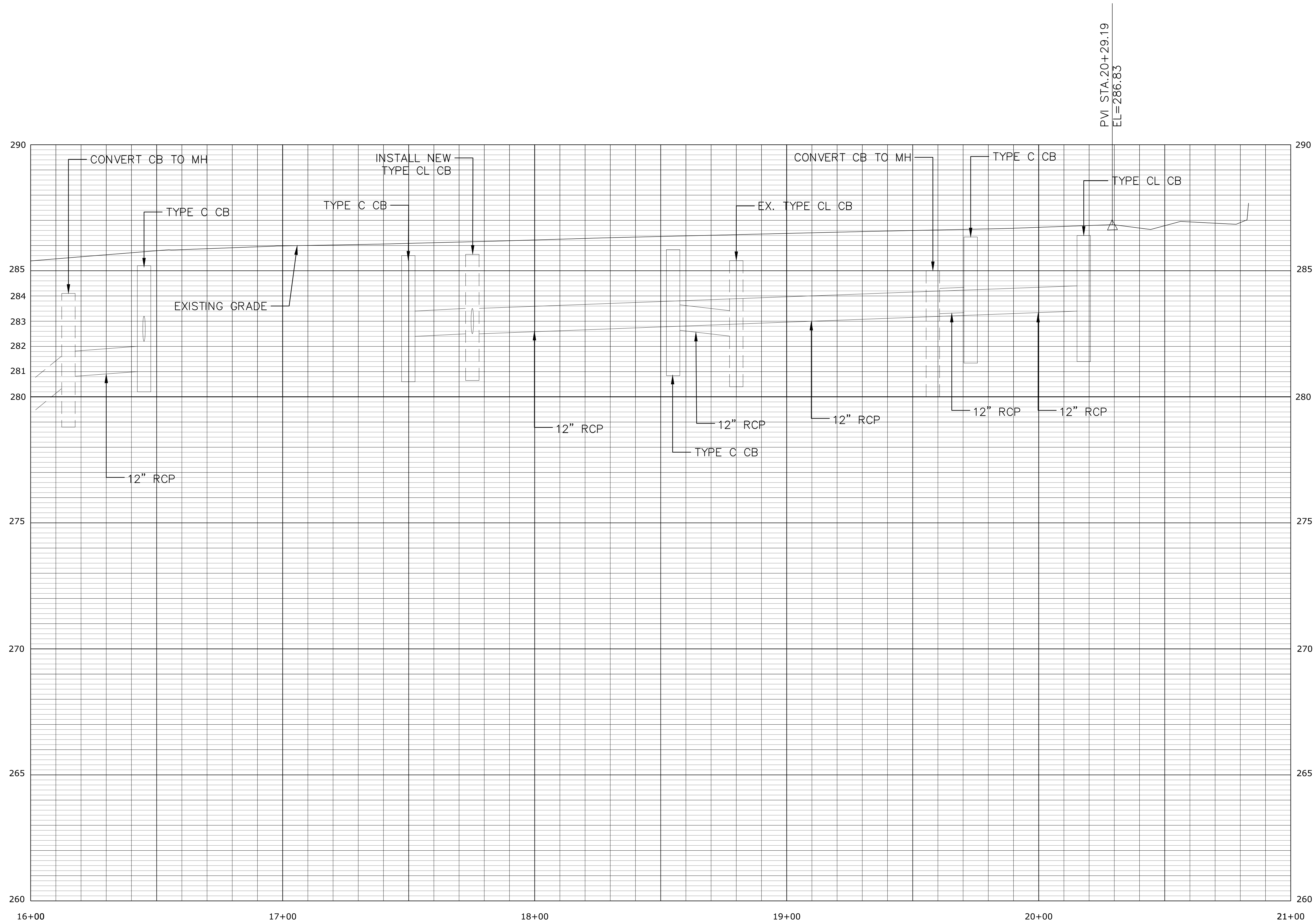
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 DRAFTED: MK
 CHECKED: RG
 APPROVED: AS NOTED
 SCALE: AS NOTED
 PROJECT NO.: 2017-0605
 DATE: 06/20/2018
 FILE: HW_MST_2017_0605_PRO

TITLE:
PROFILE PLAN

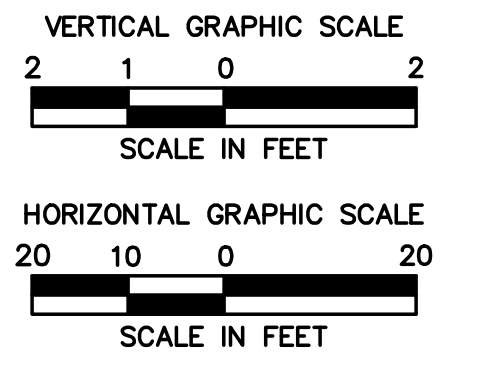
SHEET NUMBER:
PRO-1

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Freeman Companies, LLC - R:\2017\2017-0605 Brookfield Streetscape Phase 2\DWG\HW_MST_2017_0605_PRO.dwg Jul 09, 2018-2:29pm Plotted By: plikkurt



PVI STA. 20+29.19
EL=286.83



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BROOKFIELD,
CONNECTICUT 06804
OWNER FOR
TOWN OF BROOKFIELD
100 POCONO ROAD
BROOKFIELD,
CONNECTICUT 06804

TUYANG LIN, P.E., P.TSE NO. 23432

BROOKFIELD STREETScape PHASE II ROUTE 202 (FEDERAL ROAD) BROOKFIELD, CONNECTICUT

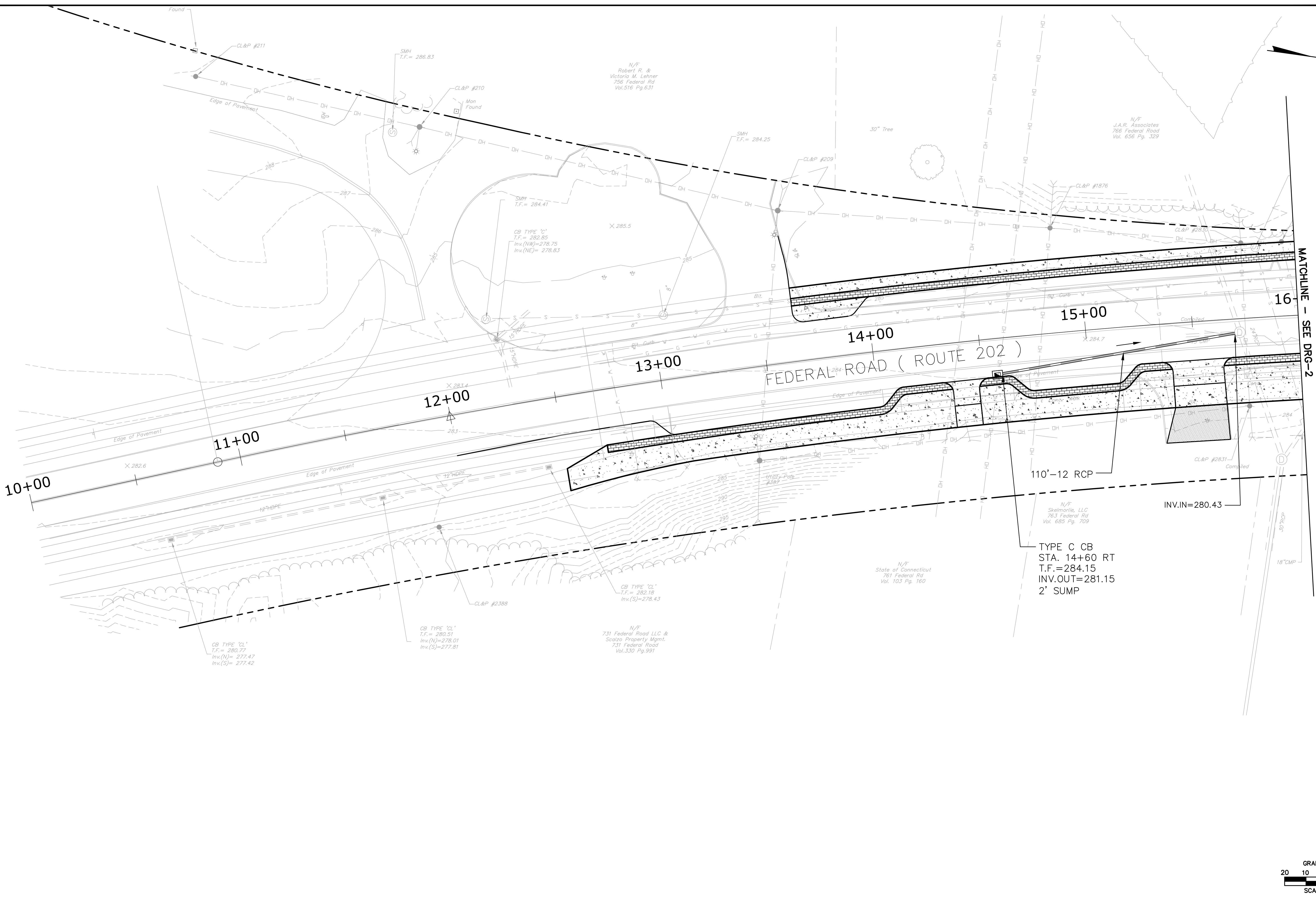
NO.	DATE	DESCRIPTION

DESIGNED: YL
DRAFTED: MK
CHECKED: RG
APPROVED:
SCALE: AS NOTED
PROJECT NO.: 2017-0605
DATE: 06/20/2018
FILE: HW_MST_2017_0605_PRO

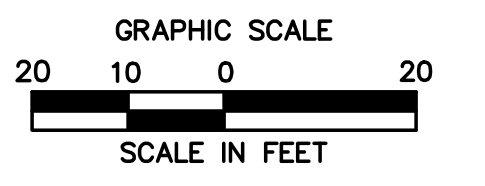
TITLE:
PROFILE PLAN
SHEET NUMBER:
PRO-2

THESE DRAWINGS SHALL NOT BE UTILIZED BY ANY PERSON, FIRM OR CORPORATION WITHOUT THE SPECIFIC WRITTEN PERMISSION OF FREEMAN COMPANIES, LLC

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MATCHLINE - SEE DRG-2



BROOKFIELD STREETScape PHASE II ROUTE 202 (FEDERAL ROAD) BROOKFIELD, CONNECTICUT

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 BROOKFIELD,
 CONNECTICUT 06804

OWNER FOR
 TOWN OF BROOKFIELD
 100 POCOON ROAD
 BROOKFIELD,
 CONNECTICUT 06804

TUYANG LIM, PE, PDS
 NO. 23432

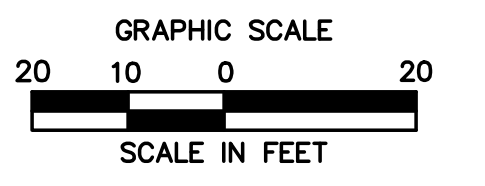
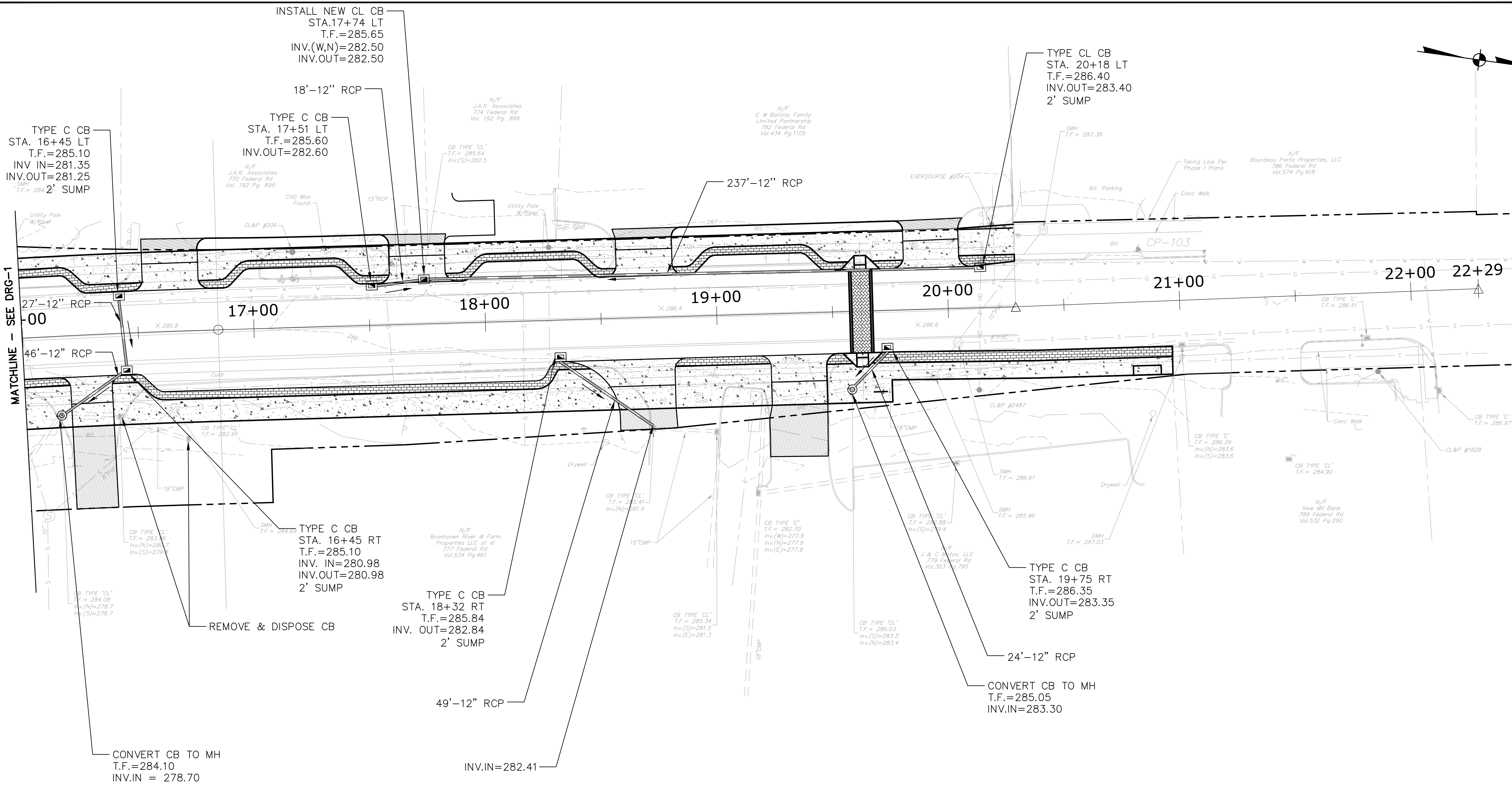
NO.	DATE	DESCRIPTION

DESIGNED: YL
 DRAFTED: PT
 CHECKED: RG
 APPROVED:
 SCALE: 1" = 20'
 PROJECT NO.: 2017-0605
 DATE: 06/13/2018
 FILE: HW_MST_2017_0605_DRN

TITLE:
DRAINAGE PLAN

SHEET NUMBER:
DRG-1

THESE DRAWINGS SHALL NOT BE UTILIZED BY ANY PERSON, FIRM OR CORPORATION WITHOUT THE SPECIFIC WRITTEN PERMISSION OF FREEMAN COMPANIES, LLC



BROOKFIELD STREETScape Phase II ROUTE 202 (FEDERAL ROAD) BROOKFIELD, CONNECTICUT

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FAX: (860)251-7151
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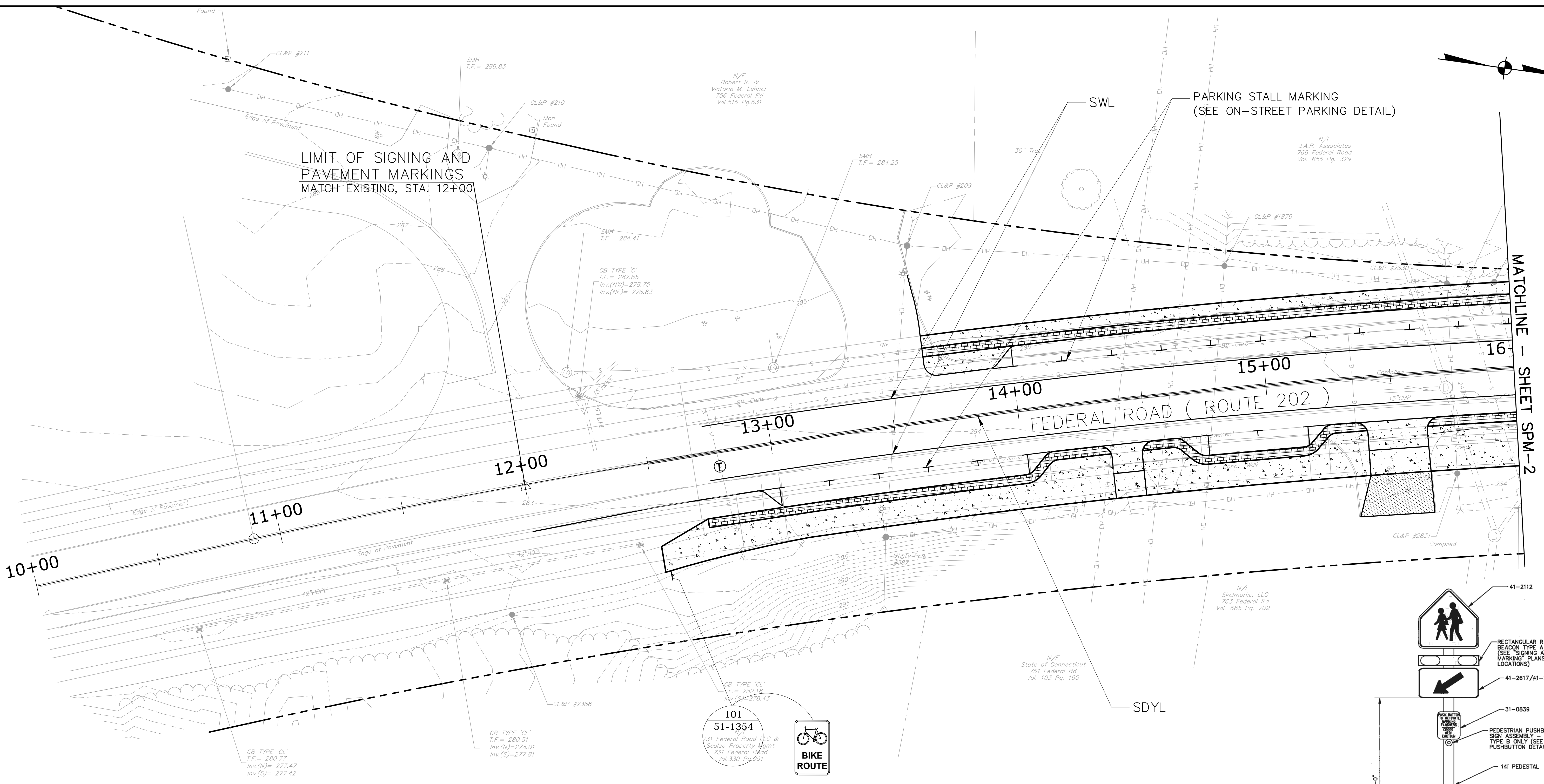
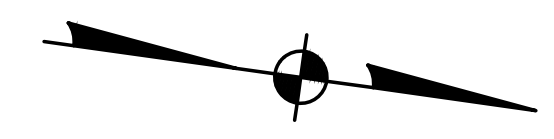
PREPARED FOR
TOWN OF BROOKFIELD
100 POCONO ROAD
BROOKFIELD,
CONNECTICUT 06804
OWNER FOR
TOWN OF BROOKFIELD
100 POCONO ROAD
BROOKFIELD,
CONNECTICUT 06804
TUYANG LIM, PE, PTOE NO. 23432

DESIGNED:	YL
DRAFTED:	PT
CHECKED:	RG
APPROVED:	
SCALE:	1" = 20'
PROJECT NO.:	2017-0605
DATE:	06/13/2018
FILE:	HW_MST_2017_0605_DRN

TITLE:	DRAINAGE PLAN
SHEET NUMBER:	DRG-2

Freeman Companies, LLC - R:\2017\2017-0605 Brookfield Streetscape Phase 2\DWG\HW_MST_2017_0605_DRN.dwg Jul 10, 2018 - 2:42pm Plotted By: plakurt

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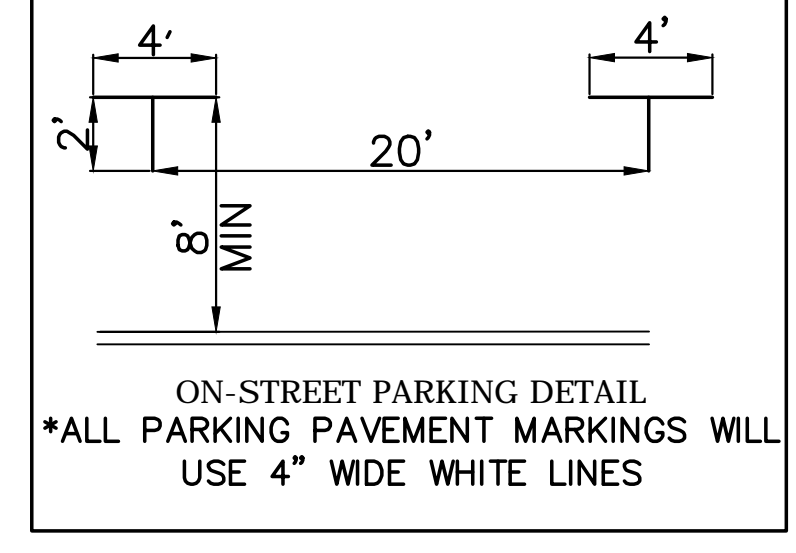


SIGNING NOTES:

1. INSTALL ALL SIGNS AS INDICATED.
2. ALL EXISTING SIGNS WITHIN LIMIT OF CONSTRUCTION TO BE REMOVED UNLESS OTHERWISE NOTED ON PLANS OR DIRECTED BY THE ENGINEER.
3. ALL EXISTING SIGNS OUTSIDE THE LIMIT OF CONSTRUCTION TO REMAIN UNLESS OTHERWISE NOTED ON PLANS OR DIRECTED BY THE ENGINEER.
4. EXACT SIGN LOCATIONS TO BE DETERMINED IN THE FIELD.
5. WHEN A SIGN IS TO BE REPLACED, THE EXISTING SIGN SHOULD NOT BE REMOVED UNTIL THE NEW REPLACEMENT SIGN IS INSTALLED.
6. SIGNS SHALL NOT BE PLACED LESS THAN 10 FEET FROM UTILITY POLES.

PAVEMENT MARKING LEGEND

- SWL 4" SOLID WHITE LINE
- SDYL 4" SOLID DOUBLE YELLOW LINE

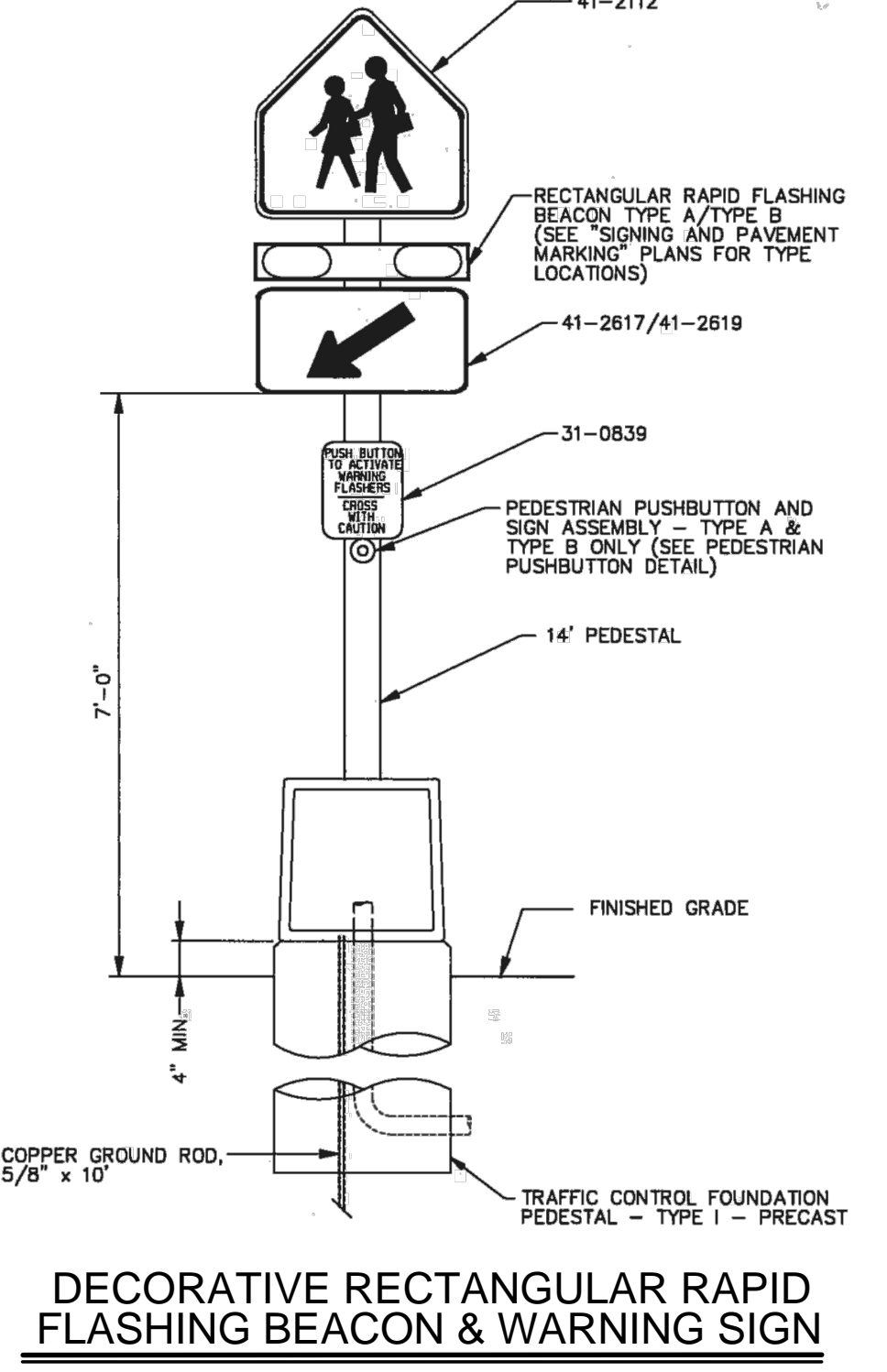


PAVEMENT MARKING NOTES:

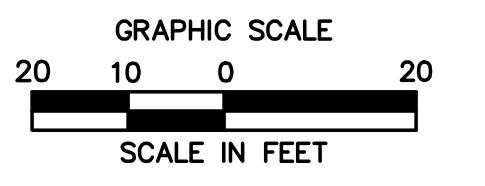
1. ALL FINAL PAVEMENT MARKINGS TO BE EPOXY.
 2. INSTALL ALL PAVEMENT MARKINGS WITHIN THE LIMITS OF CONSTRUCTION UNLESS OTHERWISE SHOWN OR AS DIRECTED BY THE ENGINEER. MATCH TO EXISTING PAVEMENT MARKINGS AT THE LIMIT OF CONSTRUCTION.
 3. PAVEMENT MARKINGS TO BE INSTALLED IN ACCORDANCE WITH TYPICAL DRAWING "SPECIAL DETAILS AND TYPICAL PAVEMENT MARKINGS FOR TWO-WAY HIGHWAYS" EXCEPT AS OTHERWISE DIMENSIONED OR SHOWN ON PLANS.
 4. EXISTING PAVEMENT MARKINGS SHALL BE REMOVED BY CONTRACTOR WHERE IN CONFLICT WITH THE PROPOSED PAVEMENT MARKINGS BY A METHOD WHICH IS ACCEPTABLE BY CDOT DISTRICT OFFICE AND THE TOWN. GRINDING IS NOT ALLOWED.
- Ⓣ STAMPED THERMOPLASTIC CROSSWALK, 8' WIDTH WITH 12" WIDE WHITE TRANSVERSE LINE ON BOTH SIDES (TOWN MAINTAINED). SEE SHEET NO. MDS-2 FOR ADDITIONAL INFORMATION

SIGNING STANDARD CONVENTIONS

	OVERHEAD INSTALLATION
	CANTILEVER INSTALLATION
	SIDE MOUNTED INSTALLATION
	REGULATORY, WARNING OR GUIDE SIGN INSTALLATION
	LOCATION NO.
	SIGN NO.



DECORATIVE RECTANGULAR RAPID FLASHING BEACON & WARNING SIGN



Freeman Companies, LLC - R:\2017\2017-0605 Brookfield Streetscape Phase 2\DWG\HW_MST_2017_0605_SPM.dwg Jul 13, 2018-8:29am Plotted By: plikurt

FREEMAN COMPANIES
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 BROOKFIELD,
 CONNECTICUT 06804

OWNER FOR
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 CONNECTICUT 06804

TUYANG LIM, PE, PTOE NO. 23422

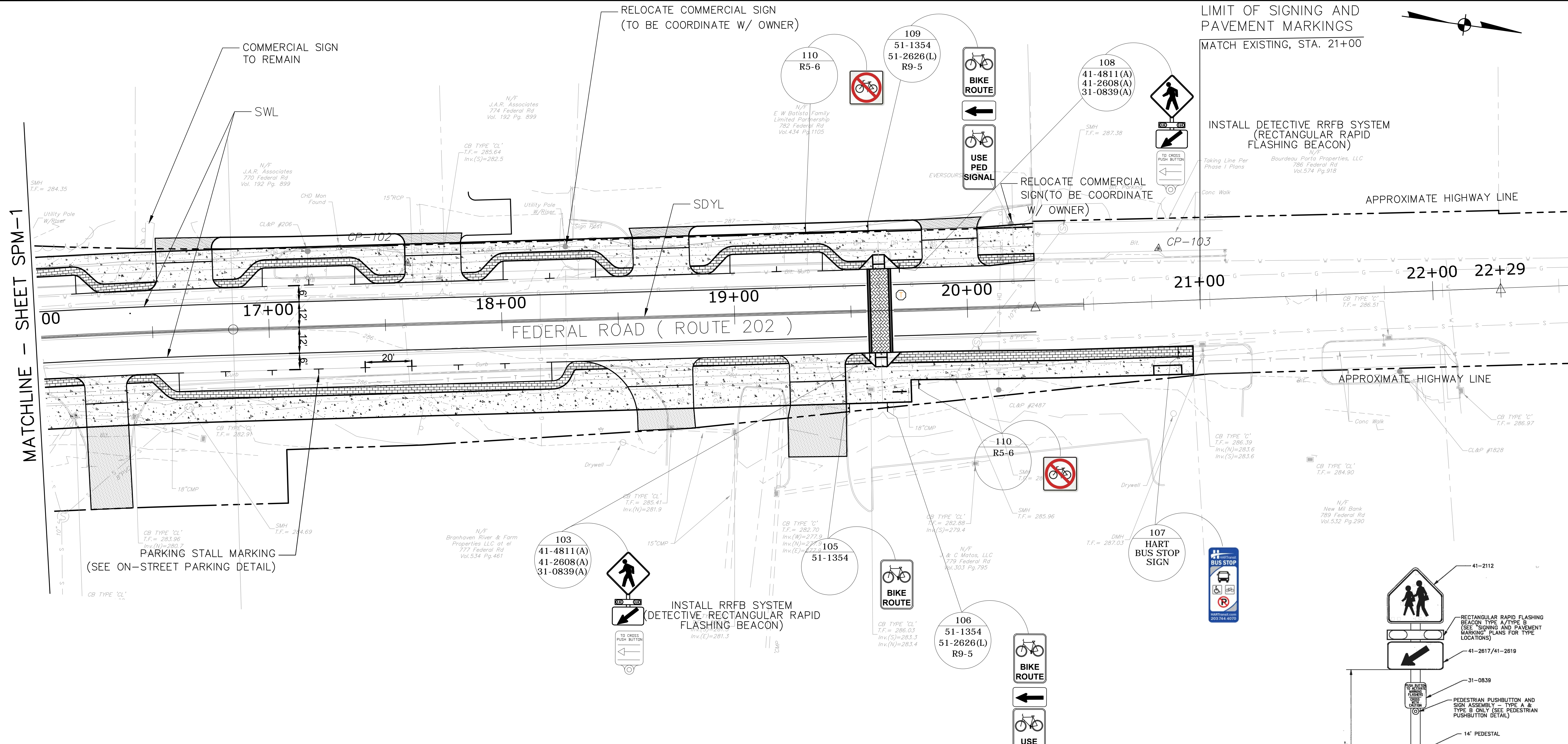
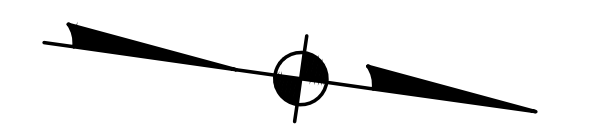
**BROOKFIELD STREETSCAPE PHASE II
 ROUTE 202 (FEDERAL ROAD)
 BROOKFIELD, CONNECTICUT**

DESIGNED:	YL
DRAFTED:	PT
CHECKED:	RG
APPROVED:	
SCALE:	1" = 20'
PROJECT NO.:	2017-0605
DATE:	06/13/2018
FILE:	HW_MST_2017_0605_SPM

TITLE:	SIGNAGE & PAVEMENT MARKING PLAN
SHEET NUMBER:	SPM-1

THESE DRAWINGS SHALL NOT BE UTILIZED BY ANY PERSON, FIRM OR CORPORATION WITHOUT THE SPECIFIC WRITTEN PERMISSION OF FREEMAN COMPANIES, LLC

LIMIT OF SIGNING AND PAVEMENT MARKINGS
MATCH EXISTING, STA. 21+00



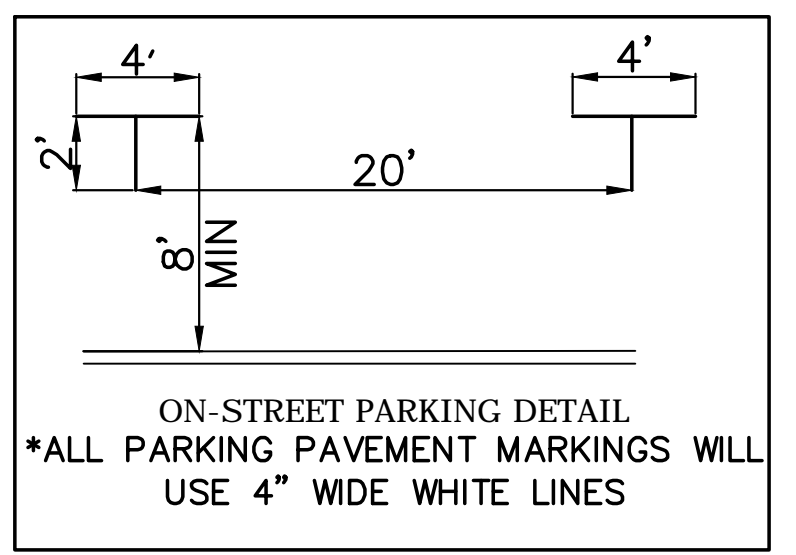
MATCHLINE - SHEET SPM-1

SIGNING NOTES:

1. INSTALL ALL SIGNS AS INDICATED.
2. ALL EXISTING SIGNS WITHIN LIMIT OF CONSTRUCTION TO BE REMOVED UNLESS OTHERWISE NOTED ON PLANS OR DIRECTED BY THE ENGINEER.
3. ALL EXISTING SIGNS OUTSIDE THE LIMIT OF CONSTRUCTION TO REMAIN UNLESS OTHERWISE NOTED ON PLANS OR DIRECTED BY THE ENGINEER.
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6. SIGNS SHALL NOT BE PLACED LESS THAN 10 FEET FROM UTILITY POLES.

PAVEMENT MARKING LEGEND

SWL 4" SOLID WHITE LINE
SDYL 4" SOLID DOUBLE YELLOW LINE

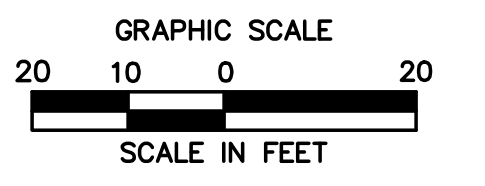
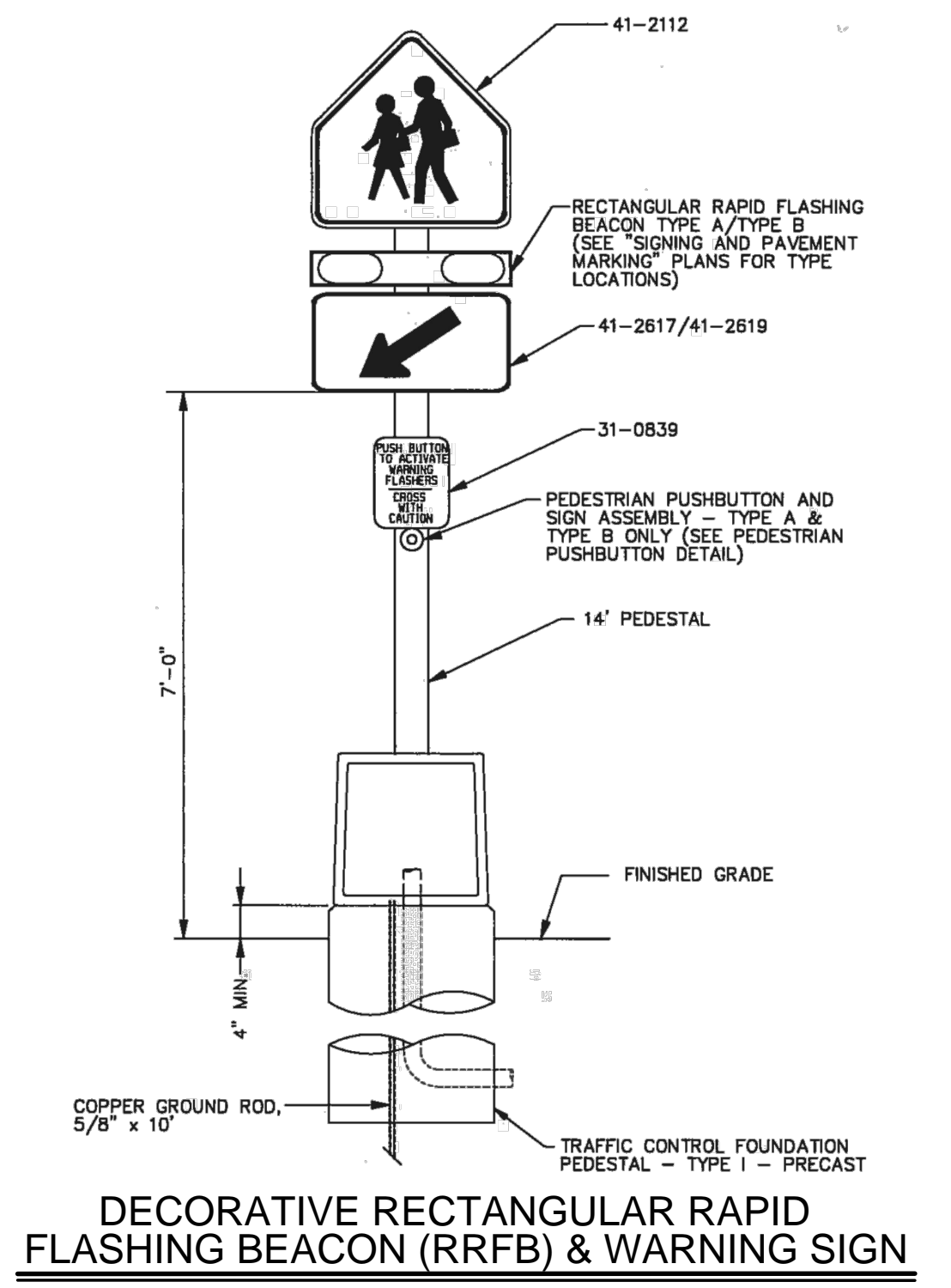


PAVEMENT MARKING NOTES:

1. ALL FINAL PAVEMENT MARKINGS TO BE EPOXY.
 2. INSTALL ALL PAVEMENT MARKINGS WITHIN THE LIMITS OF CONSTRUCTION UNLESS OTHERWISE SHOWN OR AS DIRECTED BY THE ENGINEER. MATCH TO EXISTING PAVEMENT MARKINGS AT THE LIMIT OF CONSTRUCTION.
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- ① STAMPED THERMOPLASTIC CROSSWALK, 8' WIDTH WITH 12" WIDE WHITE TRANSVERSE LINE ON BOTH SIDES (TOWN MAINTAINED). SEE SHEET NO. MDS-2 FOR ADDITIONAL INFORMATION

SIGNING STANDARD CONVENTIONS

	OVERHEAD INSTALLATION	
	CANTILEVER INSTALLATION	
	SIDE MOUNTED INSTALLATION	
	SINGLE POST MOUNTING	REGULATORY, WARNING OR GUIDE SIGN INSTALLATION
	DOUBLE POST MOUNTING	
	LOCATION NO.	
	SIGN NO.	



Freeman Companies, LLC - R:\2017\2017-0605 Brookfield Streetscape Phase 2\DWG\HW_MST_2017_0605_SPM.dwg Jul 13, 2018-8:28am Plotted By: plakkuri

FREEMAN COMPANIES
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CONNECTICUT 06804

TUYANG LIN, PE, PTOE NO. 23432

**BROOKFIELD STREETSCAPE PHASE II
ROUTE 202 (FEDERAL ROAD)
BROOKFIELD, CONNECTICUT**

DESIGNED:	YL
DRAFTED:	PT
CHECKED:	RG
APPROVED:	
SCALE:	1" = 20'
PROJECT NO.:	2017-0605
DATE:	06/13/2018
FILE:	HW_MST_2017_0605_SPM

TITLE:	SIGNAGE & PAVEMENT MARKING PLAN
SHEET NUMBER:	SPM-2

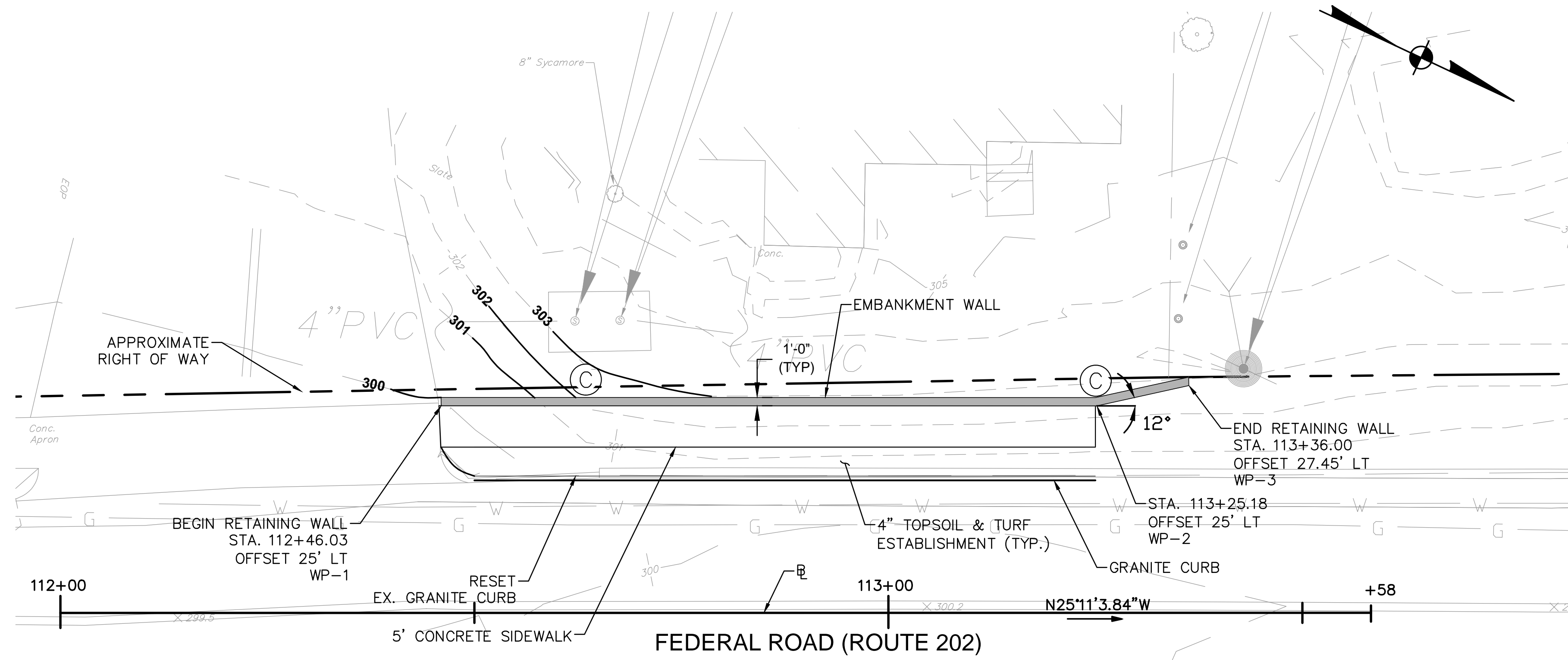
NO.	DATE	DESCRIPTION
		REVISIONS

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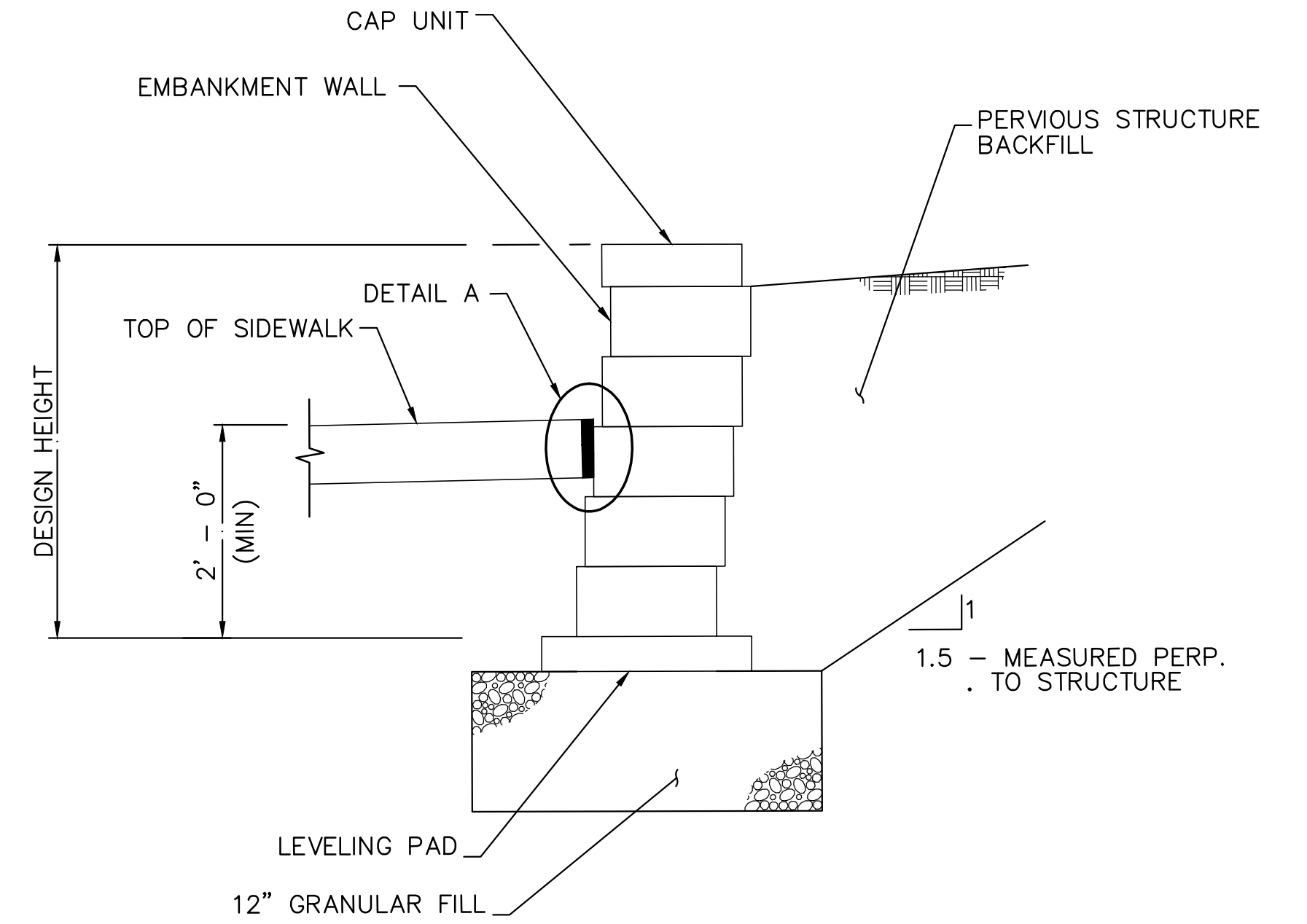
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WP-2	819059.254	737688.868
WP-3	819052.340	737697.902

NOTES

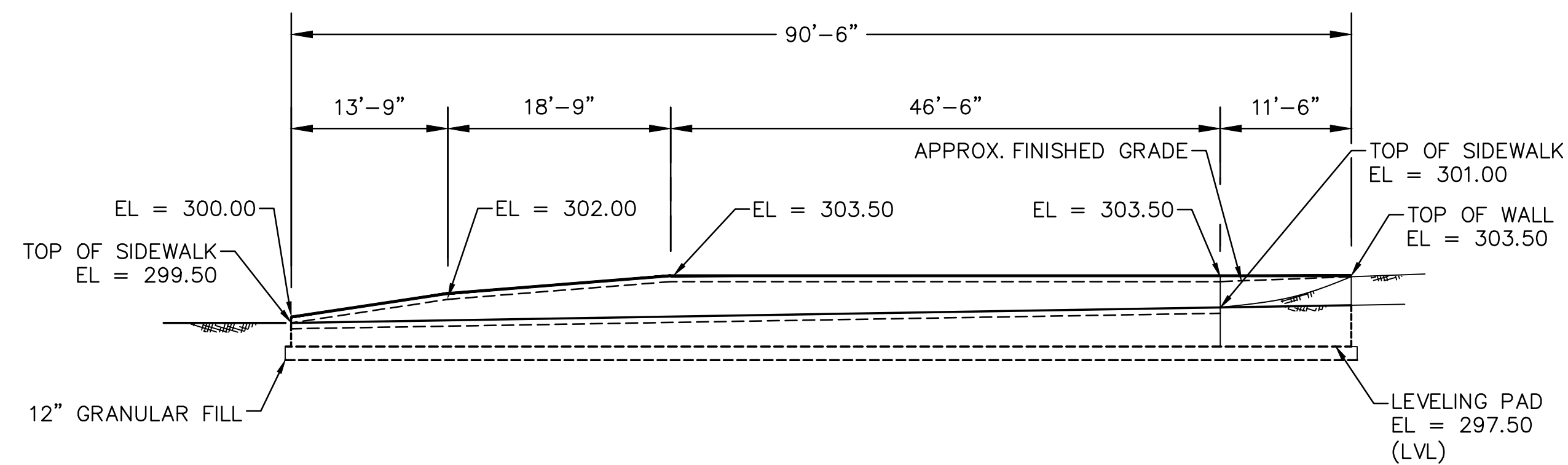
1. THE CONTRACTOR SHALL SELECT, DESIGN, DETAIL AND CONSTRUCT ONE OF THE WALL OPTIONS IN ACCORDANCE WITH THE SPECIAL PROVISION "EMBANKMENT WALL (SITE NO.1)" IN CONFORMANCE WITH THE AASTHO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES 17TH EDITION AS SUPPLEMENTED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL (2003 EDITION), UP TO AND INCLUDING 2011 REVISIONS.
2. SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.



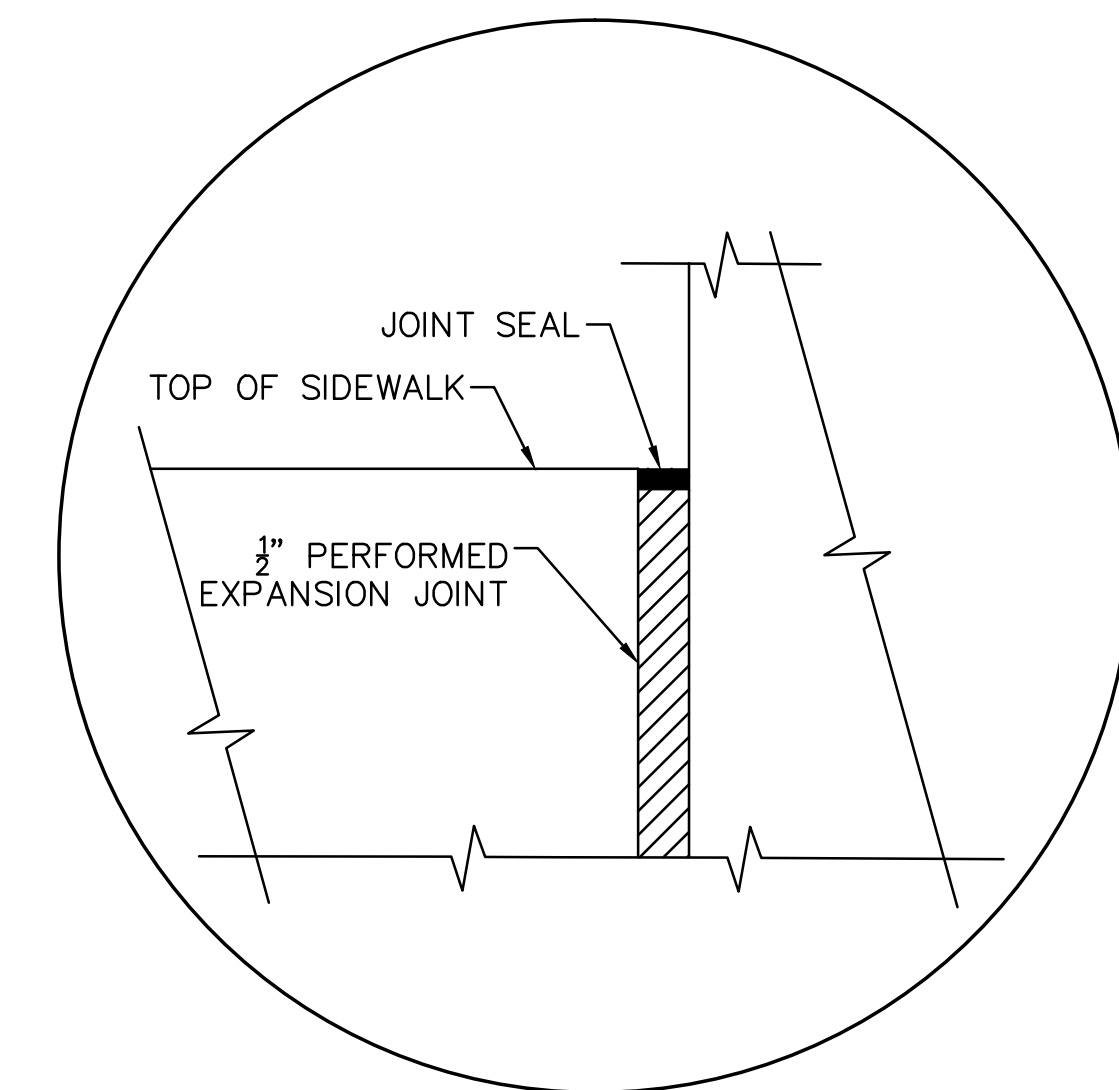
PLAN
SCALE: 1" = 10'



TYPICAL SECTION
N.T.S.



DEVELOPED ELEVATION
SCALE: 1" = 10'



DETAIL - A
N.T.S.

**BROOKFIELD STREETScape PHASE II
ROUTE 202 (FEDERAL ROAD)
BROOKFIELD, CONNECTICUT**

FREEMAN COMPANIES
LAND DEVELOPMENT | ENGINEERING DESIGN | CONSTRUCTION SERVICES
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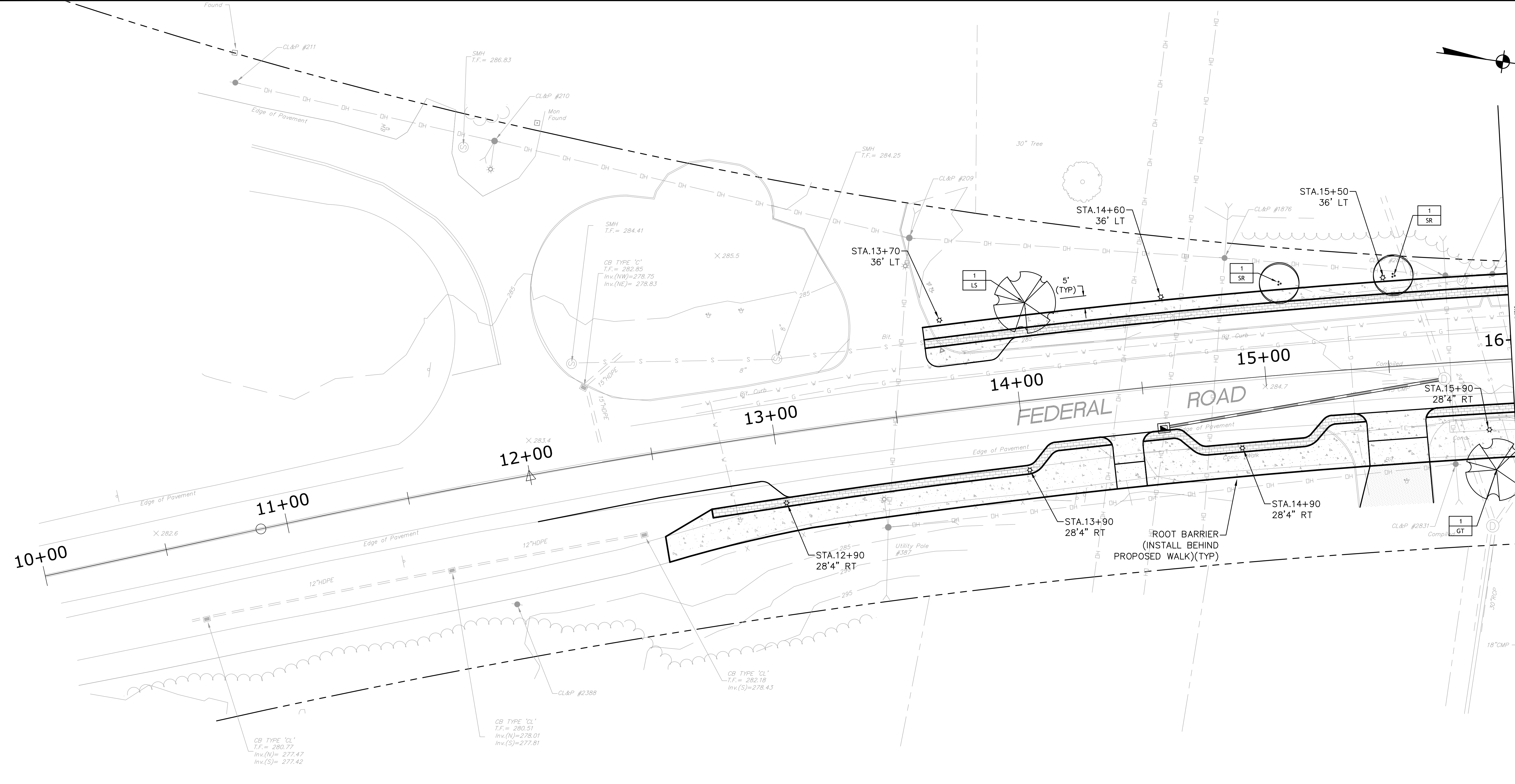
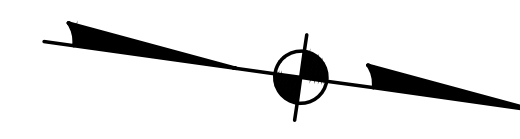
Freeman Companies, LLC - R:\2017\2017-0605 Brookfield Streetscape Phase 2\DWG\HW_MST_2017_0605_E_WALL.dwg Jul 12, 2018--10:42am Plotted By: plabekur

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DESIGNED:	DQ
DRAFTED:	PT
CHECKED:	RG
APPROVED:	
SCALE:	AS NOTED
PROJECT NO.:	2017-0605
DATE:	06/11/2018
FILE:	HW_MST_2017_0605_E_WALL

TITLE:	EMBANKMENT WALL DETAILS
SHEET NUMBER:	EW-1

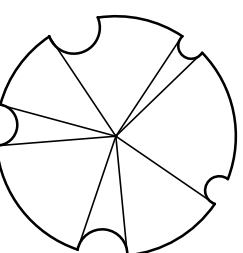
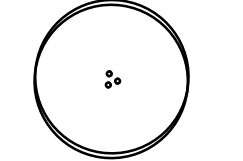
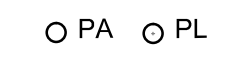
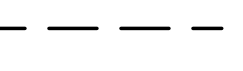

NO.	DATE	DESCRIPTION

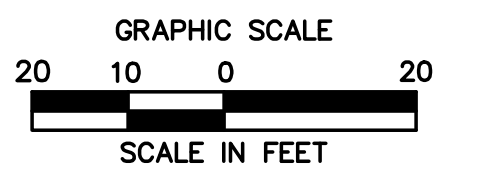


MATCHLINE - SEE LLP-2

NOTE: SEE COMPLETE PLANT LIST ON SHEET LLP-2

LEGEND

-  SHADE TREES
-  ORNAMENTAL TREES
-  PERENNIAL PLANTS
-  ROOT BARRIER
-  ORNAMENTAL LIGHTS



BROOKFIELD STREETSCAPE PHASE II ROUTE 202 (FEDERAL ROAD) BROOKFIELD, CONNECTICUT

FREEMAN COMPANIES
 LEAD DEVELOPMENT | ENGINEERING DESIGN | CONSULTING SERVICES
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 CIVIL | GEOTECHNICAL | SURVEY | ENVIRONMENTAL

FREEMAN COMPANIES, LLC
 36 JOHN STREET
 HARTFORD, CT 06106
 WWW.FREEMANCO.COM
 (860)251-9550
 TOLL FREE: (800)604-5141
 FAX: (860)988-7161

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PREPARED FOR	TOWN OF BROOKFIELD 100 POCONO ROAD BROOKFIELD, CONNECTICUT 06804
OWNER FOR	TOWN OF BROOKFIELD 100 POCONO ROAD BROOKFIELD, CONNECTICUT 06804

TUYANG LIN, P.E., P.C.D.E.
 NO. 23432

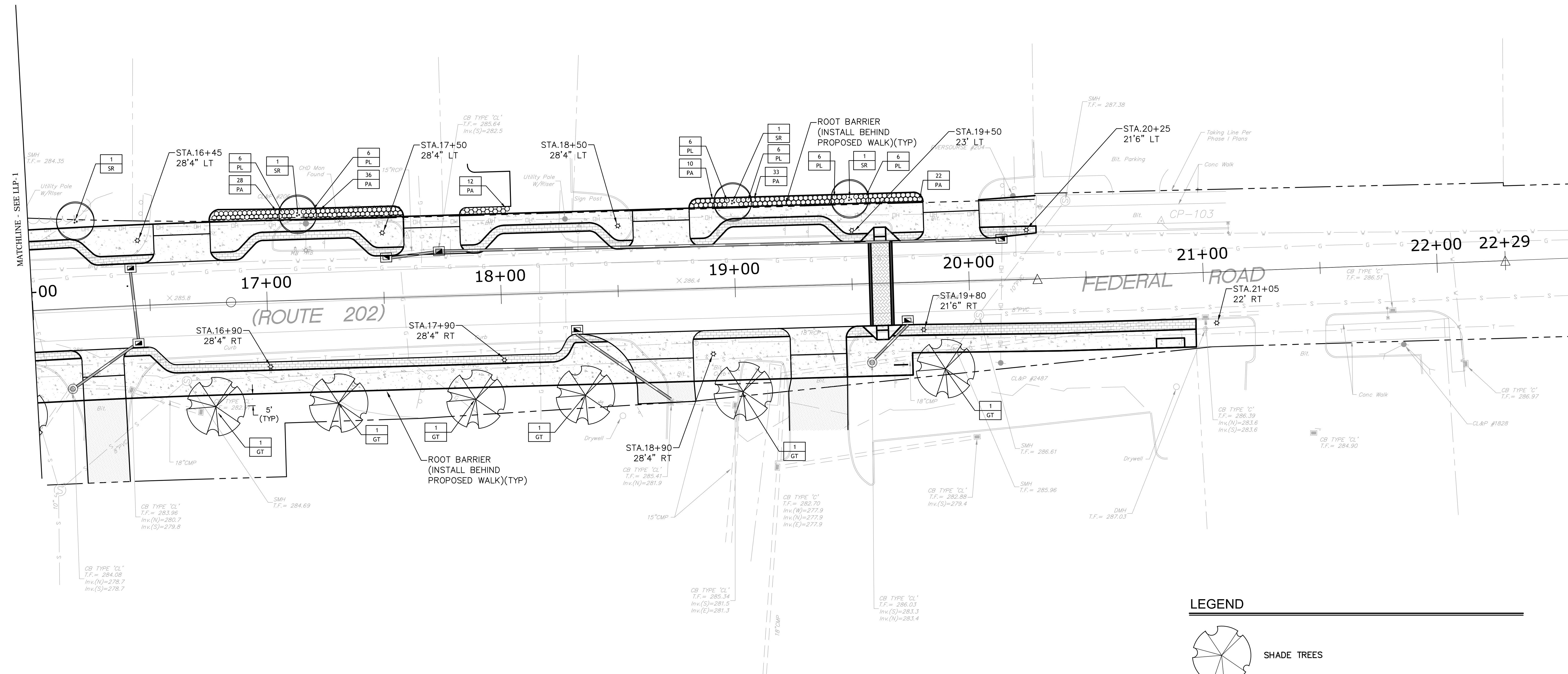
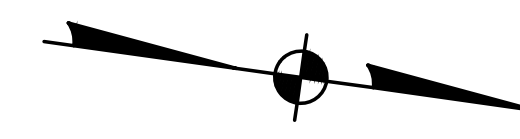
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CHECKED:	RG
APPROVED:	
SCALE:	1" = 20'
PROJECT NO.:	2017-0605
DATE:	6/26/2018
FILE:	HW_MST_2017_0605_LDS

TITLE:	LANDSCAPE AND LIGHTING PLAN
SHEET NUMBER:	LLP-1

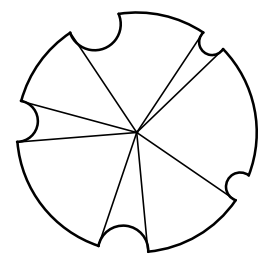
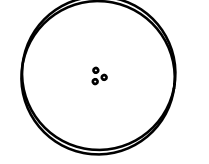
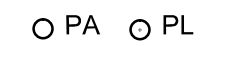
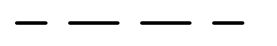

NO.	DATE	DESCRIPTION

Freeman Companies, LLC - R:\2017\2017-0605 Brookfield Streetscape Phase 2\DWG\HW_MST_2017_0605_LDS.dwg Jul 10, 2018--8:48am Plotted By: plakuri

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LEGEND

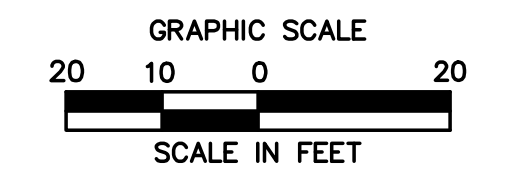
-  SHADE TREES
-  ORNAMENTAL TREES
-  PERENNIAL PLANTS
-  ROOT BARRIER
-  ORNAMENTAL LIGHTS

PLANT LIST

Qty.	Key	Name-Botanical/Common	Size at Maturity	Planted Size	Light Preference	Comments	Landscape Characteristics
DECIDUOUS TREES							
7	GT	Gleditsia triacanthos 'Shademaster'	40' ht./spd.	3 - 3-1/2" high	Full Sun	B&B	Native, strong central leader, upright branching forming a pyramidal habit. Urban tolerant, ideal street tree.
1	LS	Liquidambar styraciflua	60' ht. 40' spd.	3 - 3-1/2"	Full Sun	B&B	Native, pyramidal to rounded neat outline, deep glossy green star shaped leaves, rich yellow-purple-red tones in fall. 1" brown winged distinctive fruit, excellent park and street tree.
ORNAMENTAL TREES							
6	SR	Syringa reticulata 'Ivory Silk'	10 - 30' ht.	2 - 2 1/2" cal.	Full Sun	B&B	Specimen tree, street tree, large clusters of creamy white flowers in June. Graceful with maturity. Reddish brown bark.
PERENNIALS							
141	PA	Pennisetum alopecuroides 'Hameln'	2' ht./spd.	2 gal.	Full Sun	cont.	A slender, arching compact grass with graceful plumes August to October.
36	PL	Perovskia atriplicifolia 'Little Spires'	24" ht/spd	2 gal.	Full Sun	cont.	Stays upright, deep violet flowers on deeply cut gray foliage July to September.

NOTE: THE TOWN WILL OWN, MAINTAIN AND PAY THE ENERGY COSTS FOR THE PROPOSED DECORATIVE LIGHTING SYSTEM.

EVERSOURCE
 MR. WAYNE D. GAGNOW
 ENGINEERING - SYSTEM OPERATIONS MANAGER
 107 SELDEN STREET
 BERLIN, CT 06037
 TEL. (860) 665-3515
 E-MAIL: gagnow@eversource.com



**BROOKFIELD STREETSCAPE PHASE II
 ROUTE 202 (FEDERAL ROAD)
 BROOKFIELD, CONNECTICUT**

FREEMAN COMPANIES
 CIVIL | GEOTECHNICAL | SURVEY | ENVIRONMENTAL
 36 JOHN STREET
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 WWW.FREEMANCOS.COM
 (860) 251-9550
 TOLL FREE: (800) 604-5141
 FAX: (860) 258-7141
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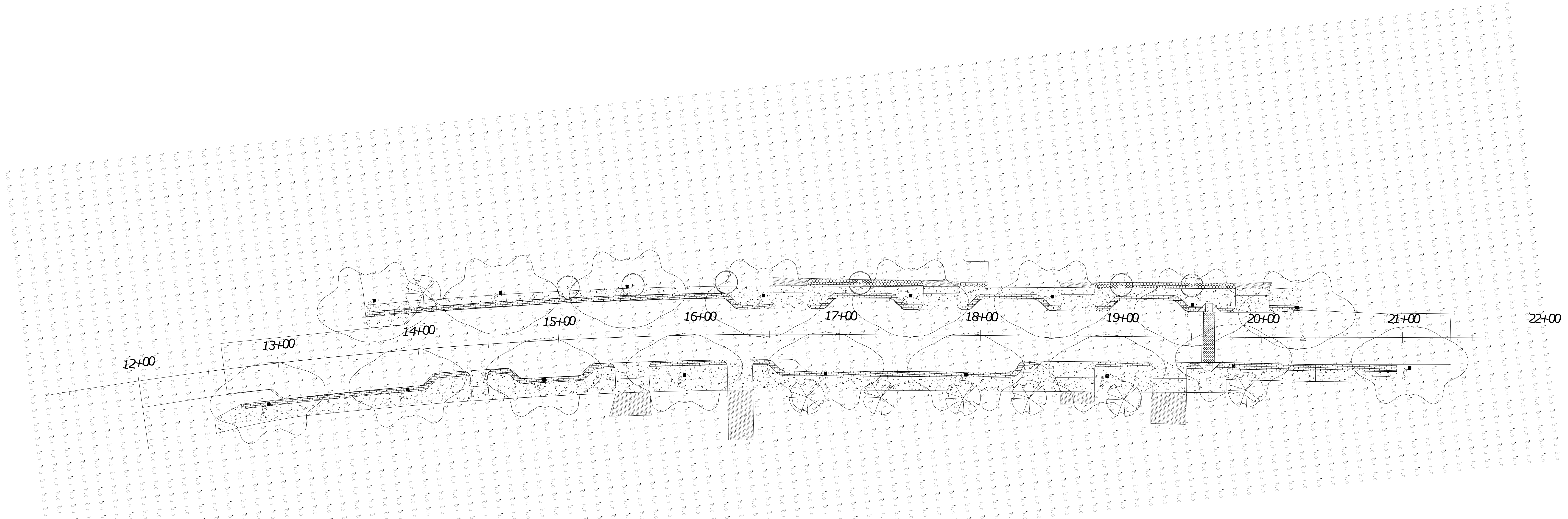
PREPARED FOR
 TOWN OF BROOKFIELD
 100 POCONO ROAD
 BROOKFIELD,
 CONNECTICUT 06804
 OWNER FOR
 TOWN OF BROOKFIELD
 100 POCONO ROAD
 BROOKFIELD,
 CONNECTICUT 06804

NO. DATE DESCRIPTION REVISIONS

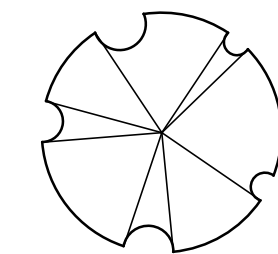
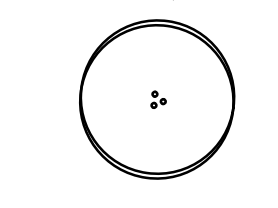

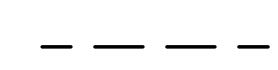

DESIGNED: YL
 DRAFTED: KM
 CHECKED: RG
 APPROVED:
 SCALE: 1" = 20'
 PROJECT NO.: 2017-0605
 DATE: 6/26/2018
 FILE: HW_MST_2017_0605_LDS
 TITLE: LANDSCAPE AND LIGHTING PLAN
 SHEET NUMBER: LLP-2

Freeman Companies, LLC - R:\2017\2017-0605 Brookfield Streetscape Phase 2\DWG\HW_MST_2017_0605_LDS.dwg Jul 10, 2018--2:06pm Plotted By: plakuri

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LEGEND

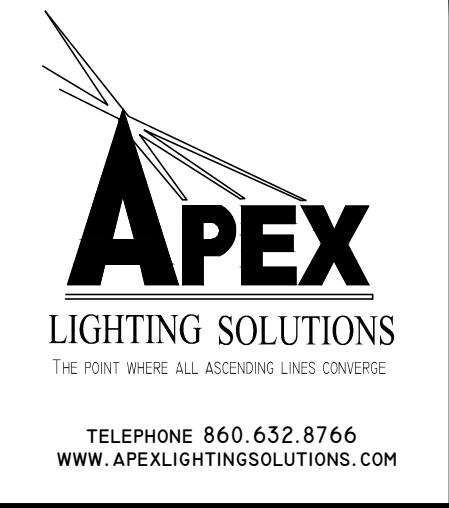
-  SHADE TREES
-  ORNAMENTAL TREES
-  PA PL PERENNIAL PLANTS
-  ROOT BARRIER
-  ORNAMENTAL LIGHTS

JOB NAME: TOWN OF BROOKFIELD STREETScape PHASE II
 APEX LIGHTING SOLUTIONS
 WORKPLANE/CALC PLANE: AT FINISH GRADE
 MOUNTING HEIGHT: SEE LUMINAIRE SCHEDULE
 APPS: LRE
 SALES: SP

Luminaire Schedule							
Qty	Label	Arrangement	Lumens	Input Watts	LLF	BUG Rating	Description
17	SL3C	SINGLE	8578	94.6	0.799	B3-U3-G3	STERNBERG 6130CLED/PT/6212T5-4.188/FDRB/6ARC35T3/MDL03/GFI-LPIUC/DBA/SSPA/PEC/FHC/CSA/EKT

Calculation Summary							
Label	Grid Height	Avg	Max	Min	Avg/Min	Max/Min	
CalcPts_1	0	0.31	5.5	0.0	N.A.	N.A.	
STREET		1.36	5.5	0.1	13.60	55.00	

GENERAL DISCLAIMER:
 Calculations have been performed according to IES standards and good practice. Some differences between measured values and calculated results may occur due to tolerances in calculation methods, testing procedures, component performance, measurement techniques and field conditions such as voltage and temperature variations. Input data used to generate the attached calculations such as room dimensions, reflectances, furniture and architectural elements significantly affect the lighting calculations. If the real environment conditions do not match the input data, differences will occur between measured values and calculated values.
 * LLF Determined Using Current Published Lamp Data
NOTE TO REVIEWER:
 Total Light Loss Factor (LLF) applied at time of design is determined by applying the Lamp Lumen Depreciation (LLD) from current lamp manufacturer's catalog, a Luminaire Dirt Depreciation Factor (LDD) based on IES recommended values and a Ballast Factor (BF) from current ballast specification sheets. Application of an incorrect Light Loss Factor (LLF) will result in forecasts of performance that will not accurately depict actual results.
 For proper comparison of photometric layouts, it is essential that you insist all designers use correct Light Loss Factors.



PREPARED FOR:
 TOWN OF BROOKFIELD
 100 POCANO ROAD
 BROOKFIELD,
 CONNECTICUT 06804

OWNER FOR:
 TOWN OF BROOKFIELD
 100 POCANO ROAD
 BROOKFIELD,
 CONNECTICUT 06804

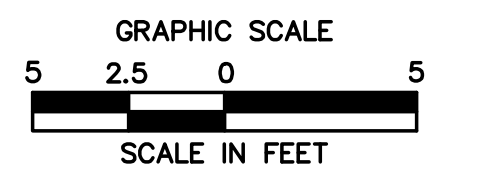
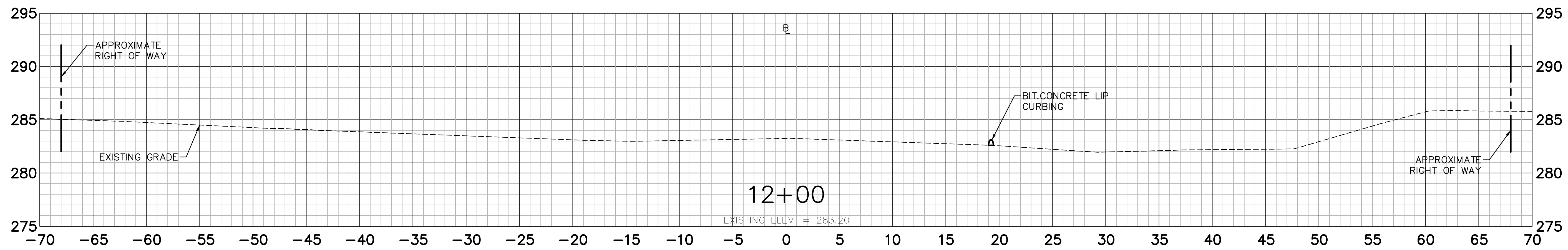
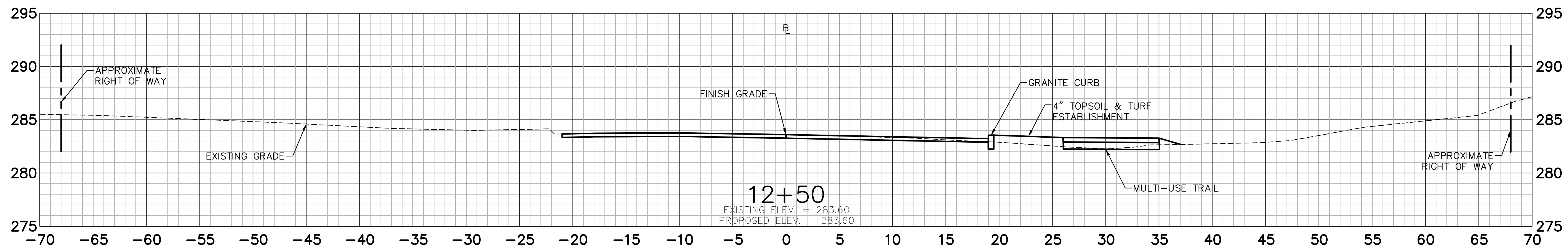
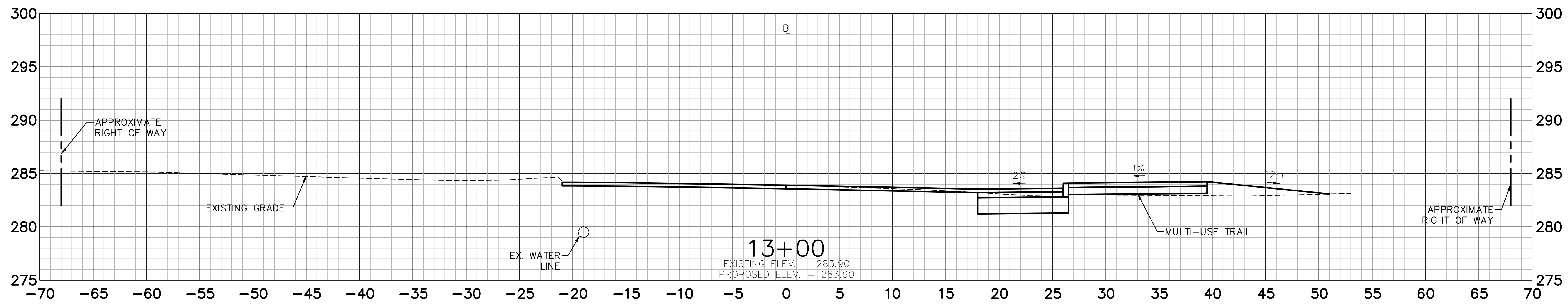
YUYANG LIN, PE, PTOE NO. 23422

BROOKFIELD STREETScape PHASE II ROUTE 202 (FEDERAL ROAD) BROOKFIELD, CONNECTICUT

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DRAFTED:	APEX LIGHTING	CHECKED:	RG
APPROVED:		SCALE:	NOT TO SCALE
PROJECT NO.:	2017-0605	DATE:	07/01/2018
FILE:	HW_MST_2017_0605_LDS_APEX	SHEET NUMBER:	LP-1
NO. DATE DESCRIPTION		REVISIONS	

Freeman Companies, LLC - R:\2017\2017-0605 Brookfield Streetscape Phase 2\DWG\HW_MST_2017_0605_LDS_APEX.dwg Jul 03, 2018-1:45pm Plotted By: plckkuri

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BROOKFIELD STREETScape PHASE II ROUTE 202 (FEDERAL ROAD) BROOKFIELD, CONNECTICUT

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 FREEMAN COMPANIES, LLC
30 JOHN STREET
 HARTFORD, CT 06106
 WWW.FREEMANCOS.COM
 (860)251-9550
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 FAX: (860)286-7161
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 TOWN OF BROOKFIELD
 100 POCONO ROAD
 BROOKFIELD,
 CONNECTICUT 06804

OWNER FOR
 TOWN OF BROOKFIELD
 100 POCONO ROAD
 BROOKFIELD,
 CONNECTICUT 06804

YUYANG LIN, P.E., PTOE NO. 23422

NO.	DATE	DESCRIPTION

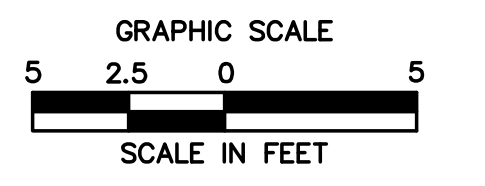
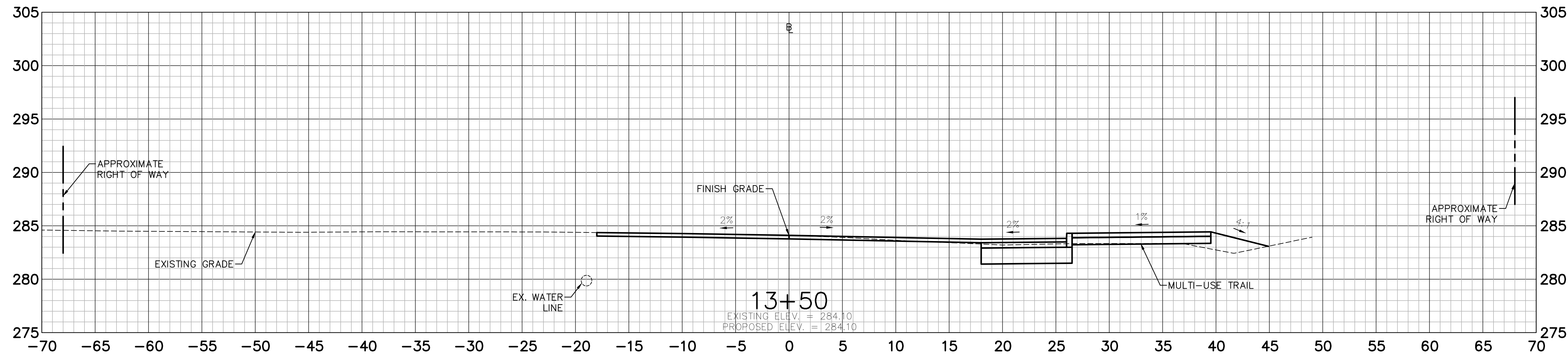
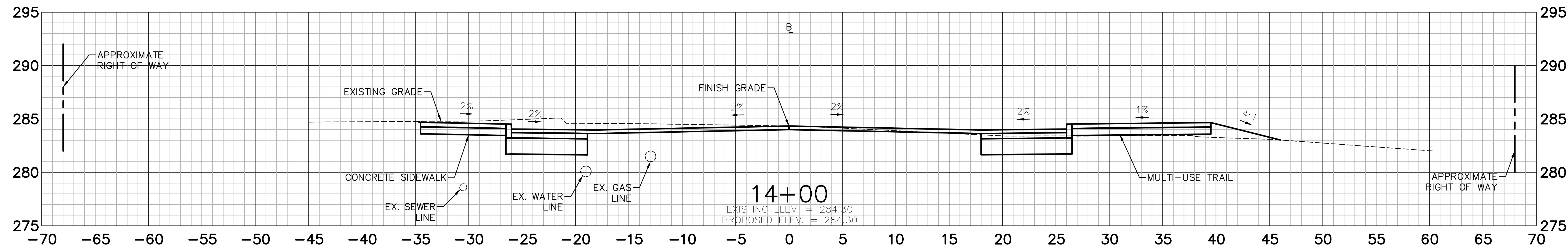
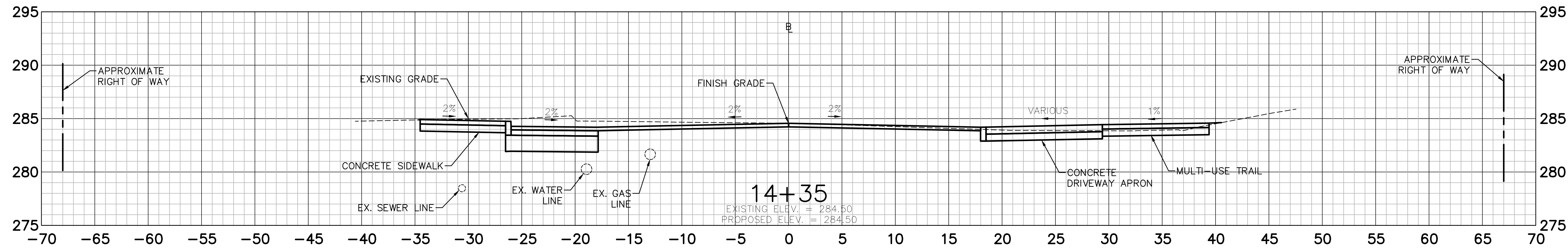
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 DRAFTED: PT
 CHECKED: RG
 APPROVED:
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 PROJECT NO.: 2017-0605
 DATE: 06/04/2018
 FILE: HW_MST_2017_0605_CS_SFD

TITLE:
CROSS SECTION

SHEET NUMBER:
XSC-1

Freeman Companies, LLC - R:\2017\2017-0605 Brookfield Streetscape Phase 2\DWG\HW_MST_2017_0605_CS_SFD.dwg Jul 06, 2018 - 1:31pm Plotted By: plakuri

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HARTFORD, CT 06106
WWW.FREEMANCOS.COM
(860)251-9550
TOLL FREE: (800)649-5141
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TOWN OF BROOKFIELD
100 POCONO ROAD
BROOKFIELD,
CONNECTICUT 06804

OWNER FOR
TOWN OF BROOKFIELD
100 POCONO ROAD
BROOKFIELD,
CONNECTICUT 06804

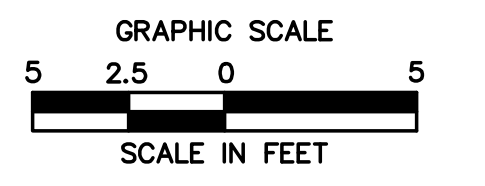
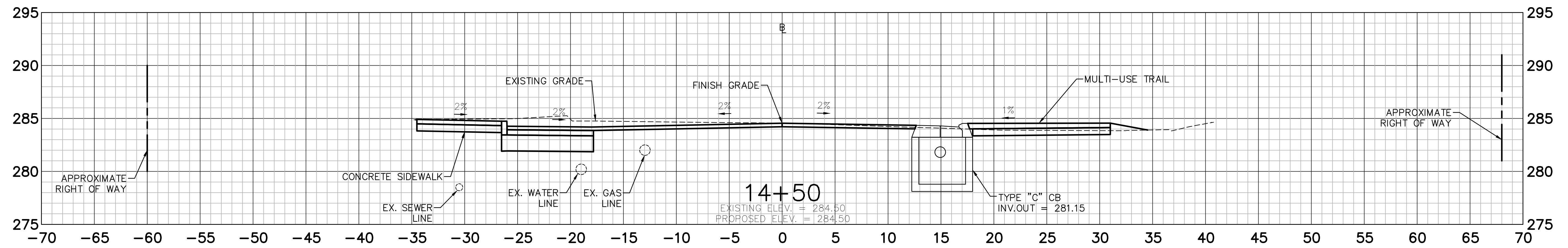
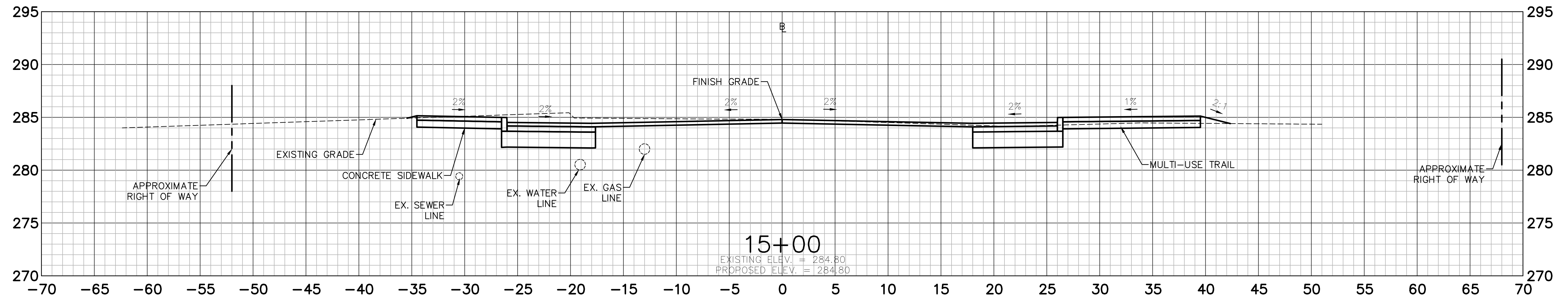
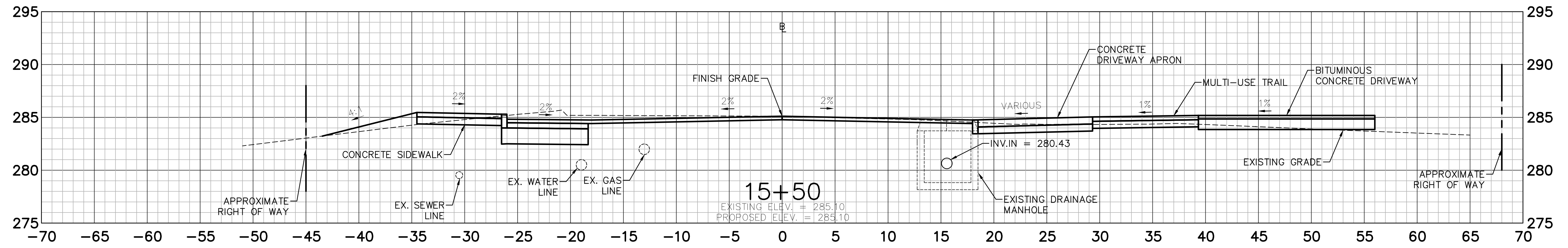
YUYANG LIN, P.E., PTOE NO. 23422

NO.	DATE	DESCRIPTION

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CHECKED: RG	
APPROVED:	
SCALE: 1" = 5'	
PROJECT NO.: 2017-0605	
DATE: 06/04/2018	
FILE: HW_MST_2017_0605_CS_SFD	

Freeman Companies, LLC - R:\2017\2017-0605 Brookfield Streetscape Phase 2\DWG\HW_MST_2017_0605_CS_SFD.dwg Jul 09, 2018 - 1:31pm Plotted By: plakkuri

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BROOKFIELD STREETSCAPE PHASE II ROUTE 202 (FEDERAL ROAD) BROOKFIELD, CONNECTICUT



PREPARED FOR
TOWN OF BROOKFIELD
100 POCONO ROAD
BROOKFIELD,
CONNECTICUT 06804

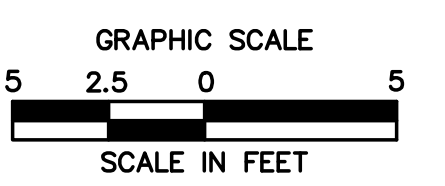
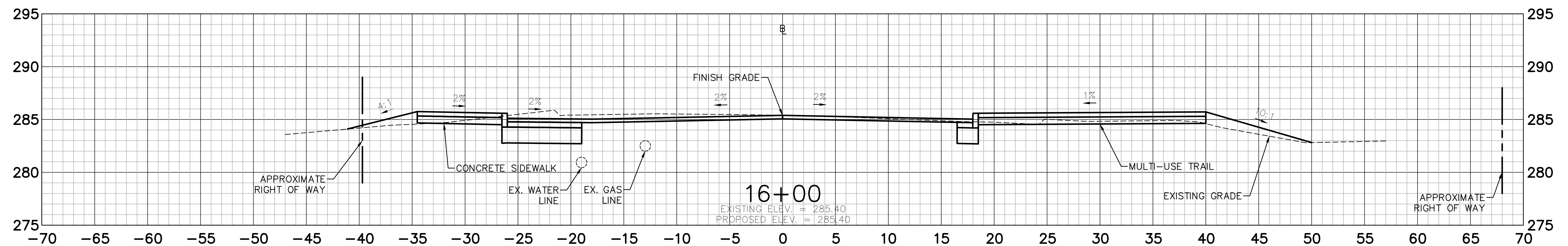
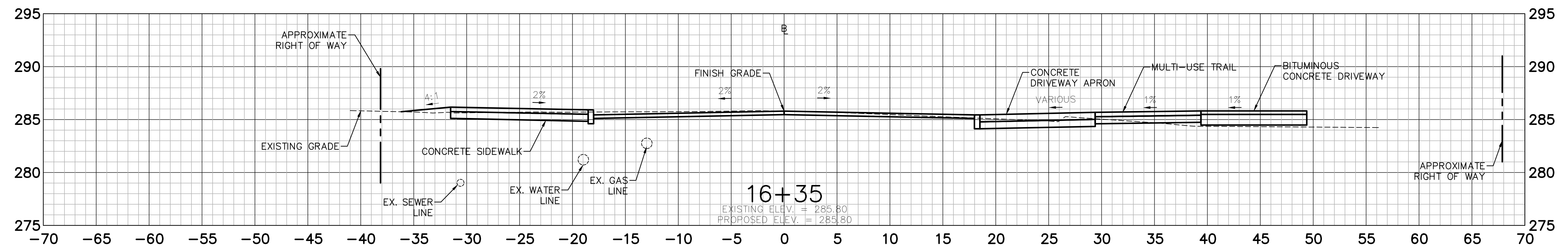
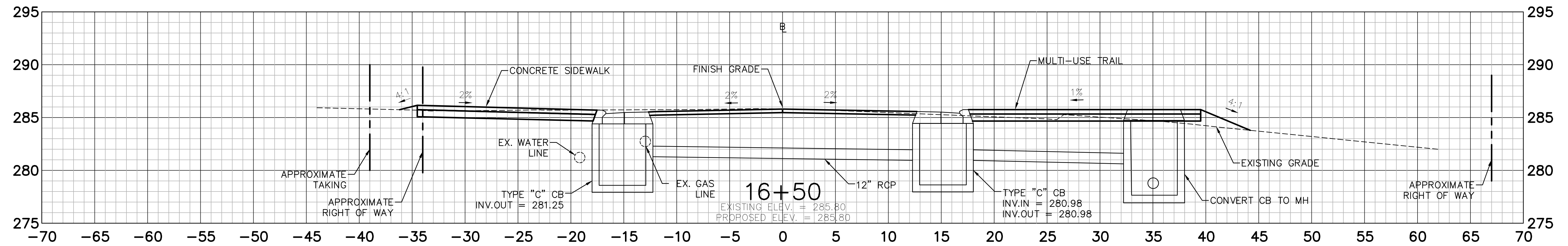
OWNER FOR
TOWN OF BROOKFIELD
100 POCONO ROAD
BROOKFIELD,
CONNECTICUT 06804

YUYANG LIN, P.E., PTOE NO. 23422

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DRAFTED:	PT	SHEET NUMBER:	XSC-3
CHECKED:	RG		
APPROVED:			
SCALE:	1" = 5'		
PROJECT NO.:	2017-0605		
DATE:	06/04/2018		
FILE:	HW_MST_2017_0605_CS_SF		

Freeman Companies, LLC - R:\2017\2017-0605 Brookfield Streetscape Phase II\DWG\HW_MST_2017_0605_CS_SF.dwg Jul 09, 2018 - 1:32pm Plotted By: plabkuri

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 (860)251-9550
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 FAX: (860)286-7161
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 100 POCONO ROAD
 BROOKFIELD,
 CONNECTICUT 06804

OWNER FOR
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 BROOKFIELD,
 CONNECTICUT 06804

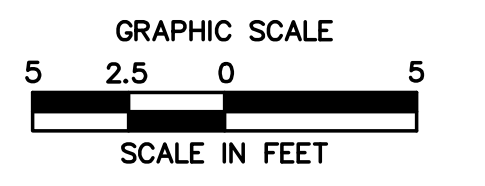
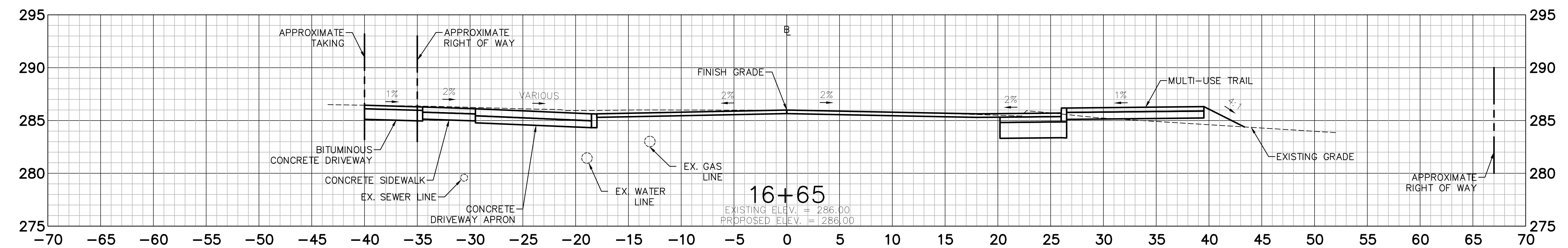
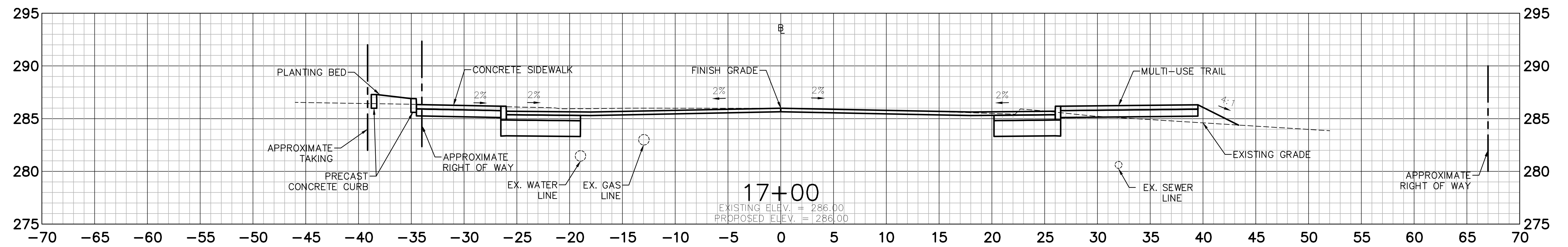
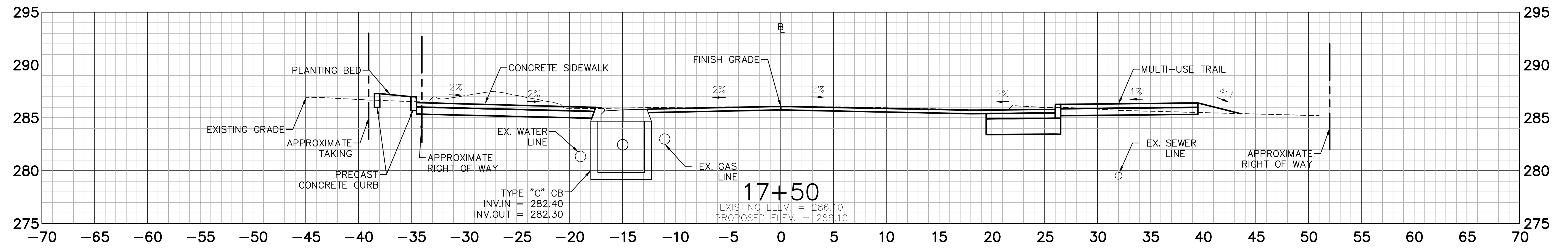
YUYANG LIN, P.E., PTOE NO. 23422

DESIGNED:	YL	TITLE:	CROSS SECTION
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CHECKED:	RG		
APPROVED:			
SCALE:	1" = 5'		
PROJECT NO.:	2017-0605		
DATE:	06/04/2018		
FILE:	HW_MST_2017_0605_CS_SF		

NO.	DATE	DESCRIPTION

Freeman Companies, LLC - R:\2017\2017-0605 Brookfield Streetscape Phase 2\DWG\HW_MST_2017_0605_CS_SF.DWG Jul 09, 2018 - 1:32pm Plotted By: plabkuri

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BROOKFIELD STREETSCAPE PHASE II ROUTE 202 (FEDERAL ROAD) BROOKFIELD, CONNECTICUT

FREEMAN COMPANIES
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 FREEMAN COMPANIES, LLC
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 TOWN OF BROOKFIELD
 100 POCONO ROAD
 BROOKFIELD,
 CONNECTICUT 06804

OWNER FOR
 TOWN OF BROOKFIELD
 100 POCONO ROAD
 BROOKFIELD,
 CONNECTICUT 06804

WUYANG LIN, P.E., PTOE NO. 23422

NO.	DATE	DESCRIPTION

DESIGNED: YL
 DRAFTED: PT
 CHECKED: RG
 APPROVED:

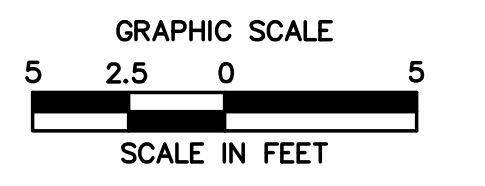
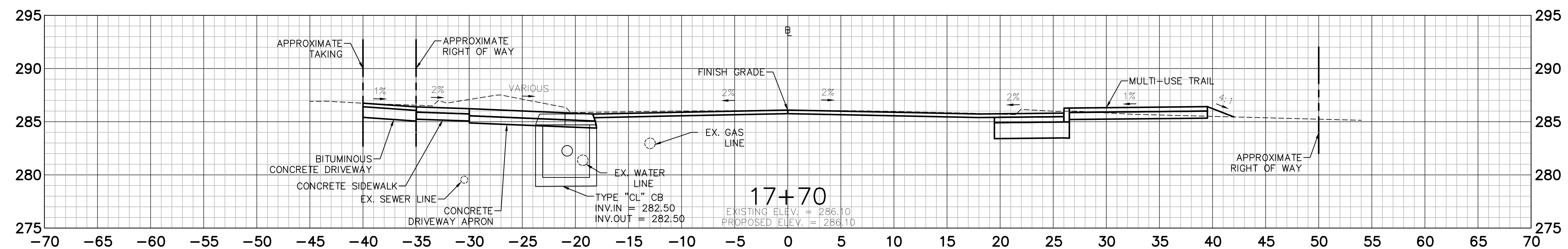
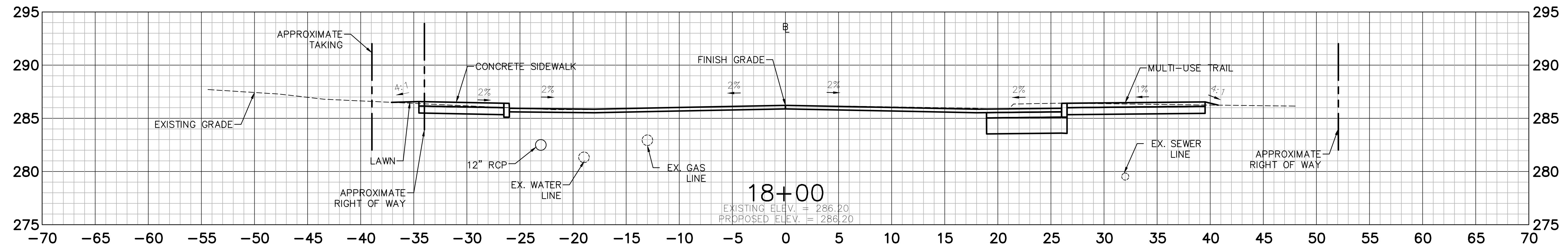
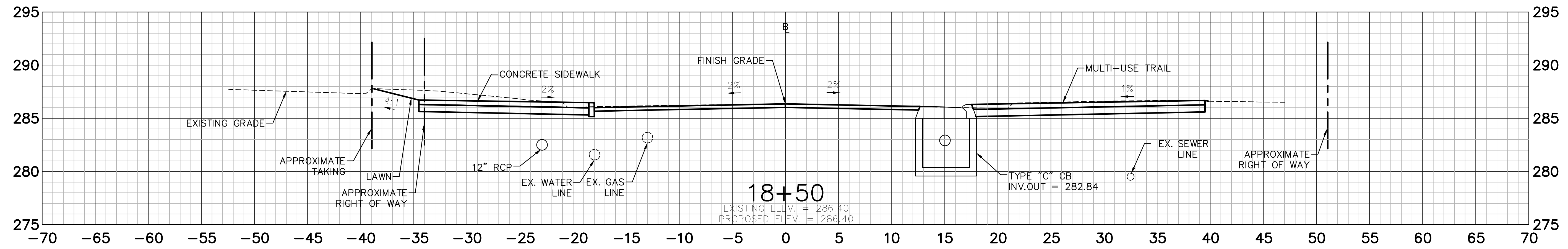
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 DATE: 06/04/2018
 FILE: HW_MST_2017_0605_CS_SFDD

TITLE:
CROSS SECTION

SHEET NUMBER:
XSC-5

Freeman Companies, LLC - R:\2017\2017-0605 Brookfield Streetscape Phase 2\DWG\HW_MST_2017_0605_CS_SFDD.dwg Jul 09, 2018 - 1:32pm Plotted By: plabkuri

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BROOKFIELD STREETSCAPE PHASE II ROUTE 202 (FEDERAL ROAD) BROOKFIELD, CONNECTICUT

FREEMAN COMPANIES
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HARTFORD, CT 06106
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(860)251-9550
TOLL FREE: (800)640-5141
FAX: (860)286-7161
ELEVATE YOUR EXPECTATIONS

PREPARED FOR
TOWN OF BROOKFIELD
100 POCONO ROAD
BROOKFIELD,
CONNECTICUT 06804

OWNER FOR
TOWN OF BROOKFIELD
100 POCONO ROAD
BROOKFIELD,
CONNECTICUT 06804

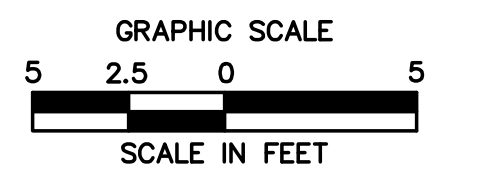
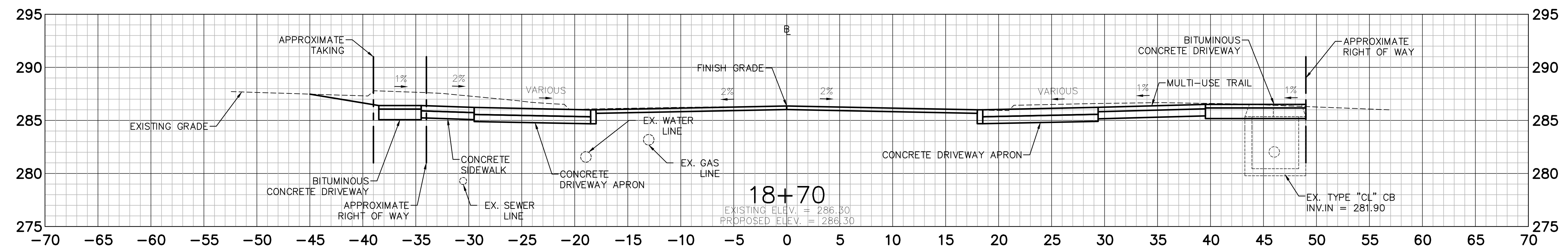
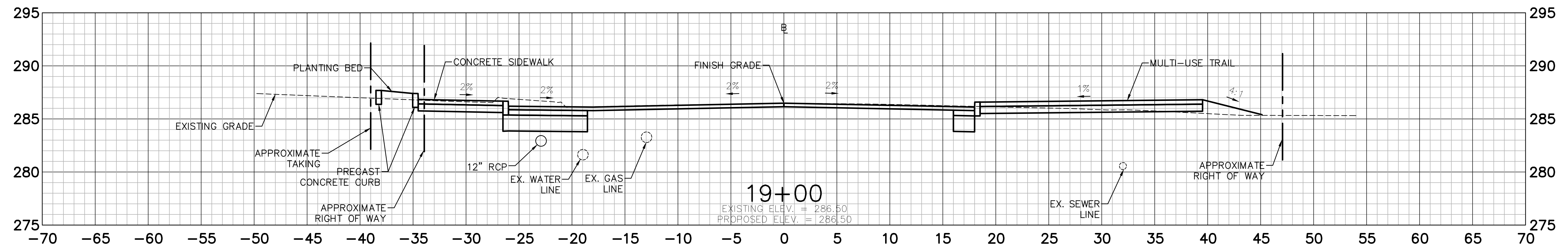
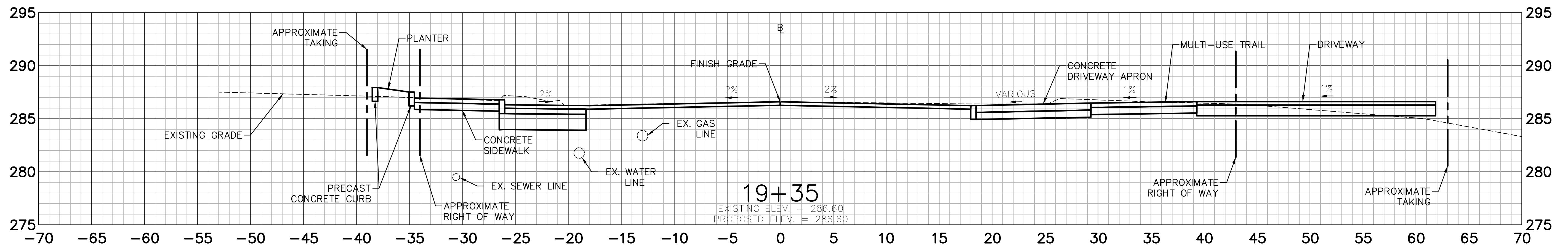
YUYANG LIN, P.E., PTOE NO. 23422

DESIGNED:	YL
DRAFTED:	PT
CHECKED:	RG
APPROVED:	
SCALE:	1" = 5'
PROJECT NO.:	2017-0605
DATE:	06/04/2018
FILE:	HW_MST_2017_0605_CS_SF

TITLE:	CROSS SECTION
SHEET NUMBER:	XSC-6

Freeman Companies, LLC - R:\2017\2017-0605 Brookfield Streetscape Phase 2\DWG\HW_MST_2017_0605_CS_SF.DWG Jul 09, 2018 - 1:37pm Plotted By: plabkuri

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BROOKFIELD STREETSCAPE PHASE II ROUTE 202 (FEDERAL ROAD) BROOKFIELD, CONNECTICUT

FREEMAN COMPANIES
 DBE | DAS | MBE | GWBDC CERTIFIED
 CIVIL | GEOTECHNICAL | SURVEY | ENVIRONMENTAL
 FREEMAN COMPANIES, LLC
 30 JOHN STREET
 HARTFORD, CT 06106
 WWW.FREEMANCOS.COM
 (860) 251-9550
 TOLL FREE: (800) 649-5141
 FAX: (860) 286-7161
 ELEVATE YOUR EXPECTATIONS

PREPARED FOR
 TOWN OF BROOKFIELD
 100 POCONO ROAD
 BROOKFIELD,
 CONNECTICUT 06804

OWNER FOR
 TOWN OF BROOKFIELD
 100 POCONO ROAD
 BROOKFIELD,
 CONNECTICUT 06804

YUYANG LIN, PE, PTOE NO. 23422

NO.	DATE	DESCRIPTION

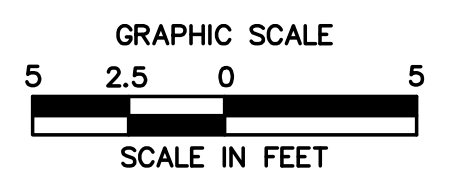
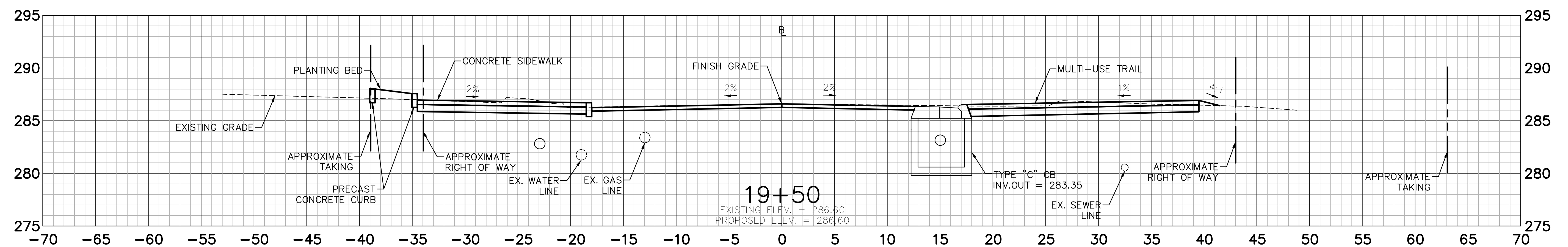
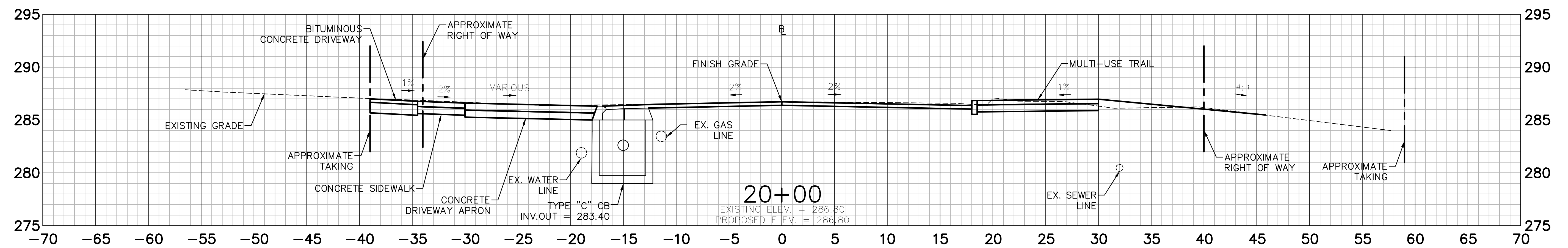
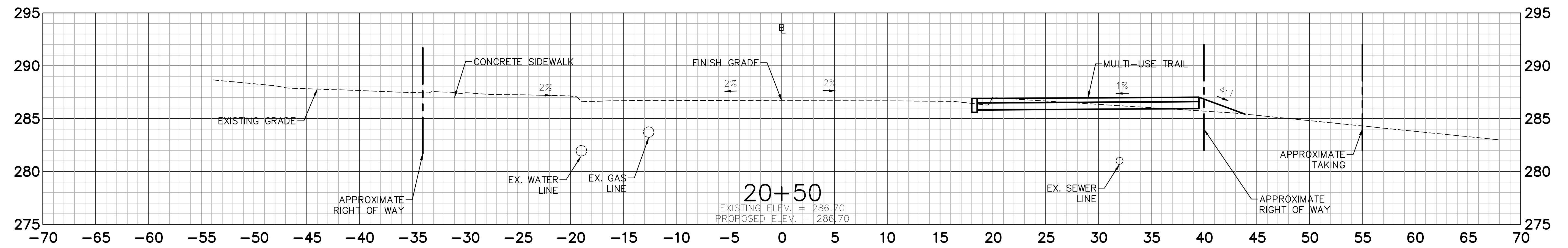
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 DRAFTED: PT
 CHECKED: RG
 APPROVED:
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 PROJECT NO.: 2017-0605
 DATE: 06/04/2018
 FILE: HW_MST_2017_0605_CS_SFDD

TITLE:
CROSS SECTION

SHEET NUMBER:
XSC-7

Freeman Companies, LLC - R:\2017\2017-0605 Brookfield Streetscape Phase II\DWG\HW_MST_2017_0605_CS_SFDD.dwg Jul 06, 2018 - 1:39pm Plotted By: plabkurt

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BROOKFIELD STREETSCAPE PHASE II ROUTE 202 (FEDERAL ROAD) BROOKFIELD, CONNECTICUT



DISE | DAS | MBE | GNASDC CERTIFIED
CIVIL | GEOTECHNICAL | SURVEY | ENVIRONMENTAL

FREEMAN COMPANIES, LLC
30 JOHN STREET
HARTFORD, CT 06106
WWW.FREEMANCO.COM
(860)251-9550
TOLL FREE: (800)640-5141
FAX: (860)256-7151

ELEVATE YOUR EXPECTATIONS

PREPARED FOR

TOWN OF BROOKFIELD
100 POCONO ROAD
BROOKFIELD,
CONNECTICUT 06804

OWNER FOR

TOWN OF BROOKFIELD
100 POCONO ROAD
BROOKFIELD,
CONNECTICUT 06804

YUYANG LIN, PE, PTOE NO. 23422

NO.	DATE	DESCRIPTION

DESIGNED: YL
DRAFTED: PT
CHECKED: RG
APPROVED:
SCALE: 1" = 5'
PROJECT NO.: 2017-0605
DATE: 06/04/2018
FILE: HW_MST_2017_0605_CS_SFD

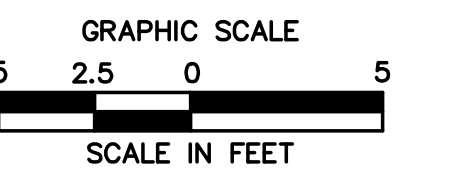
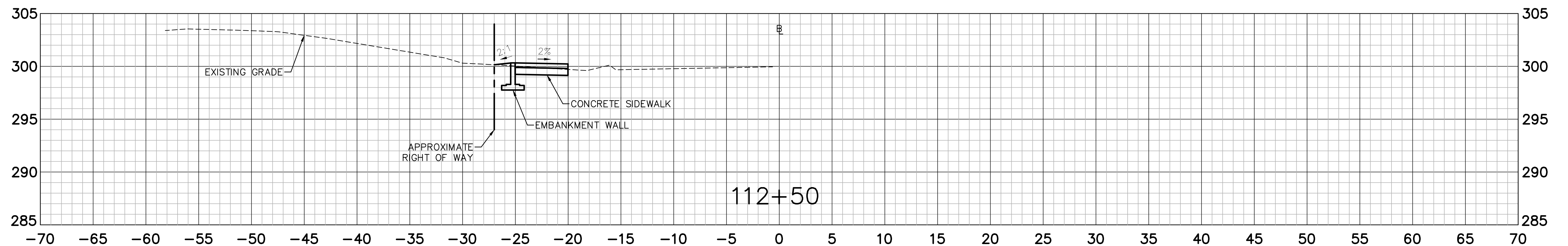
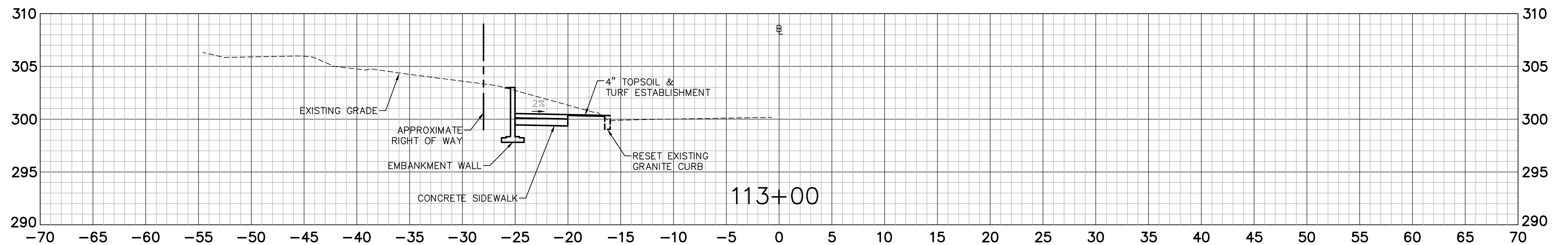
TITLE:

CROSS SECTION

SHEET NUMBER:

XSC-8

Freeman Companies, LLC - R:\2017\2017-0605 Brookfield Streetscape Phase 2\DWG\HW_MST_2017_0605_CS_SFD.dwg Jul 09, 2018 - 1:41pm Plotted By: plakkur



PREPARED FOR
TOWN OF BROOKFIELD
100 POCONO ROAD
BROOKFIELD,
CONNECTICUT 06804

OWNER FOR
TOWN OF BROOKFIELD
100 POCONO ROAD
BROOKFIELD,
CONNECTICUT 06804

36 JOHN STREET
HARTFORD, CT 06106
WWW.FREEMANCS.COM
(860)251-9550
TOLL FREE: (800)646-5141
FAX: (860)256-7161

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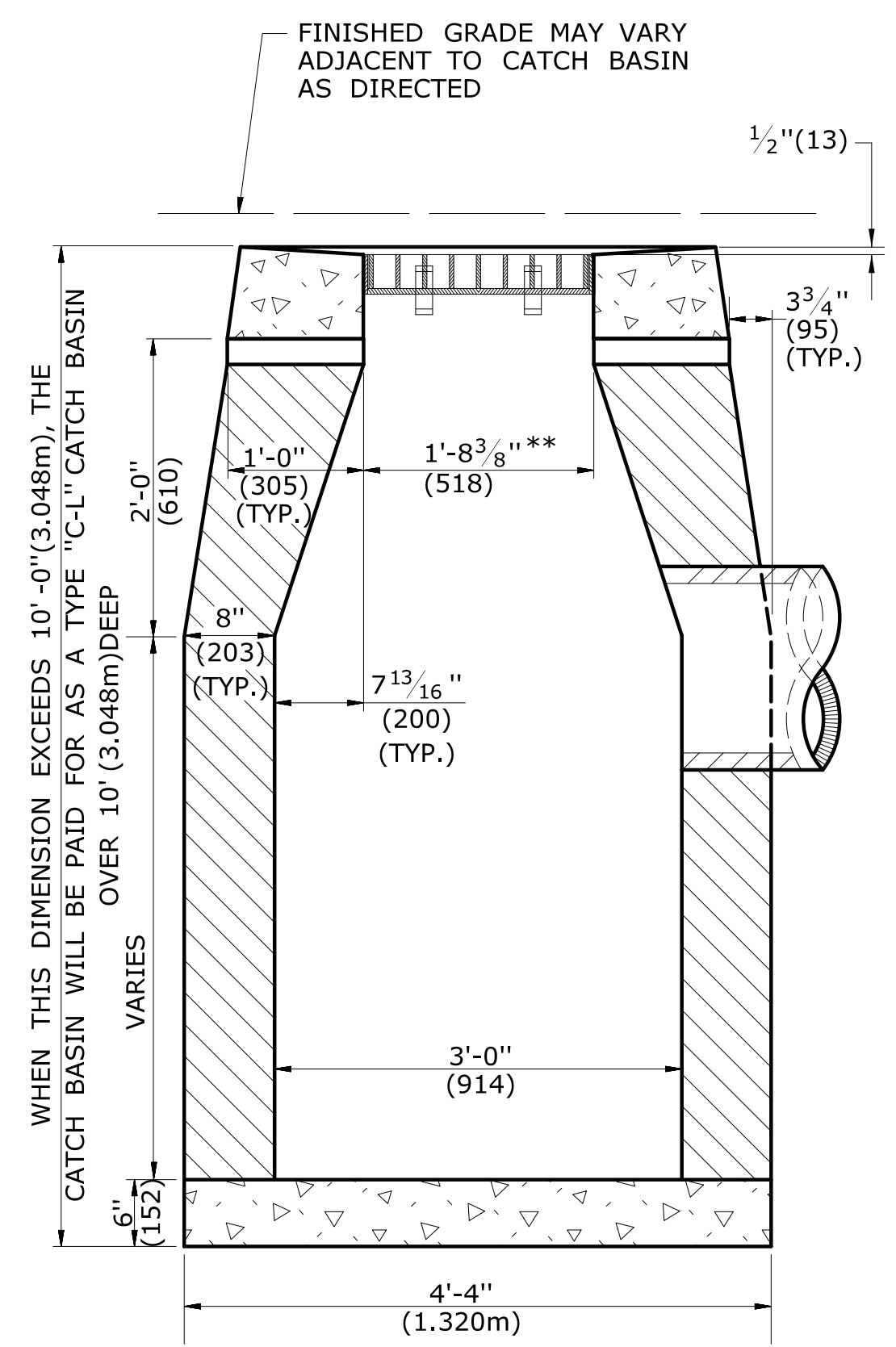
YUYANG LIN, P.E., PTOE NO. 23422

BROOKFIELD STREETScape PHASE II ROUTE 202 (FEDERAL ROAD) BROOKFIELD, CONNECTICUT

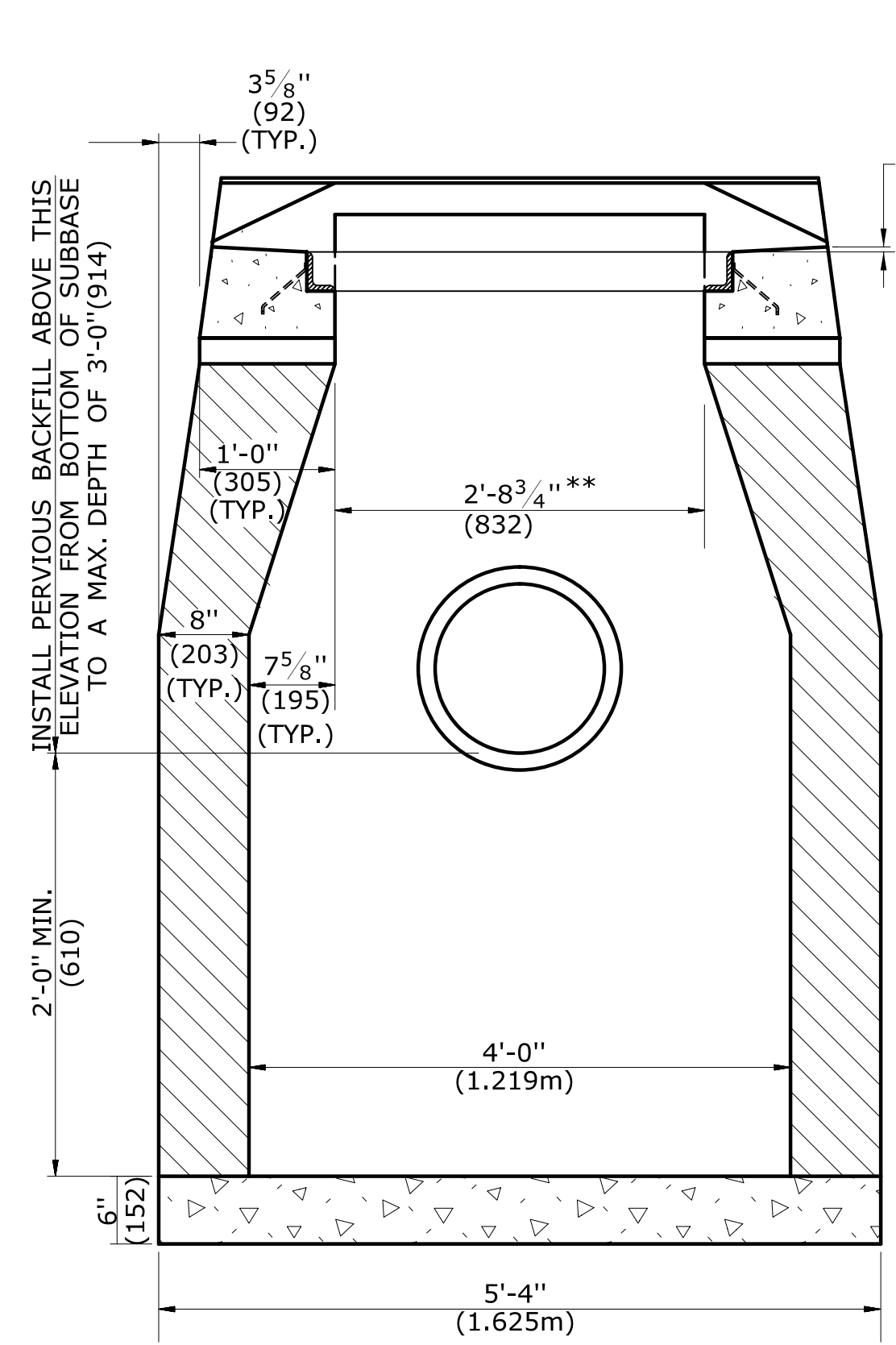
NO.	DATE	DESCRIPTION

DESIGNED: YL
DRAFTED: PT
CHECKED: RG
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SCALE: 1" = 5'
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DATE: 05/08/2018
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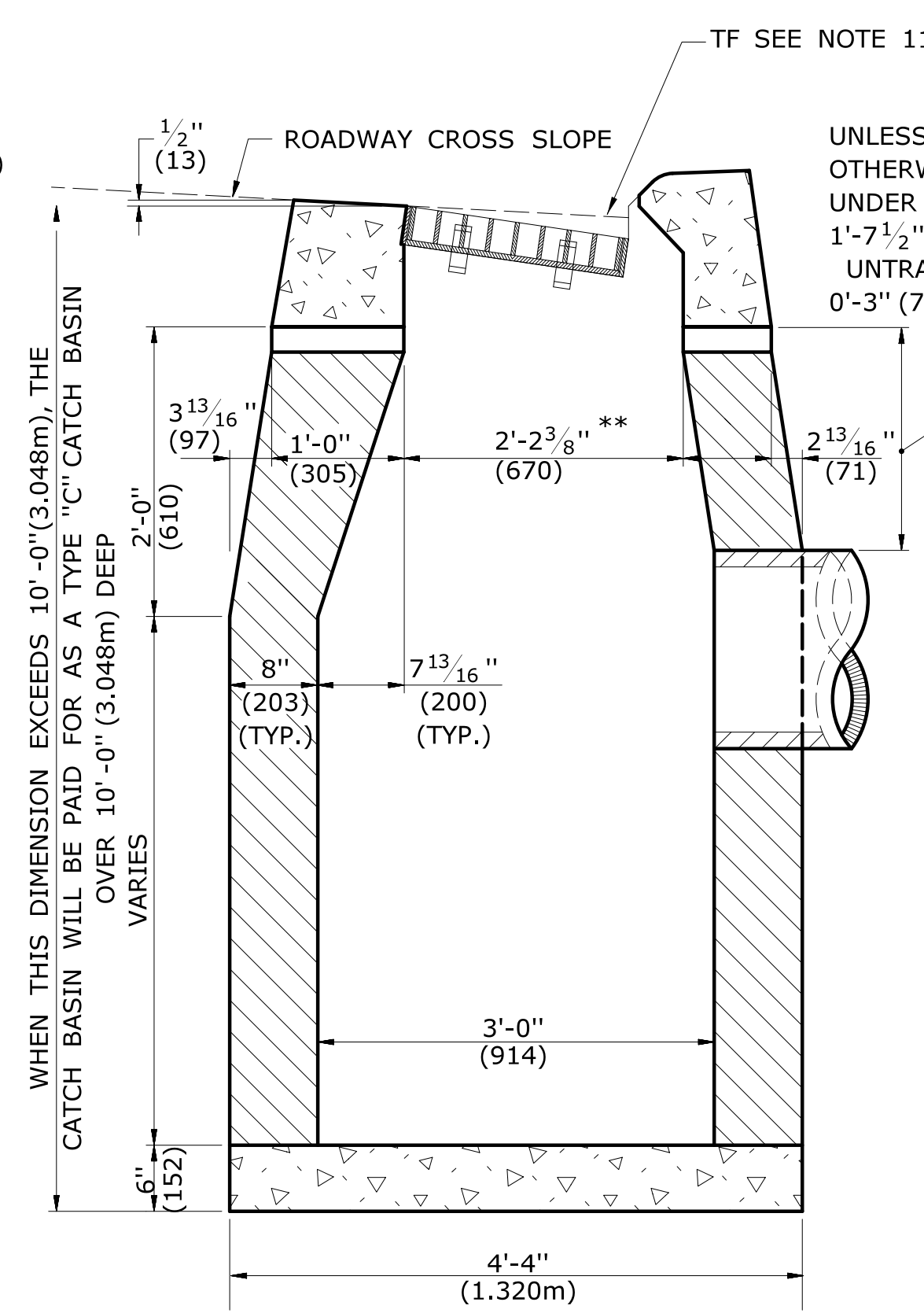
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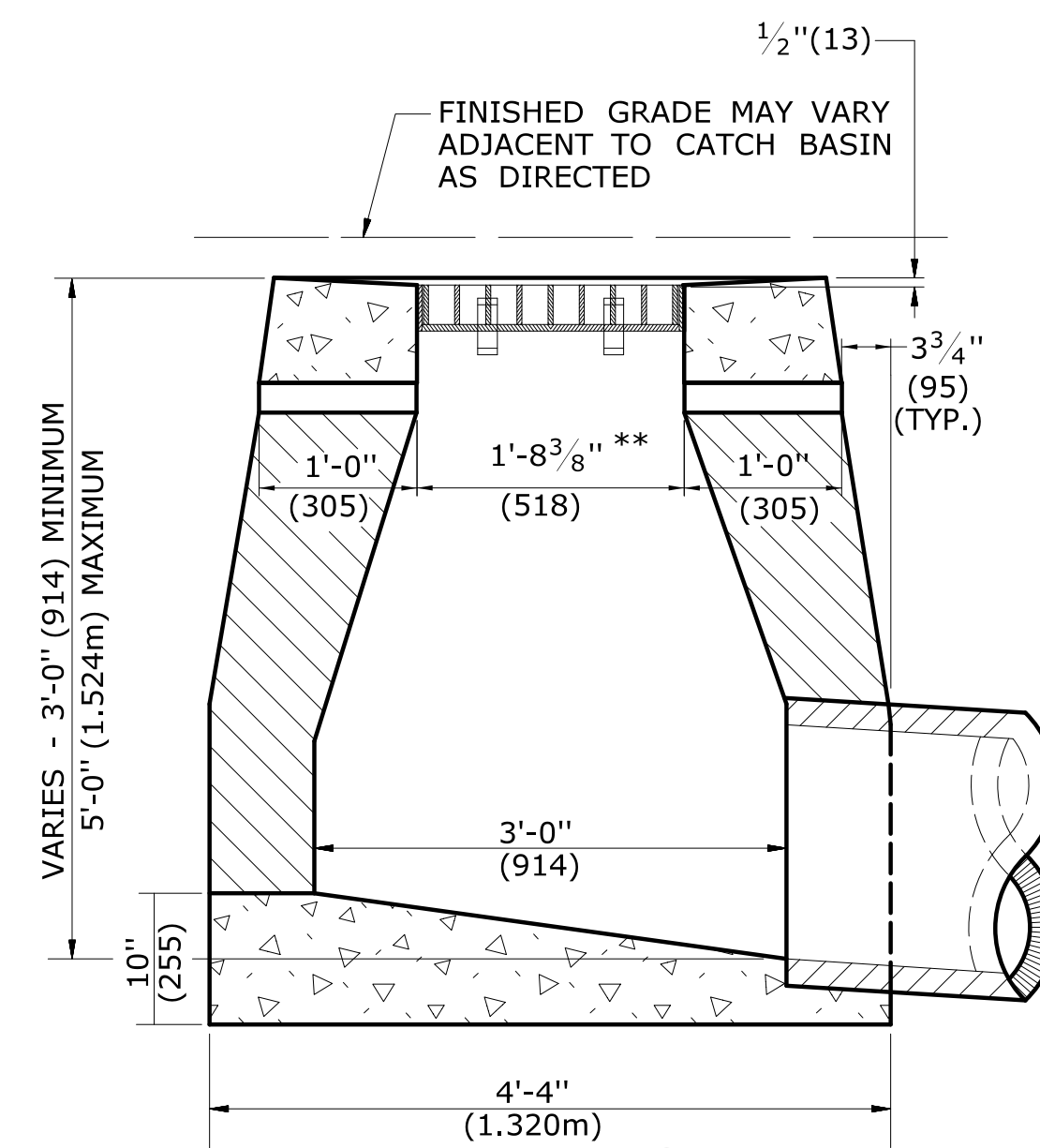
SECTION B
TYPE "C-L" CATCH BASIN



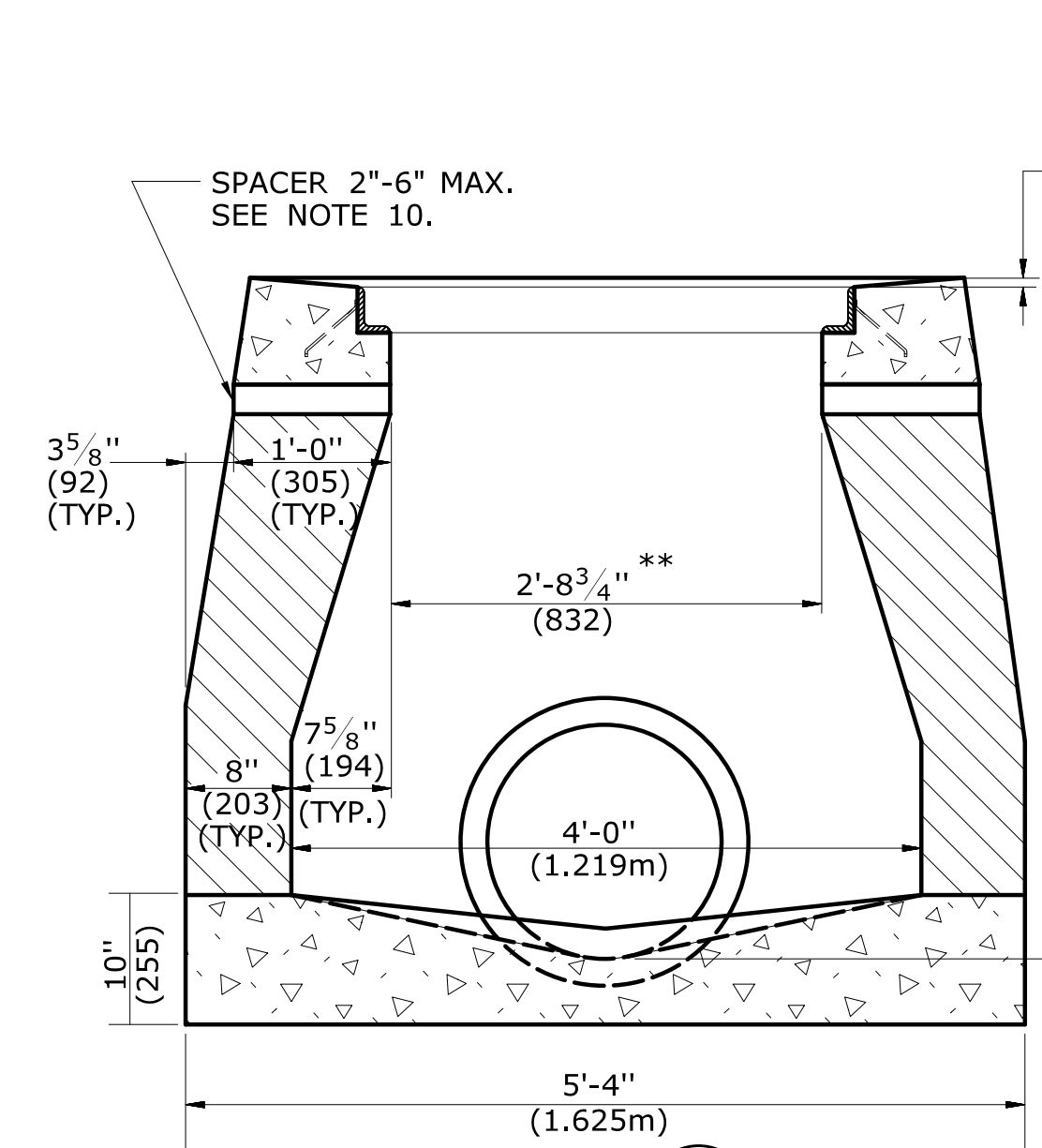
SECTION A
**TYPE "C" & "C-L" CATCH BASIN
(TYPE "C" TOP SHOWN)**



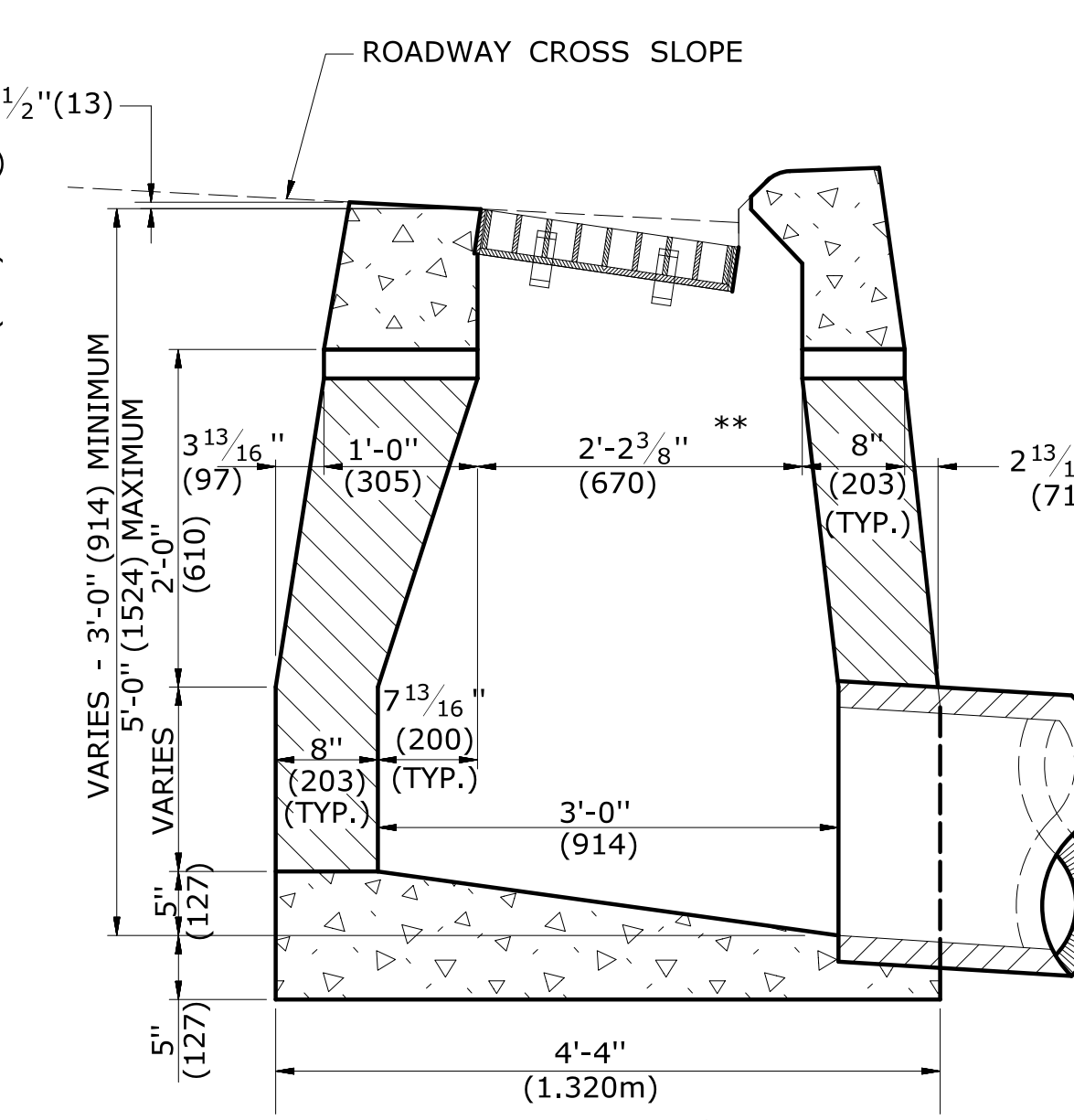
SECTION B
TYPE "C" CATCH BASIN



SECTION B
TYPE "C-L" DROP INLET



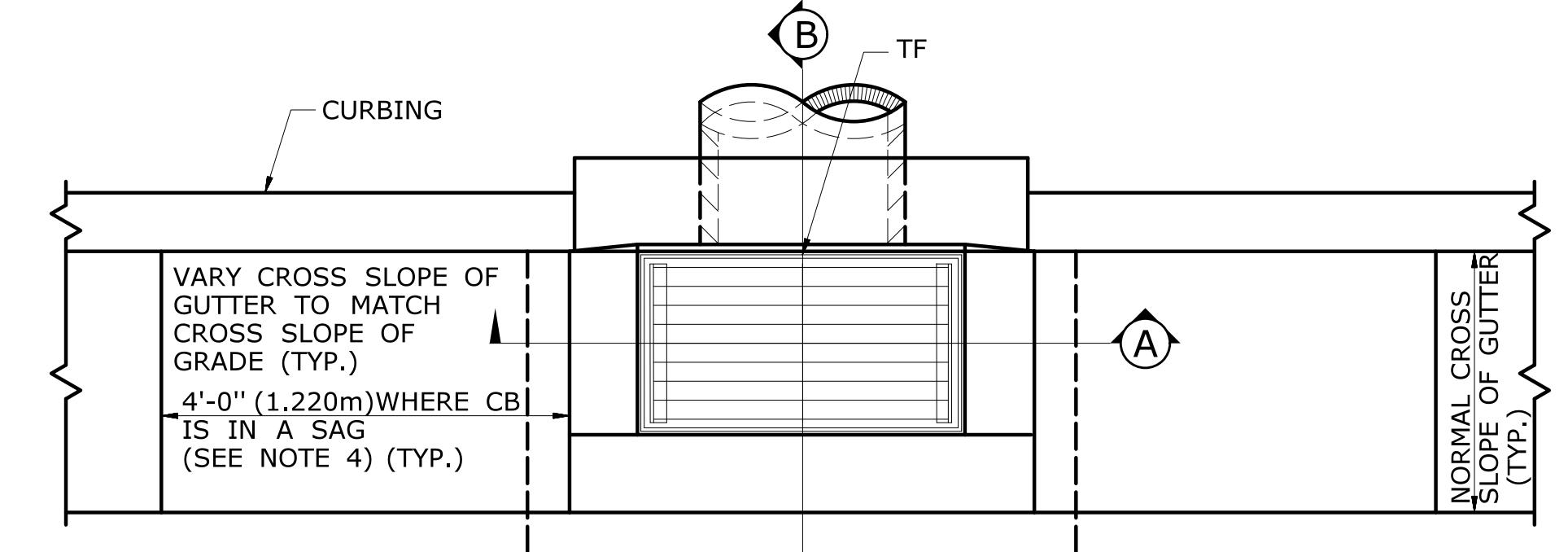
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**TYPE "C" & "C-L" DROP INLET
(TYPE "C-L" TOP SHOWN)**



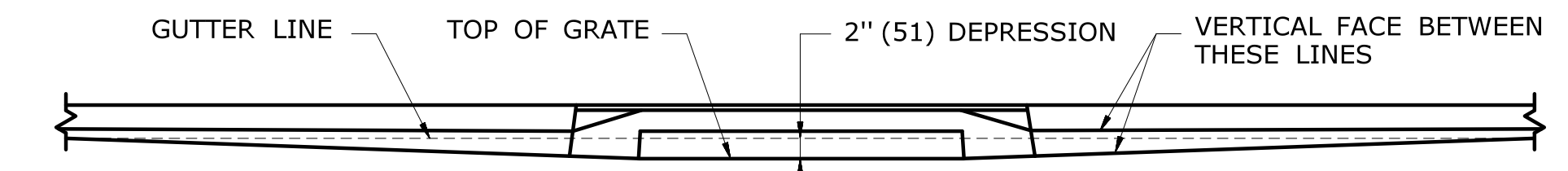
SECTION B
TYPE "C" DROP INLET

GENERAL NOTES:

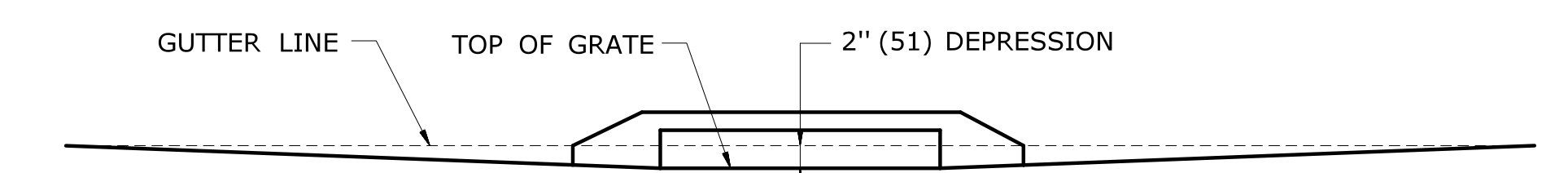
- FOR DETAILS OF FRAME AND GRATE SEE STANDARD SHEET HW-507-08.
- USE APPROPRIATE CONCRETE TOP FOR CURBING SHOWN ON PLANS. IF CURBING IS NOT SPECIFIED ON THE PLANS, IT SHALL BE CONSTRUCTED AS DIRECTED BY THE ENGINEER.
- ALL FACES OF STRUCTURES IN CONTACT WITH CONCRETE PAVEMENT SHALL BE COVERED WITH A LAYER OF TAR PAPER OR APPROVED EQUAL. THE COST FOR THE PAPER SHALL BE INCLUDED IN THE BID PRICE FOR THE TYPE OF CATCH BASIN INSTALLED.
- USE 6'-0" (1.830m) ON UPGRADE SIDE OF CONTINUOUS GRADE AND 1'-0" (305mm) ON DOWNGRADE SIDE OF CONTINUOUS GRADE OR AS DIRECTED.
- IF MASONRY UNITS ARE REQUIRED, THE BASIN SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE OVER ALL DIMENSIONS SHOWN HERE AND SECTION 5.07 OF THE STATE OF CONNECTICUT'S STANDARD SPECIFICATIONS. CORBELLING SHALL BE PERMITTED TO A MAXIMUM OF 3" (75mm.) NO PROJECTION SHALL EXTEND INSIDE THE LIMITS NOTED BY **.
- WALL THICKNESS OF ALL CB'S OVER 10' (3.048m) DEEP SHALL BE INCREASED TO 12" (305mm) THICK. INSIDE DIMENSION SHALL REMAIN THE SAME. 12" (305mm) THICKNESS WILL START AFTER THE FIRST 10' (3.048m).
- TO CONVEY SUBSURFACE DRAINAGE, OPENINGS SHALL BE FORMED IN THE FOUR WALLS AT OR IMMEDIATELY ABOVE THE BOTTOM OF THE PERVIOUS BACKFILL.
- MINIMUM CONCRETE COMPRESSIVE STRENGTH OF F_c = 4000 PSI (27,580 kPa) SHALL BE OBTAINED PRIOR TO SHIPPING.
- LATEST STATE OF CONNECTICUT'S STANDARD SPECIFICATIONS AND SUPPLEMENTALS SHALL GOVERN.
- SPACER MAY BE CMU OR PRECAST WITH REQUIRED REINFORCING (RECOMMENDED BY THE MANUFACTURER) AS NEEDED TO PROVIDE PROPER GRADE SHOWN ON PLANS.
- TOP OF FRAME (TF) ELEVATION SHALL BE MEASURED IN THE CENTER OF GRATE @ GUTTER LINE.



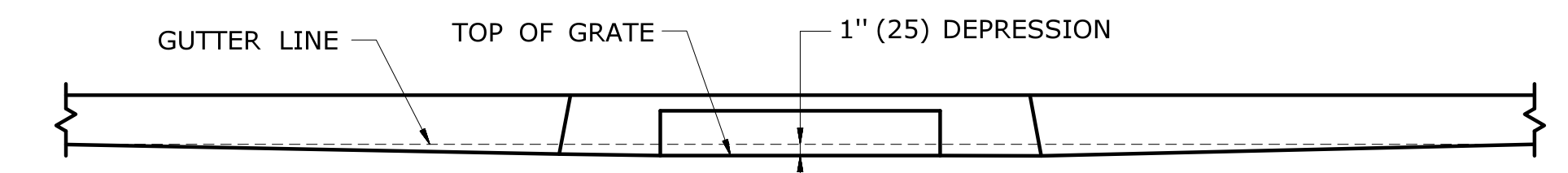
PLAN



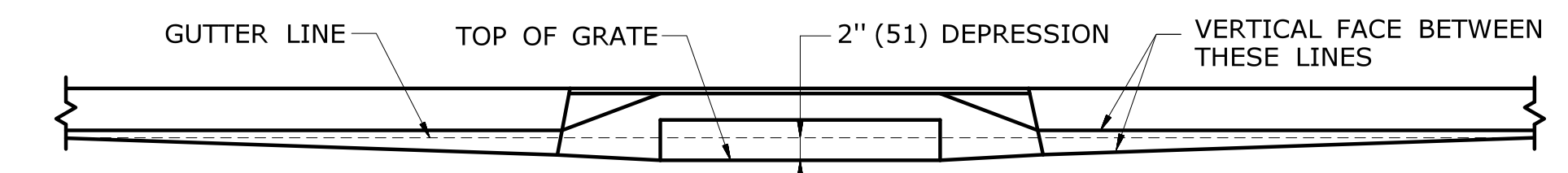
FOR CATCH BASINS IN A LINE OF 4" (102) CONCRETE PARK CURBING OR 4" (102) BITUMINOUS CONCRETE PARK CURBING



FOR CATCH BASINS WHERE NO CURBING OF ANY TYPE EXISTS OR IS PROPOSED



FOR CATCH BASINS IN A LINE OF 6" (152) CONCRETE CURBING OR 6" (152) STONE CURBING



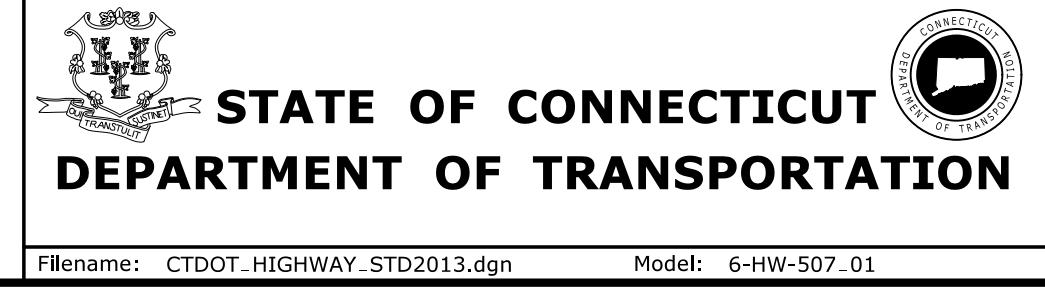
FOR CATCH BASINS IN A LINE OF 6" (152) BITUMINOUS CONCRETE LIP CURBING (MACHINE FORMED)

DETAILS OF DEPRESSED GUTTER STRIP FOR TYPE "C" CATCH BASIN

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

4	7/13	ADD NOTE 11	-
3	9/30/11	ADD SPACERS AND NOTE 10.	-
2	9/15/11	MODIFIED DETAILS TO BE CONSISTANT WITH PRECAST	-
1	7/28/11	REMOVE MIN. DROP NOTE	-
-	-	-	-
REV.	DATE	REVISION DESCRIPTION	

NOT TO SCALE

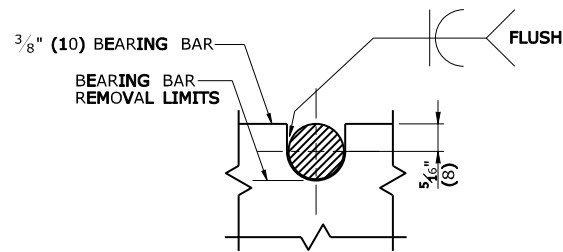


SUBMITTED BY:	NAME/DATE/TIME:
APPROVED BY:	NAME/DATE/TIME:

**CTDOT
STANDARD SHEET
OFFICE OF ENGINEERING**

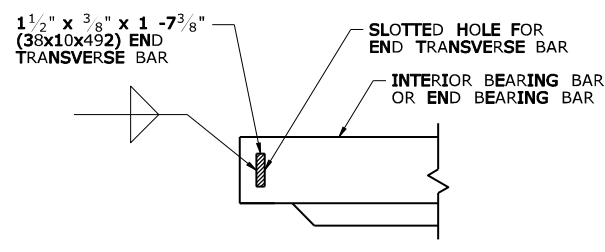
STANDARD SHEET TITLE:
**TYPE "C", "C-L" &
DROP INLET CATCH BASIN**

STANDARD SHEET NO.:
HW-507_01

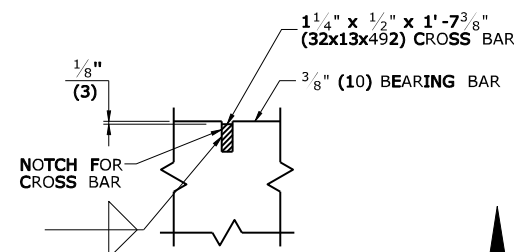


NOTE:
5/8" (16) DIA. ROUND BAR SHALL CONTACT BEARING BAR AT BOTTOM AND BE FLUSH AT TOP.

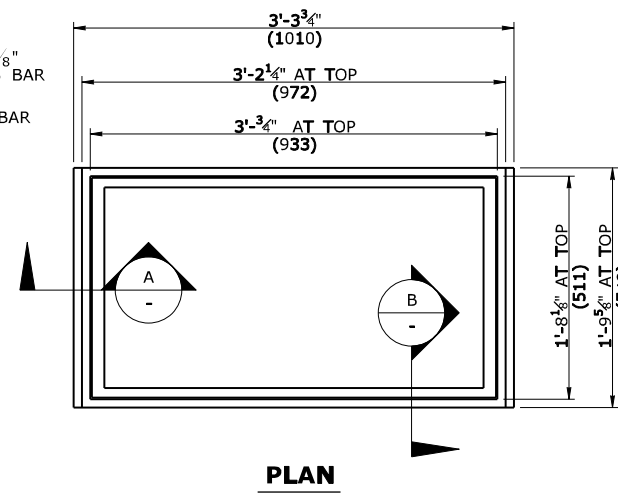
**ROUND BAR ATTACHMENT
CATCH BASIN GRATE TYPE A**



**END TRANSVERSE BAR ATTACHMENT
CATCH BASIN GRATE TYPE A & B**



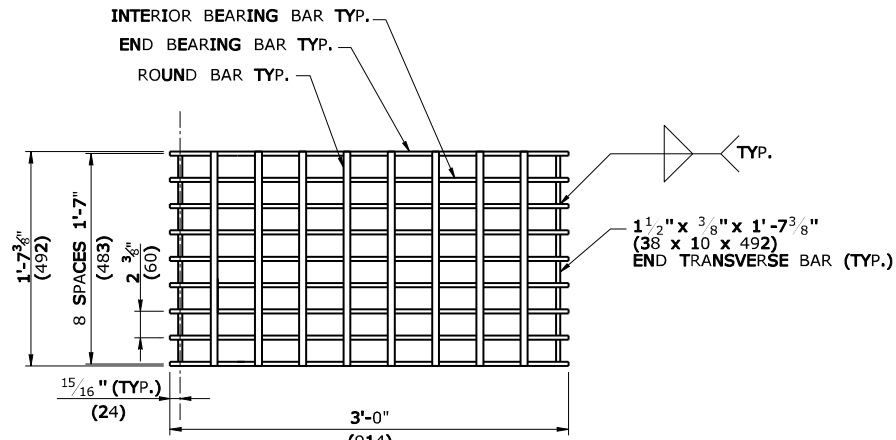
**CROSS BAR ATTACHMENT
CATCH BASIN GRATE TYPE B**



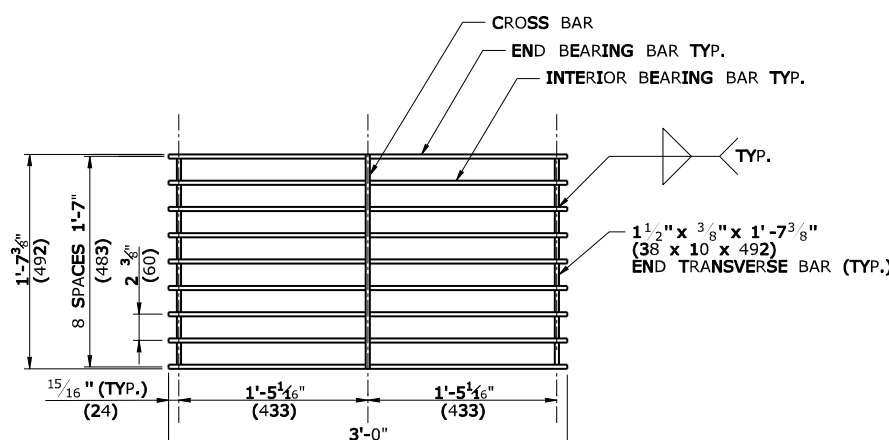
PLAN

GENERAL NOTES:

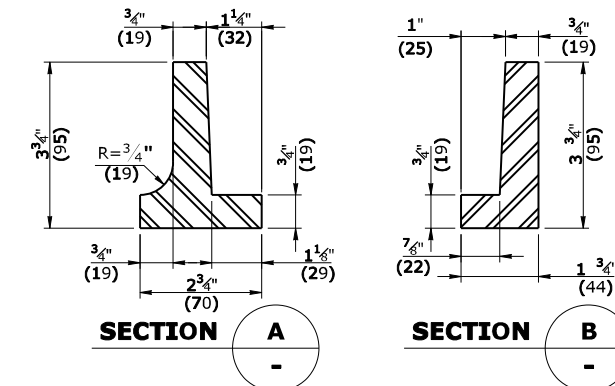
1. STEEL OR CAST IRON SHALL BE USED FOR FRAMES. STEEL SHALL BE USED FOR TYPE "A" & "B" GRATES.
2. TYPE "A" GRATES SHALL BE USED ON ALL ROADWAYS WHERE BICYCLE TRAFFIC IS ALLOWED OR AS DIRECTED BY THE ENGINEER.
3. TYPE "B" GRATES SHALL BE USED ON ALL LIMITED ACCESS HIGHWAYS, RAMP AND WHERE BICYCLE TRAFFIC IS NOT ALLOWED OR AS DIRECTED BY THE ENGINEER.
4. STEEL FRAMES AND GRATES SHALL BE GALVANIZED IN ACCORDANCE WITH ARTICLE M.06.03.
5. DO NOT GALVANIZE CAST IRON FRAMES.
6. DIMENSIONAL TOLERANCES SHALL BE $\pm 1/16"$ (1.6)
7. ALL STEEL BARS SHALL BE WELDED AT ALL INTERSECTIONS.
8. ALL WELDING SHALL CONFORM TO THE REQUIREMENTS OF AWS STRUCTURAL WELDING CODE, D1.1.



PLAN



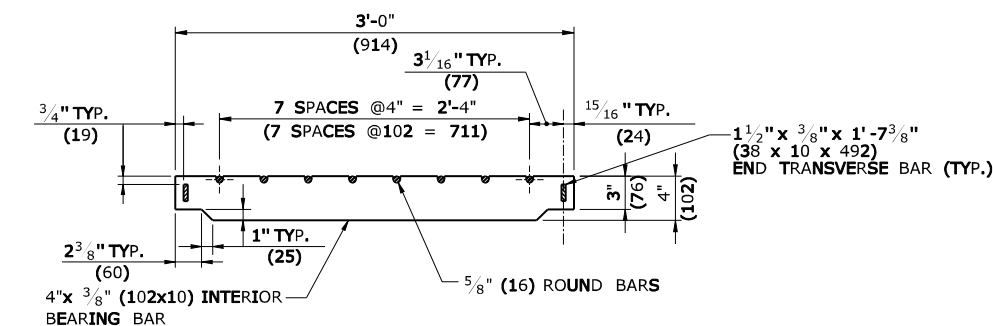
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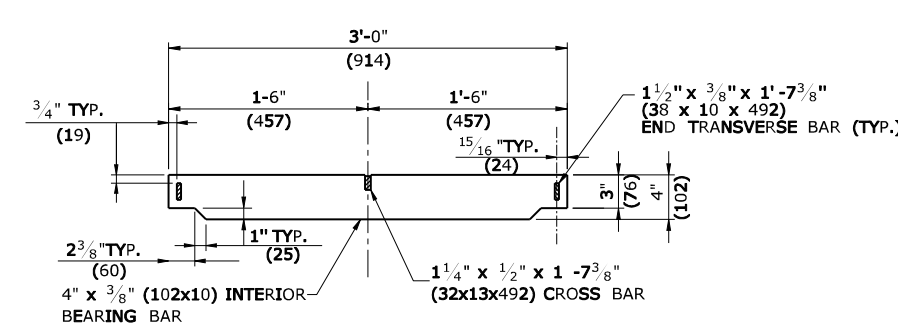
SECTION A

SECTION B

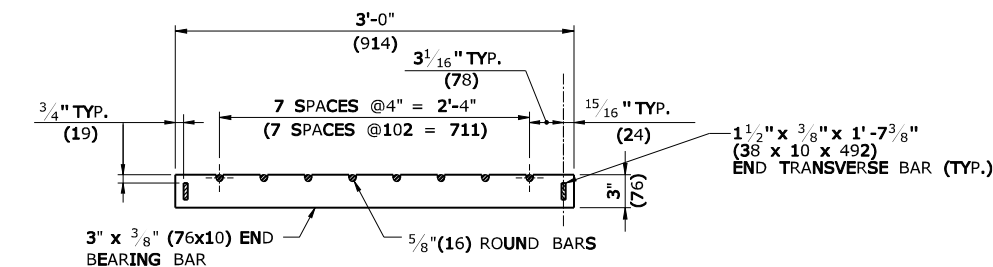
CAST IRON FRAME ALTERNATE



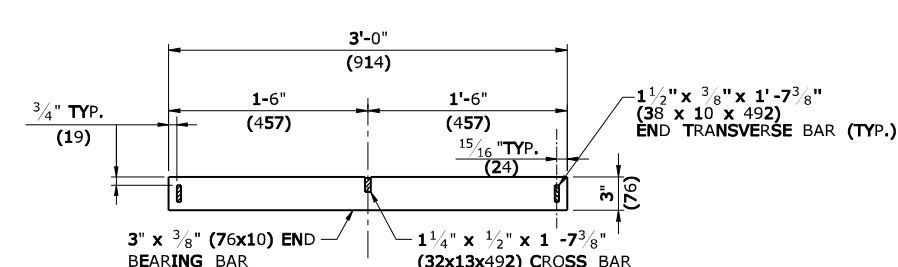
ELEVATION- INTERIOR BEARING BAR



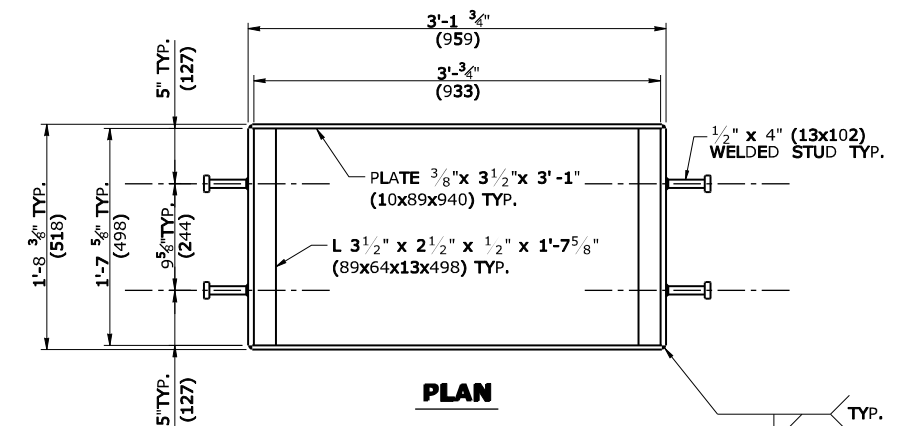
ELEVATION- INTERIOR BEARING BAR



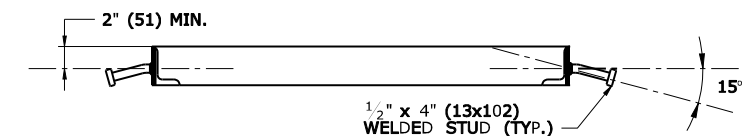
**ELEVATION- END BEARING BAR
CATCH BASIN GRATE TYPE A**



**ELEVATION- END BEARING BAR
CATCH BASIN GRATE TYPE B**



PLAN



**WELDED STUD ANCHOR DETAILS
STEEL FRAME**


ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED

REV.	DATE	REVISION DESCRIPTION
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 9/11/2009

NOT TO SCALE


STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_HIGHWAY_STD.dgn Model: HW-507_08

SUBMITTED BY: _____ NAME/DATE/TIME: _____

APPROVED BY: _____ NAME/DATE/TIME: _____

CTDOT
STANDARD SHEET

OFFICE OF ENGINEERING

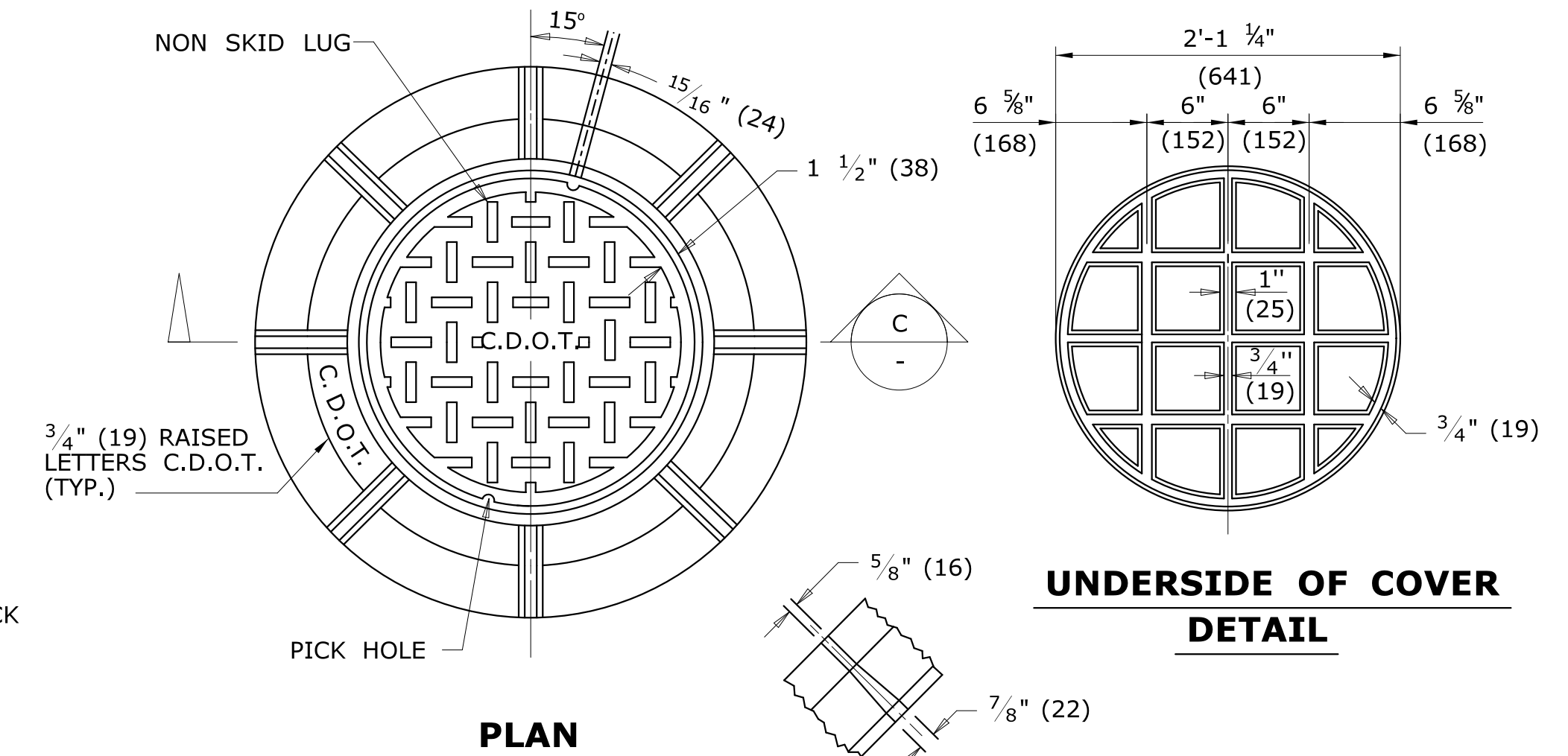
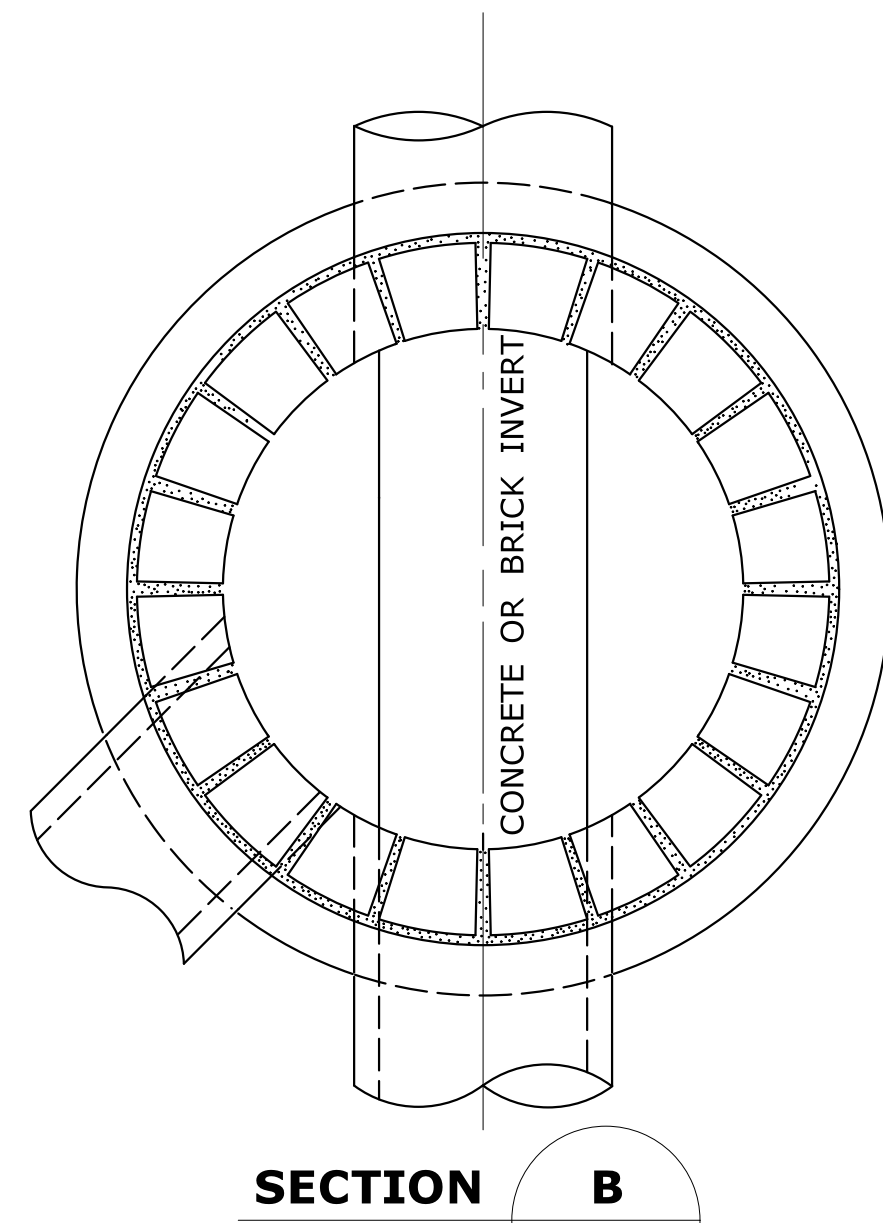
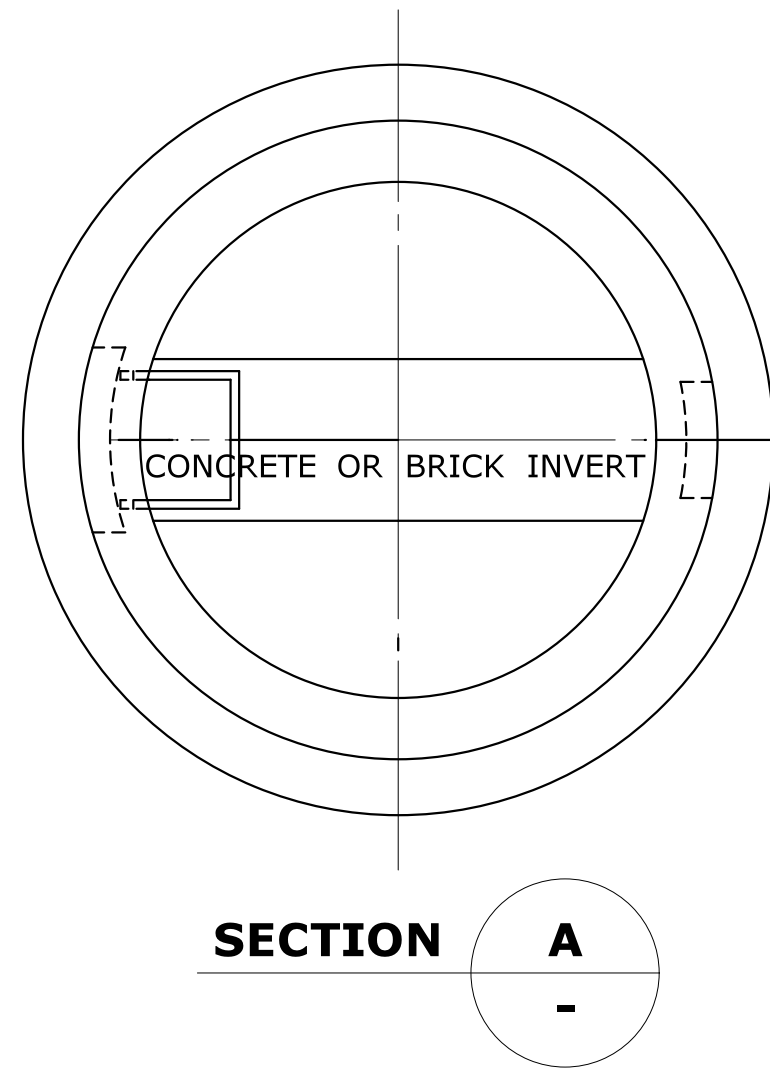
STANDARD SHEET TITLE: **CATCH BASIN FRAMES AND GRATES**

STANDARD SHEET NO.: **HW-507_08**

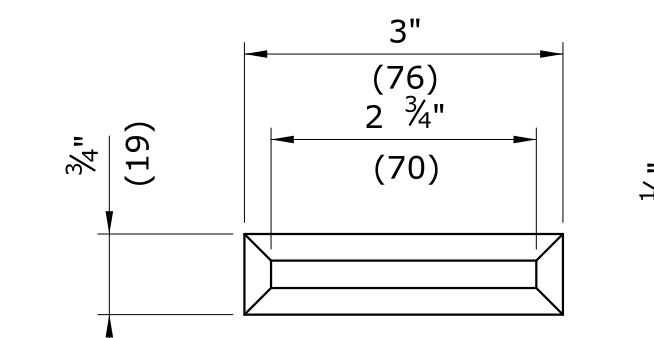
GENERAL NOTES:

- CHANNELS MAY BE SHAPED IN CONCRETE BASE OF MANHOLE OR FORMED USING BRICK OR MASONRY.
- A FRAME DIAMETER OF 3'-3" (991) WITH 4" (102) FLANGE MUST BE USED WHEN THE TOP DIAMETER OF THE PRECAST CONE IS LESS THAN 3'-6" (1067). ALL OTHER FRAME DIMENSIONS SHALL REMAIN THE SAME.
- COVER:

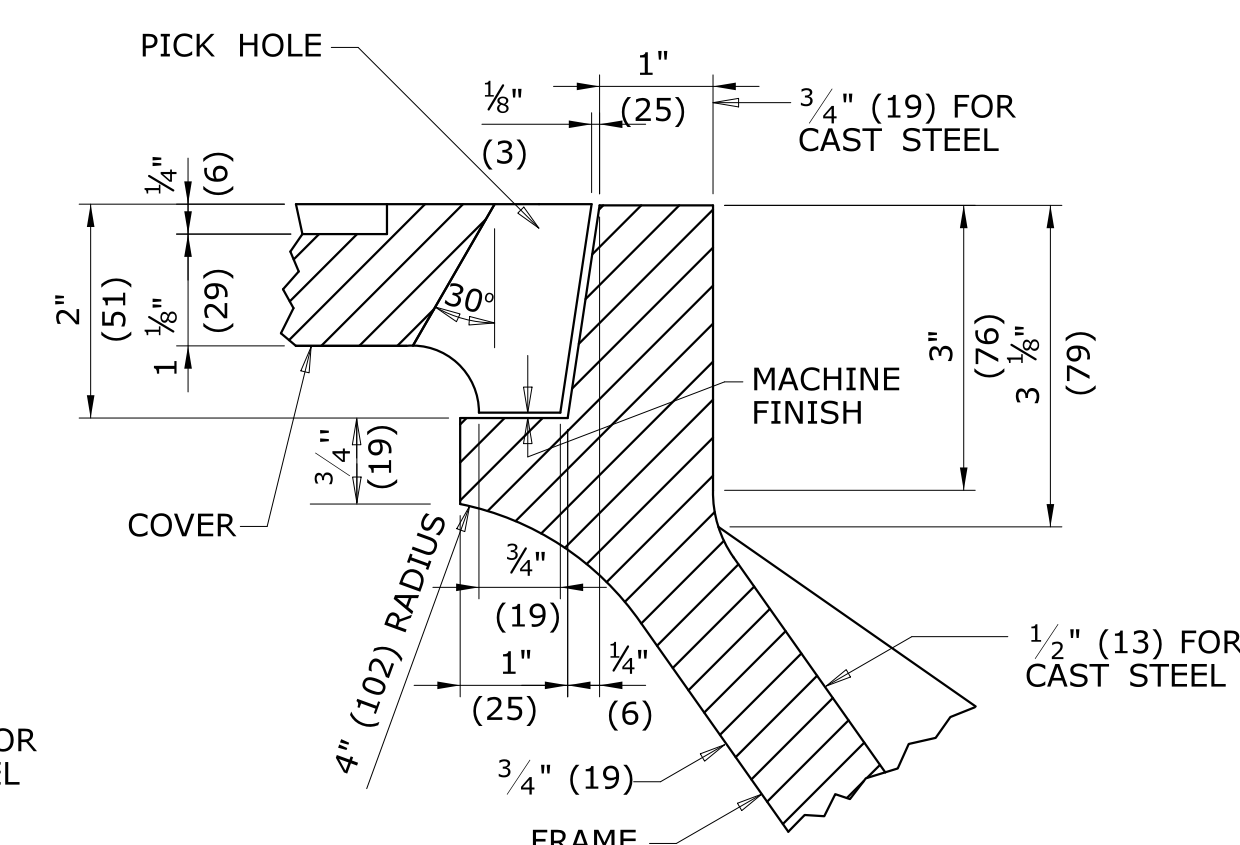
	CAST IRON	STEEL
MIN. COVER WEIGHT	134LB.(61kg)	134LB.(61kg)
- ALL DIMENSIONS SUBJECT TO MANUFACTURING TOLERANCES.



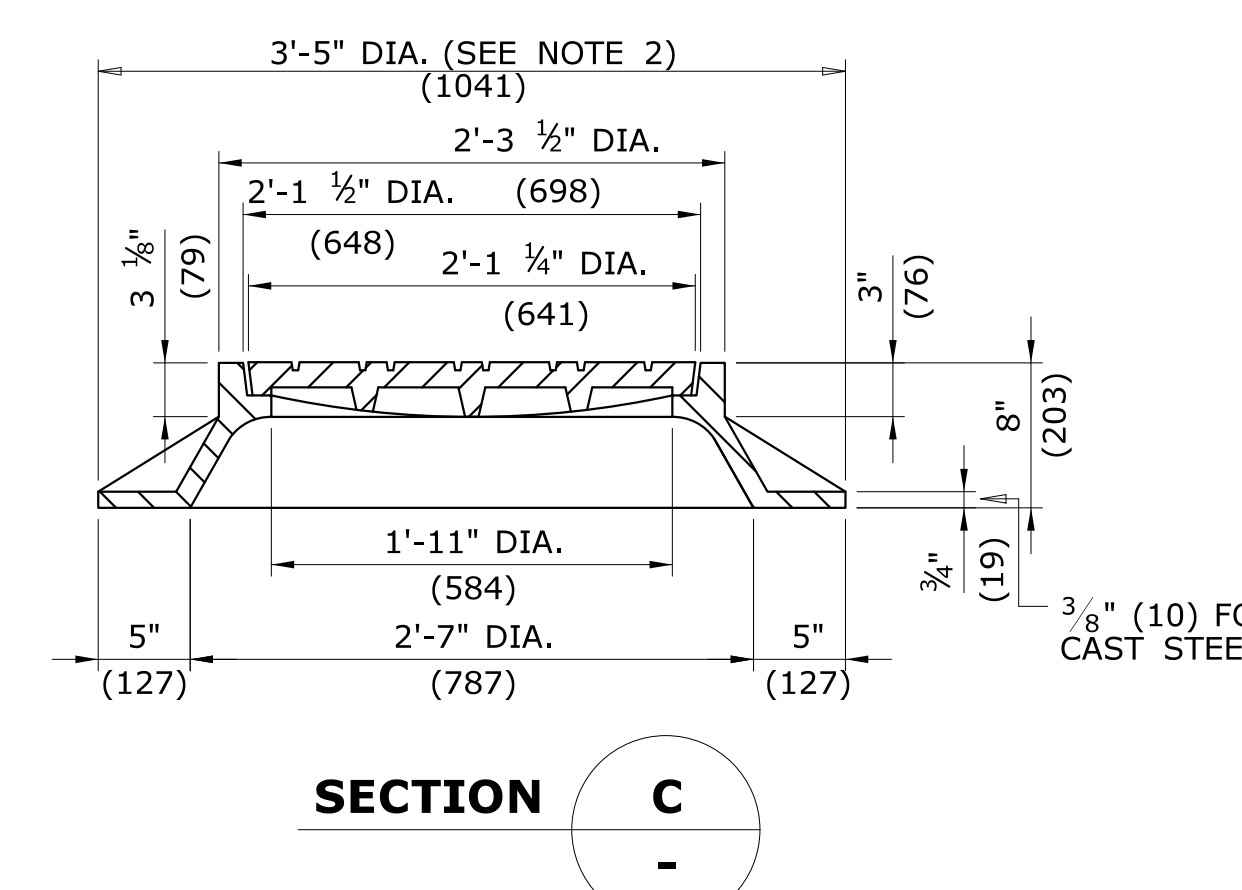
UNDERSIDE OF COVER DETAIL



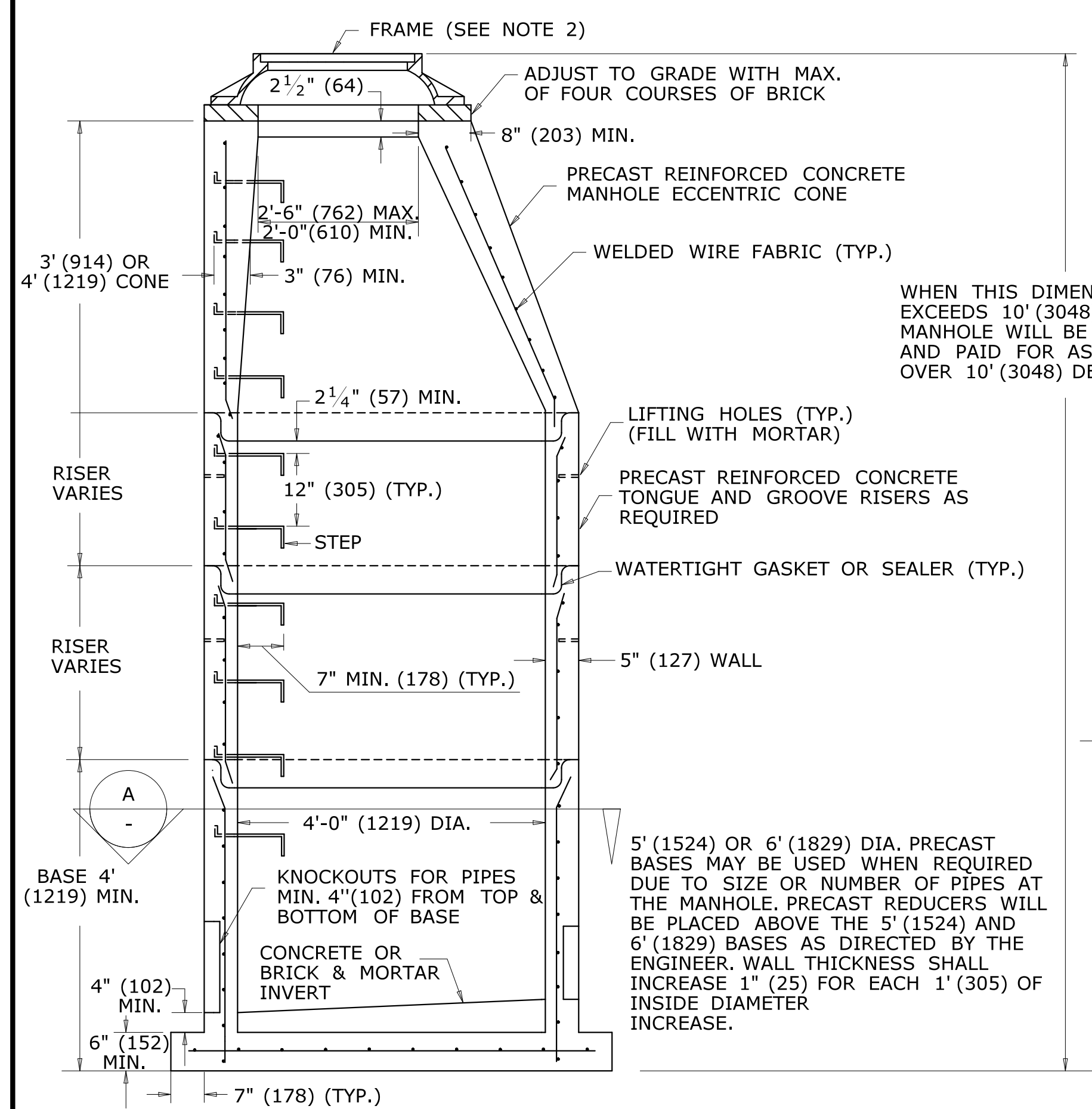
NON SKID LUG DETAIL



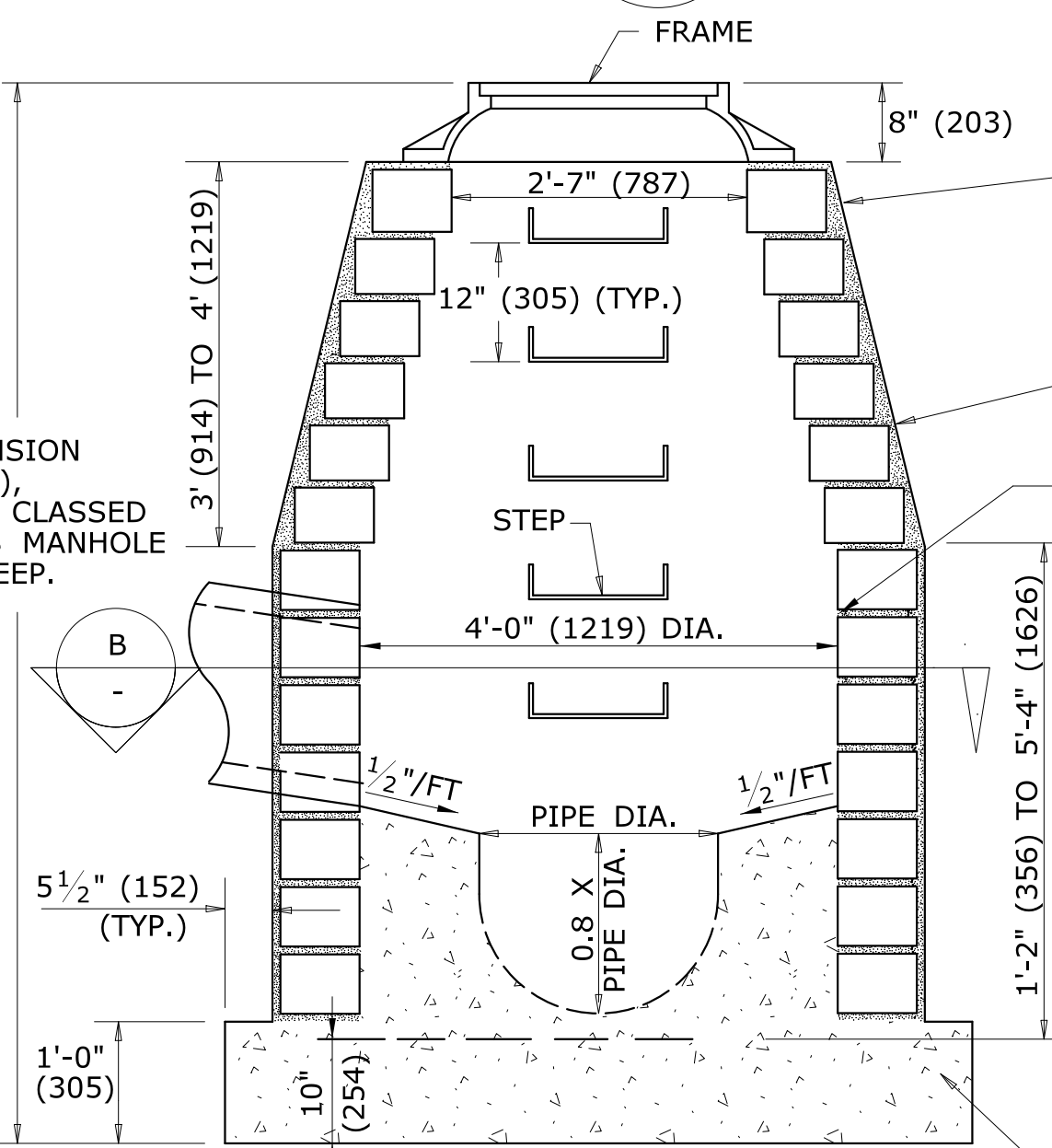
DETAIL OF SEAT



FRAME AND COVER DETAILS



ELEVATION MANHOLE
REINFORCED PRECAST CONCRETE UNIT



ELEVATION MANHOLE
MASONRY CONCRETE UNIT OR CLASS "A" CONCRETE

WALL SHALL BE A MIN. OF 6"(152) WITH MASONRY CONCRETE UNITS, CLASS "A" CONCRETE WALL SHALL BE 12"(300) THICK WHEN DEPTH OF MANHOLE IS GREATER THAN 10'(3048) DEEP.

MASONRY WALLS SHALL BE PLASTERED OUTSIDE WITH 2:1 CEMENT MORTAR 1/2"(13) THICK. MASONRY MUST BE WET WHEN MORTAR IS APPLIED.

ALL JOINTS SHALL BE POINTED FLUSH AND FULL

WALLS SHALL BE BUILT OF MASONRY CONCRETE UNITS OR CLASS "A" CONCRETE AT THE OPTION OF THE CONTRACTOR.

MASONRY CONCRETE UNITS SHALL BE LAID IN CEMENT SAND MORTAR 1:2 MIX, JOINTS SHALL NOT BE OVER 1/2"(13) ON INSIDE FACE

WHEN THIS DIMENSION EXCEEDS 10' (3048), MANHOLE WILL BE CLASSED AND PAID FOR AS MANHOLE OVER 10' (3048) DEEP.

5' (1524) OR 6' (1829) DIA. PRECAST BASES MAY BE USED WHEN REQUIRED DUE TO SIZE OR NUMBER OF PIPES AT THE MANHOLE. PRECAST REDUCERS WILL BE PLACED ABOVE THE 5' (1524) AND 6' (1829) BASES AS DIRECTED BY THE ENGINEER. WALL THICKNESS SHALL INCREASE 1" (25) FOR EACH 1' (305) OF INSIDE DIAMETER INCREASE.

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED

1	6/11	REVISE STEP WIDTH PER OSHA
2	7/13	REVISE COVER FRAME WEIGHT
-	-	-
-	-	-
-	-	-
-	-	-
REV.	DATE	REVISION DESCRIPTION

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

SUBMITTED BY: _____ NAME/DATE/TIME: _____

APPROVED BY: _____ NAME/DATE/TIME: _____

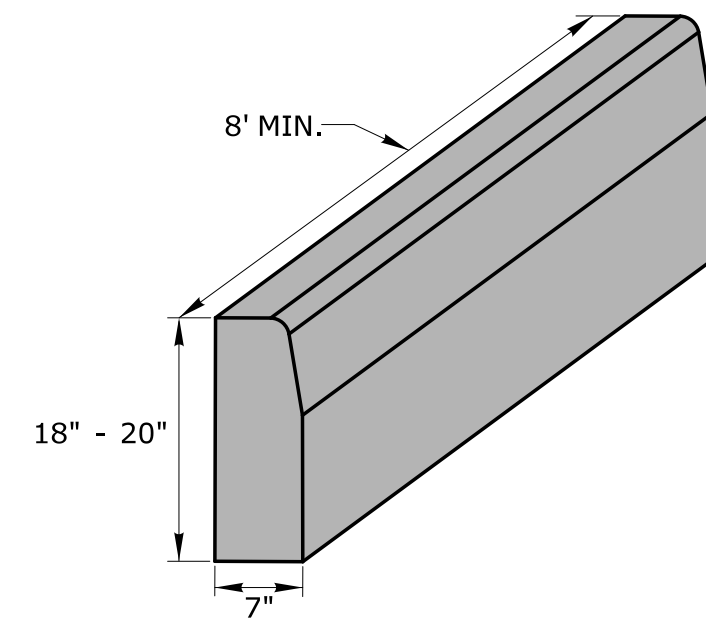
CTDOT
STANDARD SHEET
OFFICE OF ENGINEERING

STANDARD SHEET TITLE: **MANHOLE - FRAME & COVER**

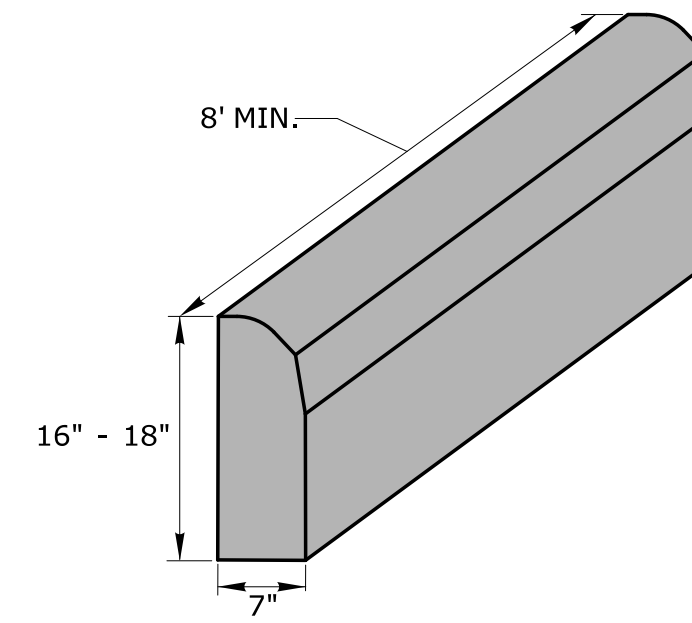
STANDARD SHEET NO.: **HW-507_10**

GENERAL NOTE:

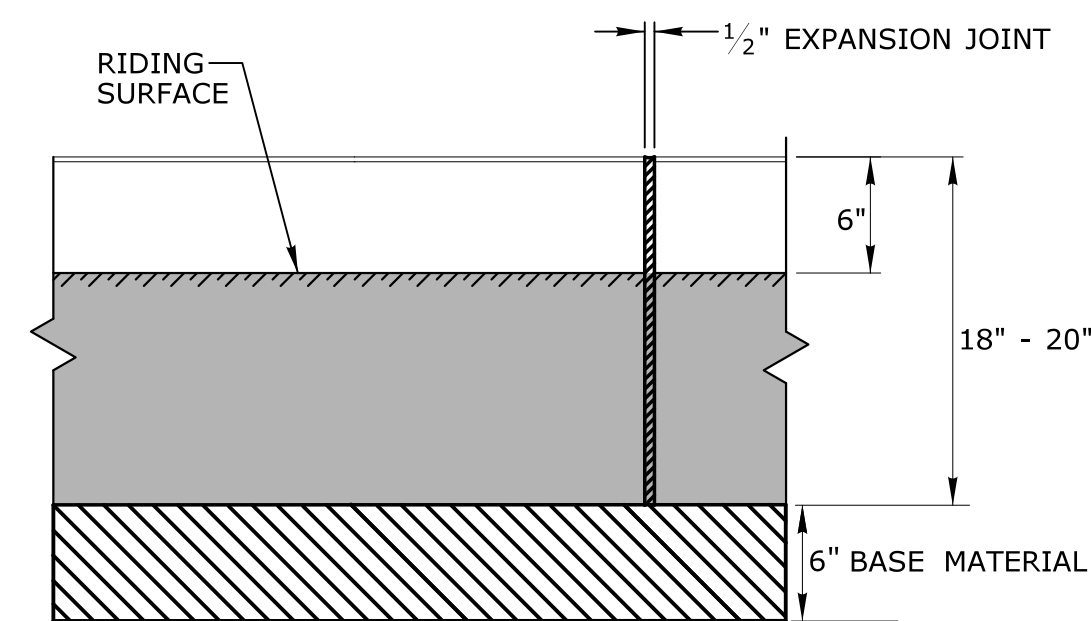
1. PRECAST CONCRETE CURBING MAY BE CAST BY THE MANUFACTURER WITH OPTIONAL LIFTING AND DOWEL BAR HOLES.



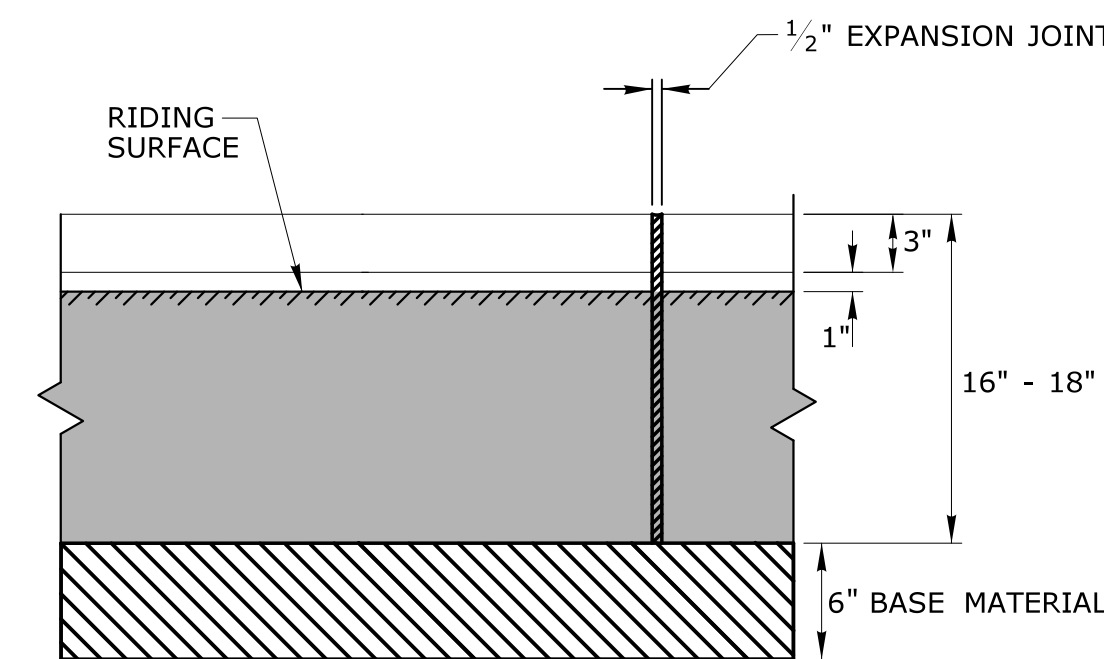
CONCRETE CURBING (6" REVEAL)



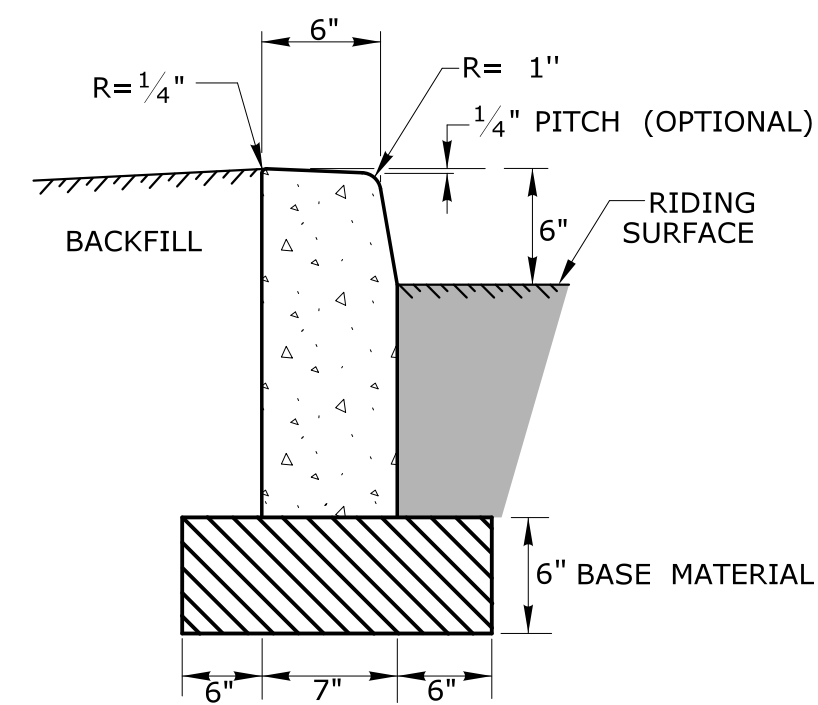
CONCRETE PARK CURBING (4" REVEAL)



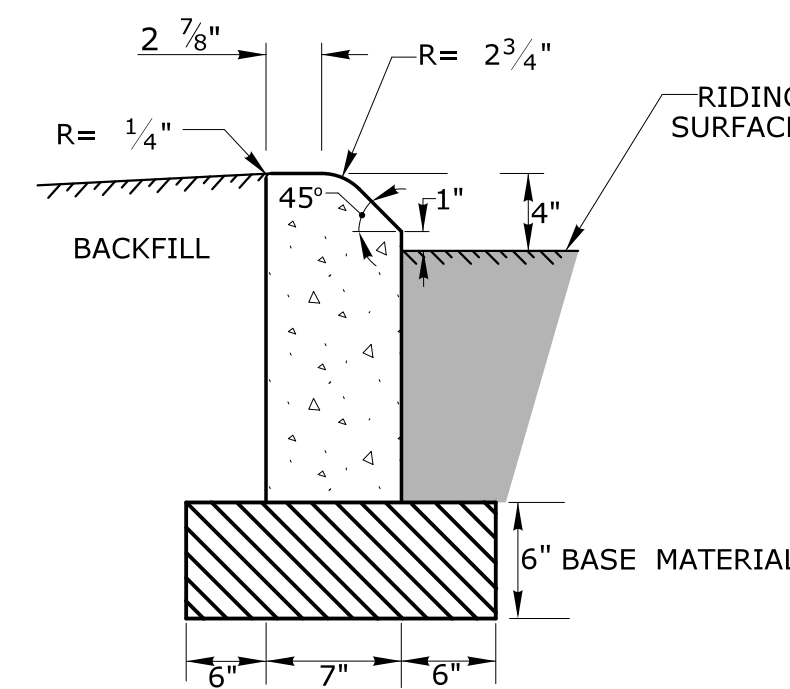
FRONT ELEVATION



FRONT ELEVATION



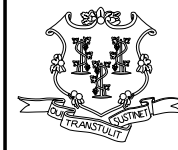
SECTION



SECTION

1	6/01/10	REVISED TITLE FOR 6" CONC. CURB	THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.
2	6/17	REMOVED STONE, BITUMINOUS & GRANITE ITEMS	
REV.	DATE	REVISION DESCRIPTION	Plotted Date: 6/6/2017

NOT TO SCALE

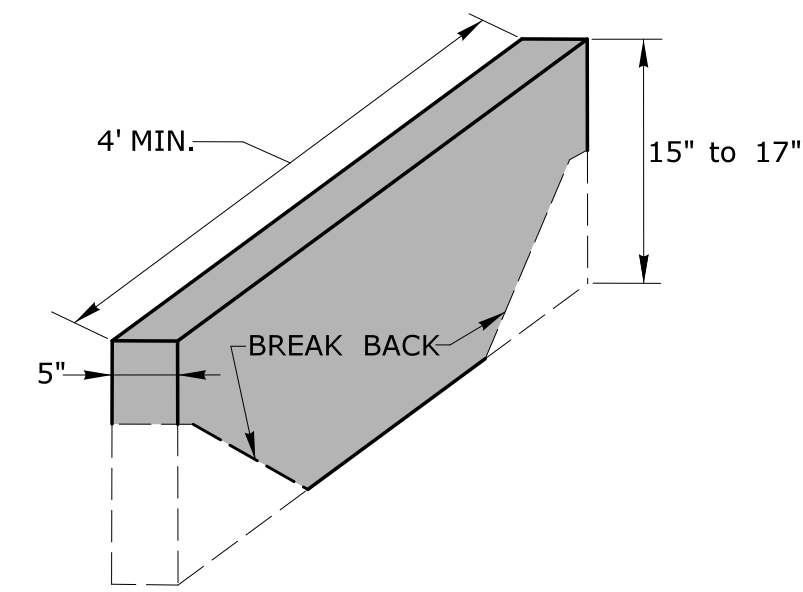

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: HW-811_01.dgn Model: CT_Civil_2D_Sheet

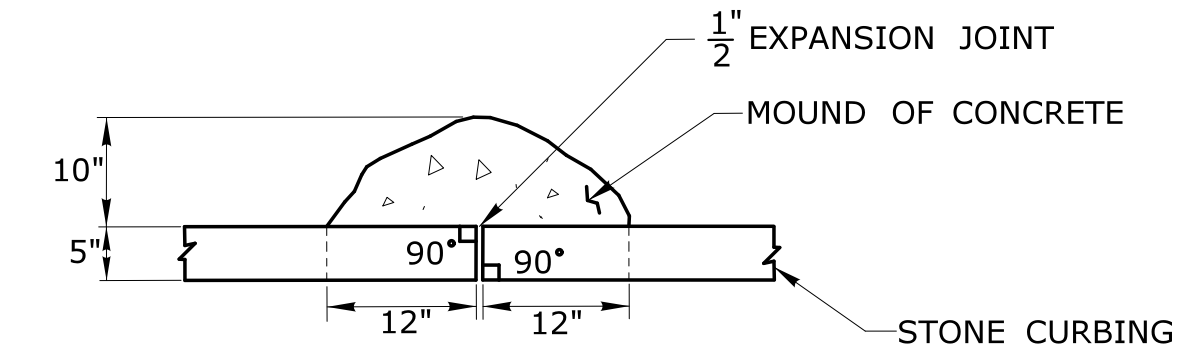
SUBMITTED BY:	NAME/DATE/TIME:
APPROVED BY:	NAME/DATE/TIME:

CTDOT
STANDARD SHEET
OFFICE OF ENGINEERING

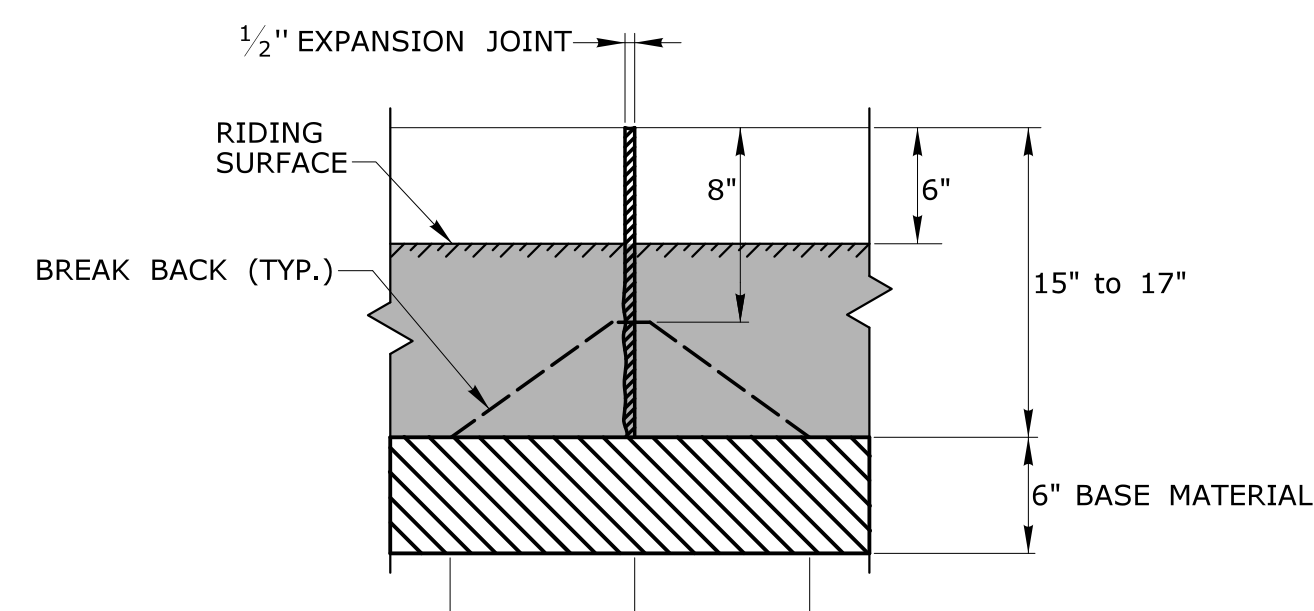
STANDARD SHEET TITLE:	STANDARD SHEET NO.:
CONCRETE CURBING	HW-811_01



STONE CURBING



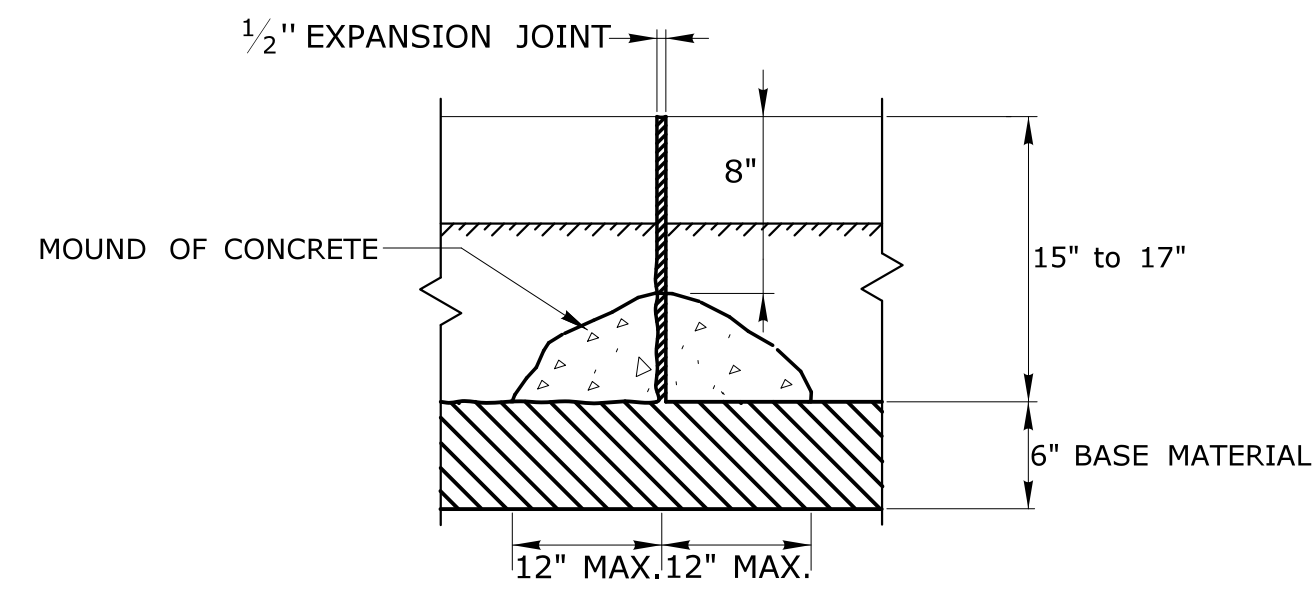
PLAN



MAXIMUM ALLOWABLE
BREAK BACK IS

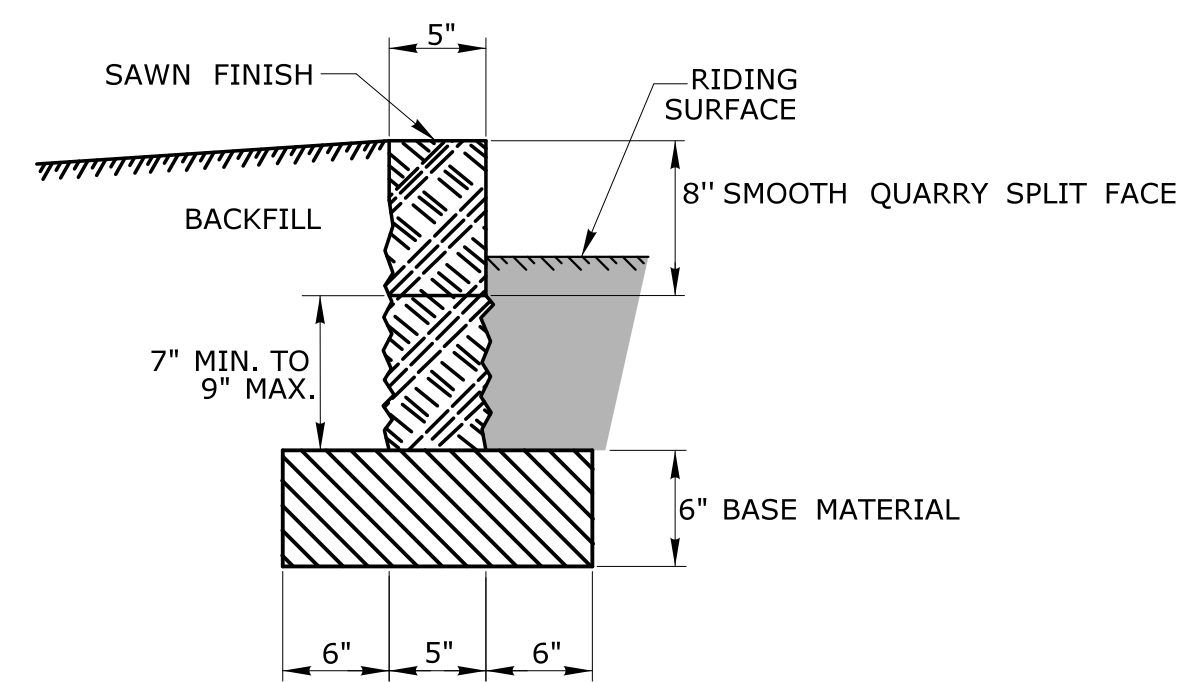
9" FOR CURB LENGTHS OF 6' OR MORE,
6" FOR CURB LENGTHS LESS THAN 6'

FRONT
ELEVATION



BACK
ELEVATION

MOUND OF CONCRETE AT ALL JOINTS
FOR STONE CURBING



SECTION

1	6/17	NEW SHEET	<p>THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.</p>
REV. DATE	REVISION DESCRIPTION		Plotted Date: 6/6/2017

NOT TO SCALE



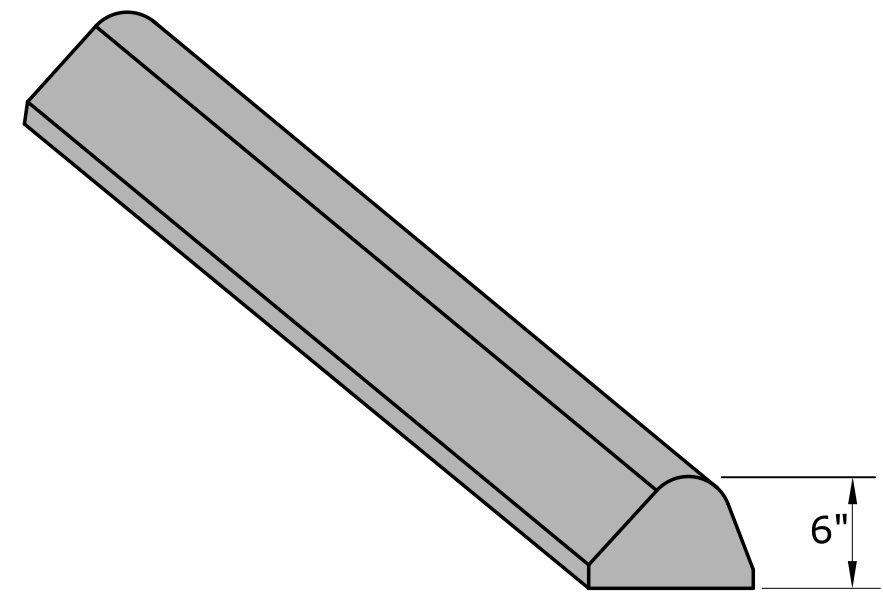
Filename: HW-813_02.dgn Model: CT-Civil-2D_Sheet

SUBMITTED BY:	NAME/DATE/TIME:
APPROVED BY:	NAME/DATE/TIME:

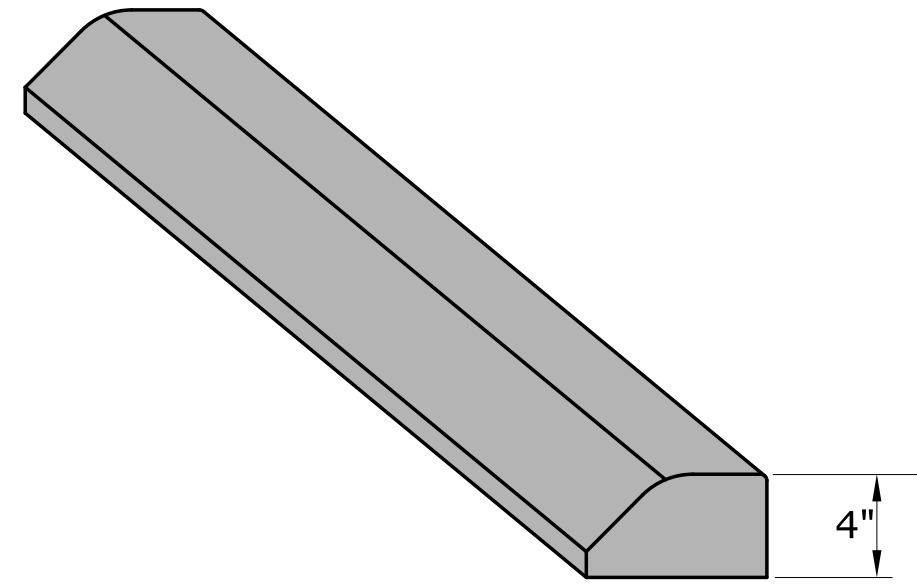
CTDOT
STANDARD SHEET

OFFICE OF ENGINEERING

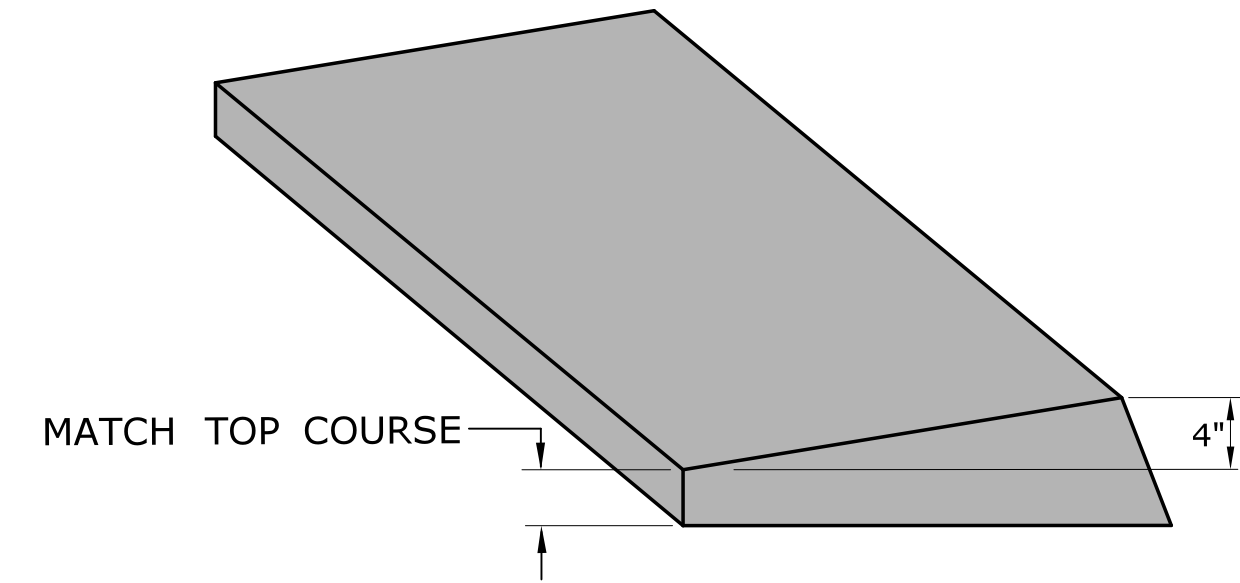
STANDARD SHEET TITLE:	STANDARD SHEET NO.:
STONE CURBING	HW-813_02



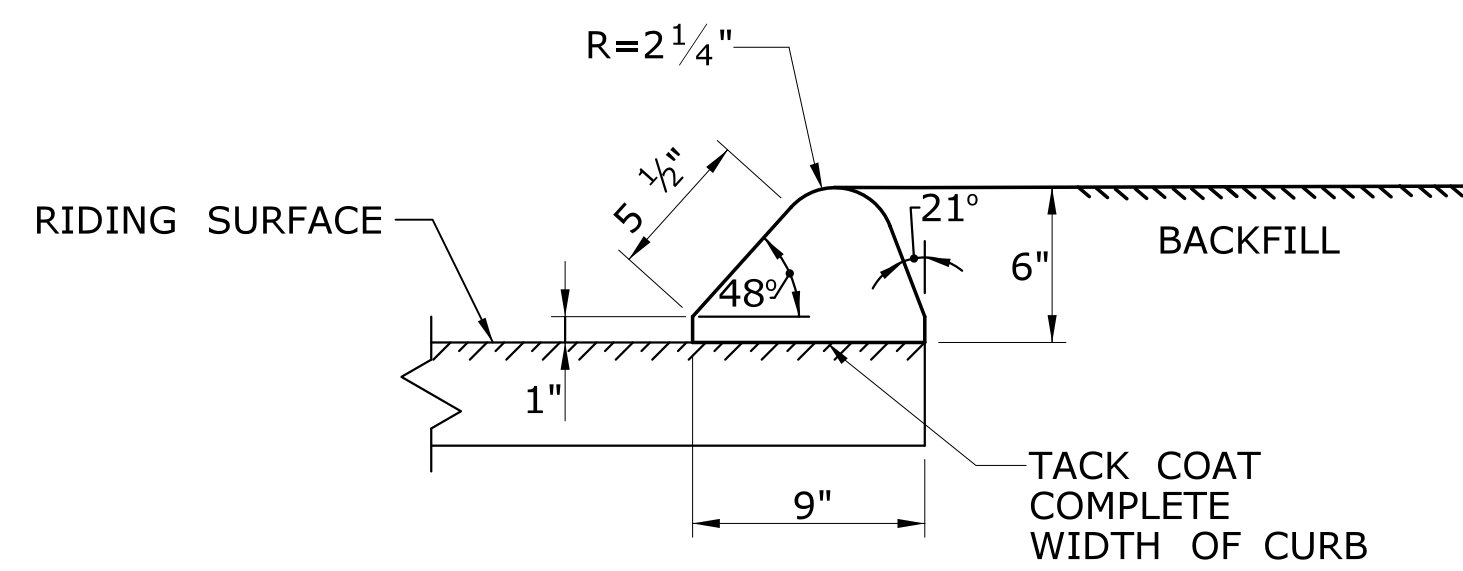
**BITUMINOUS CONCRETE LIP CURBING
(6" HIGH)**



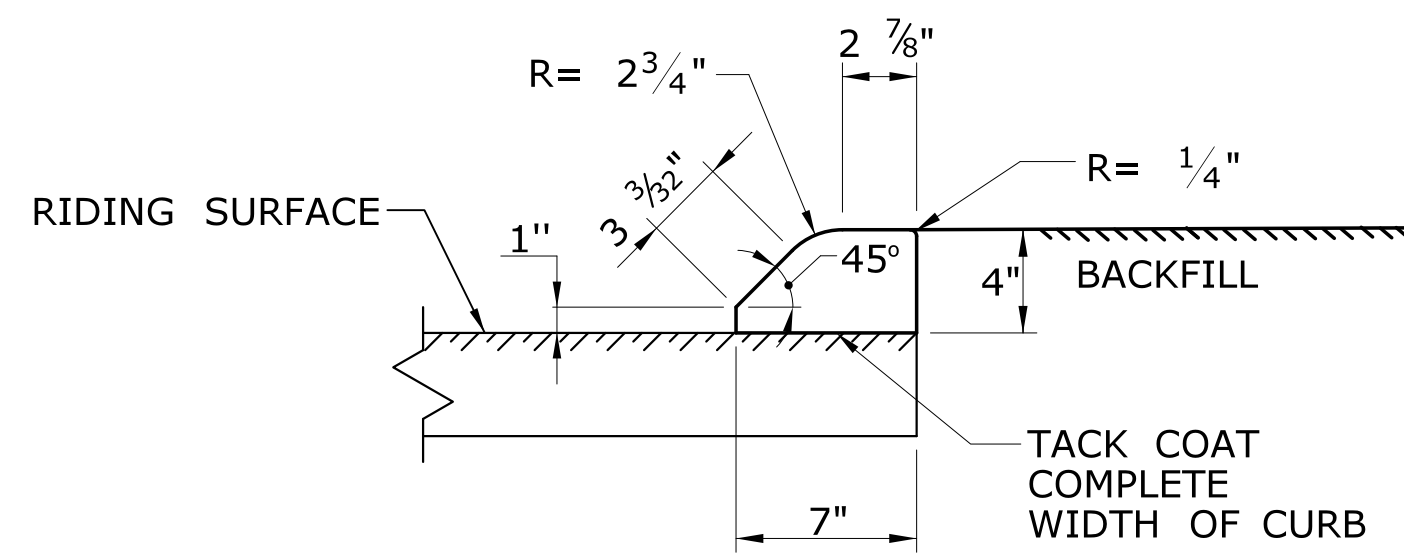
**BITUMINOUS CONCRETE PARK CURBING
(4" HIGH)**



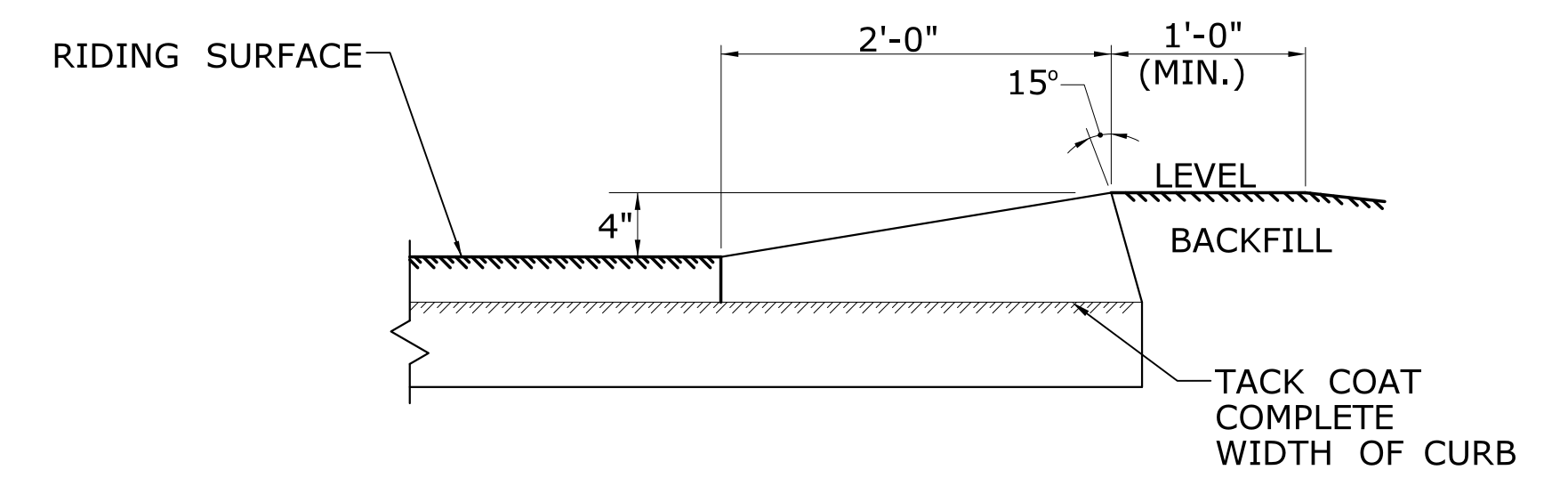
**BITUMINOUS CONCRETE BERM CURBING
(4" HIGH)**



SECTION



SECTION



SECTION

1 6/17 NEW SHEET

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

NOT TO SCALE



Filename: HW-815_01.dgn Model: CT.Civil.2D.Sheet

SUBMITTED BY: NAME/DATE/TIME:

APPROVED BY: NAME/DATE/TIME:

**CTDOT
STANDARD SHEET**

OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

BITUMINOUS CONCRETE CURBING

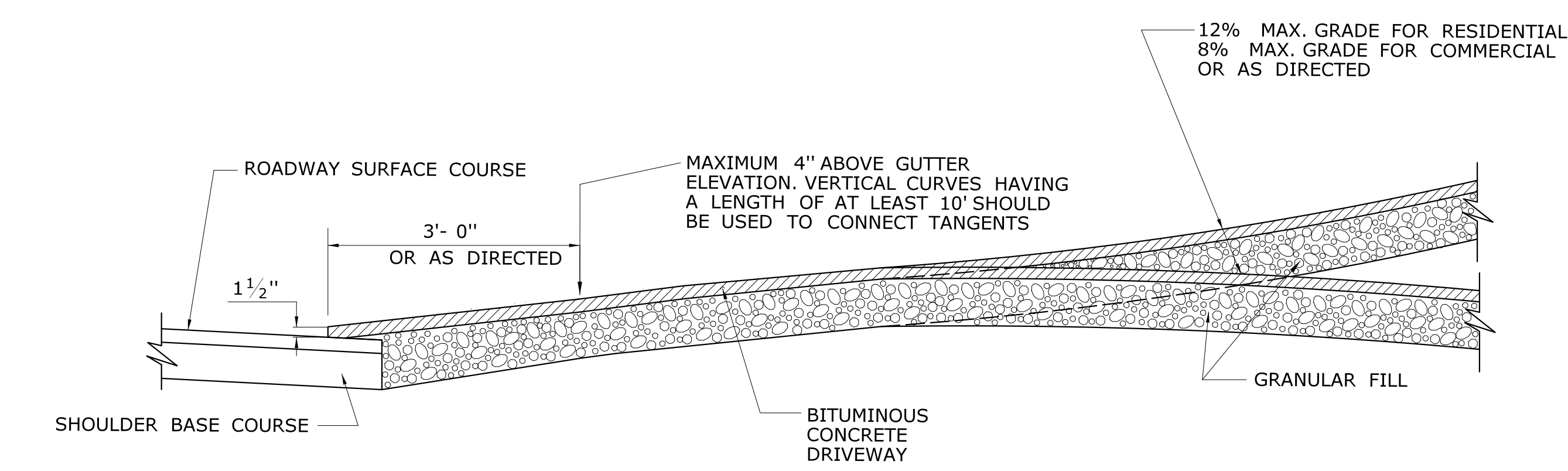
STANDARD SHEET NO.:

HW-815_01

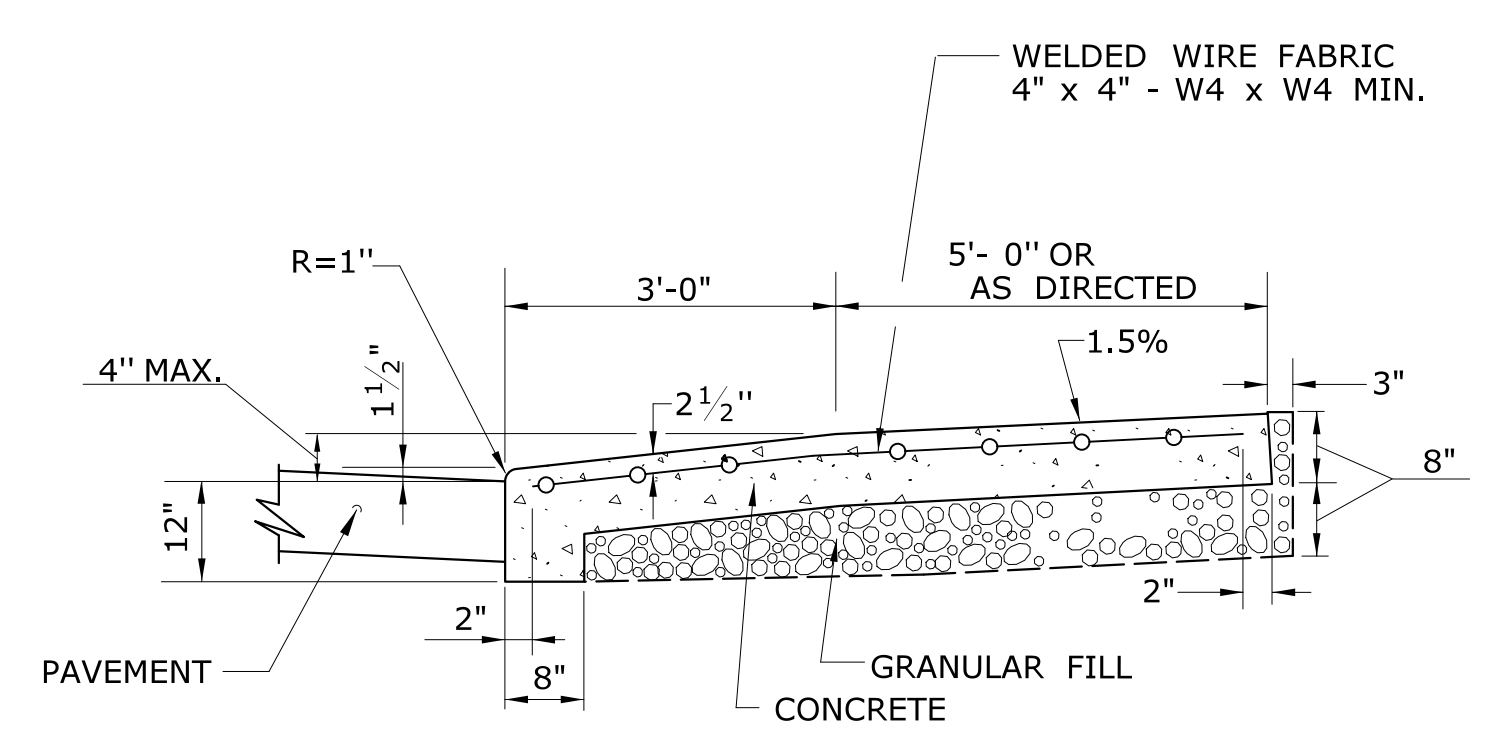
REV. DATE REVISION DESCRIPTION

Plotted Date: 6/6/2017

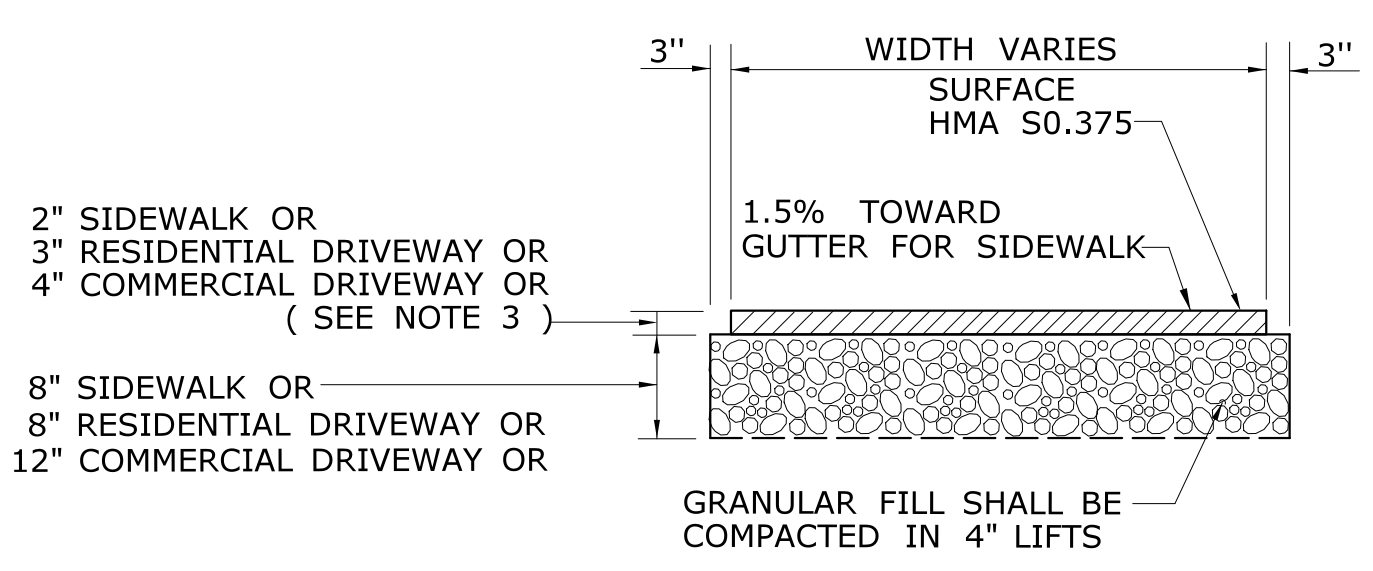
- GENERAL NOTES:**
1. DRIVEWAY ENTRANCE SHALL BE A MINIMUM OF 12' WIDE, EXCLUDING CURBING WHEN PRESENT.
 2. WELDED WIRE FABRIC MATS WITH REINFORCING AT CLOSER SPACING MAY BE USED.
 3. SURFACE HMA S0.375 TO BE PLACED IN TWO EQUAL LIFTS FOR BOTH RESIDENTIAL AND COMMERCIAL DRIVEWAYS.



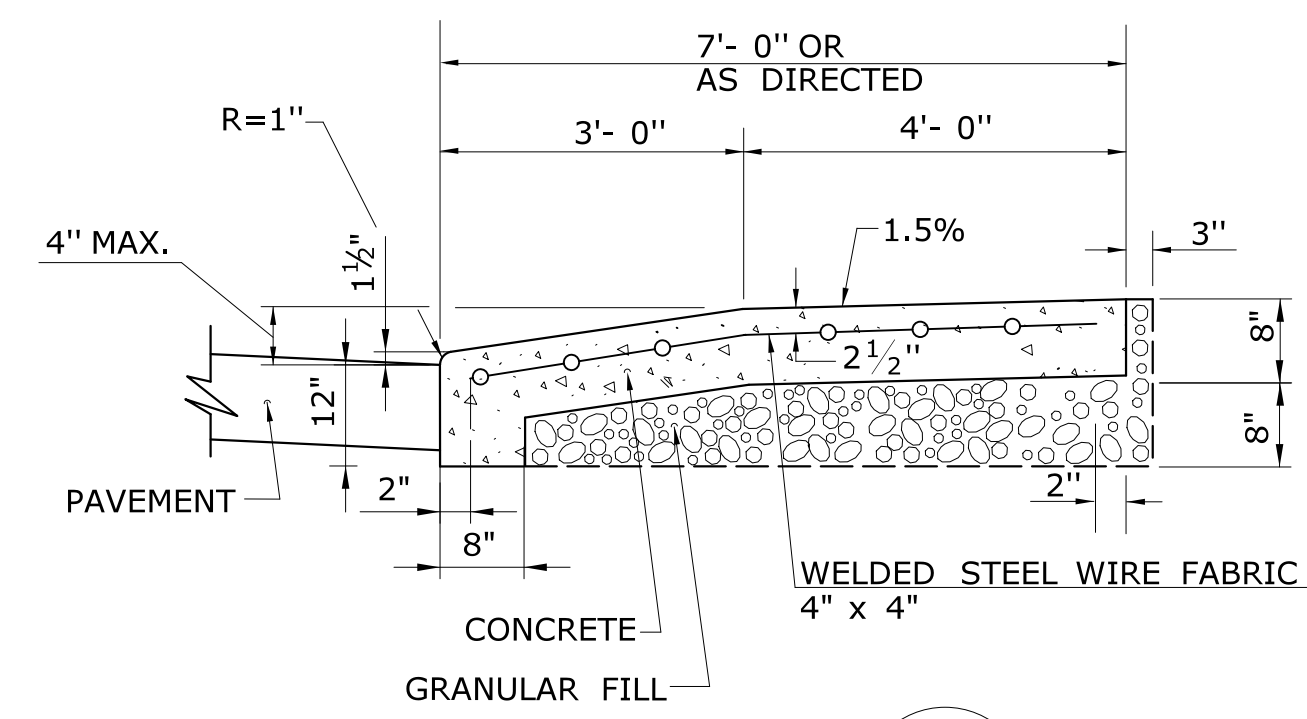
SECTION A



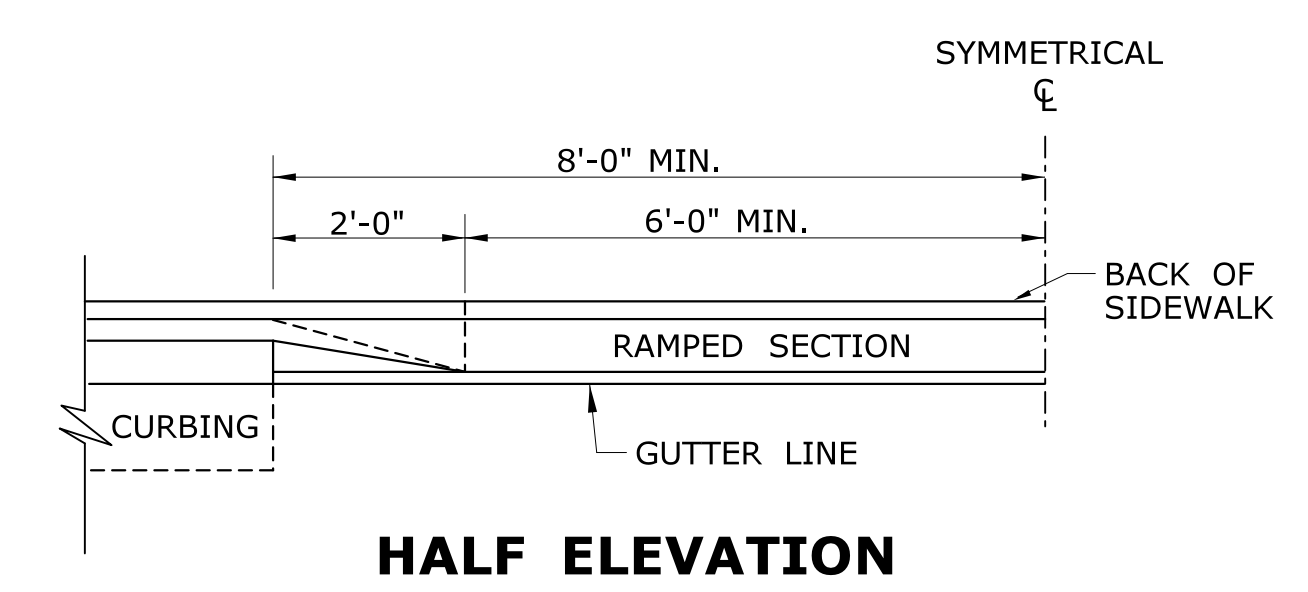
SECTION C



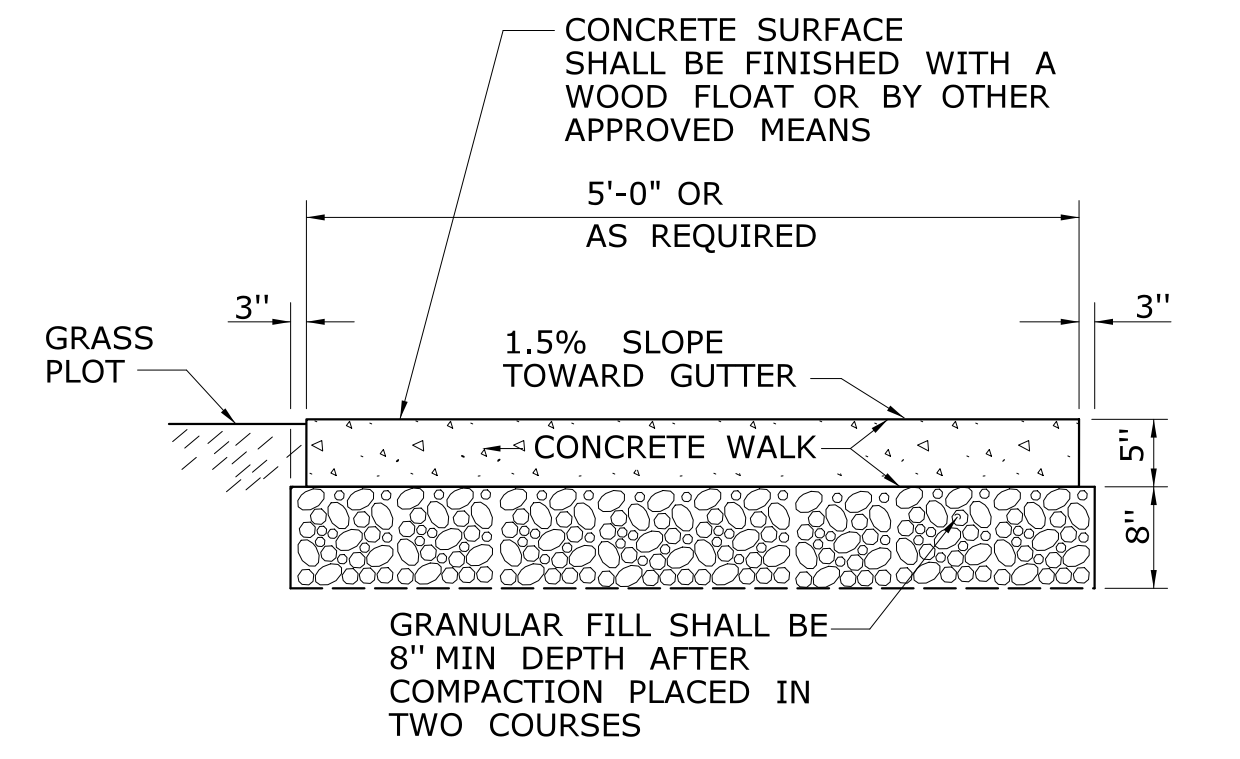
**TYPICAL SECTION
BITUMINOUS CONCRETE
SIDEWALK AND DRIVEWAY**



SECTION B

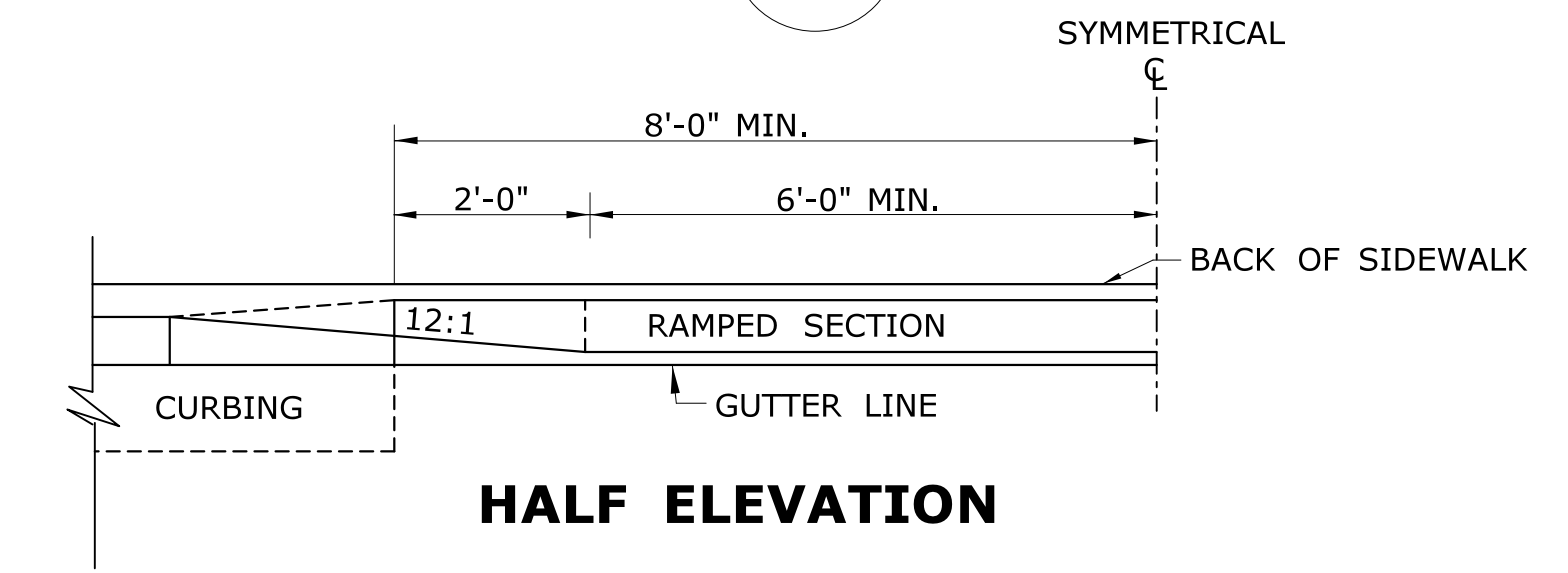


HALF ELEVATION

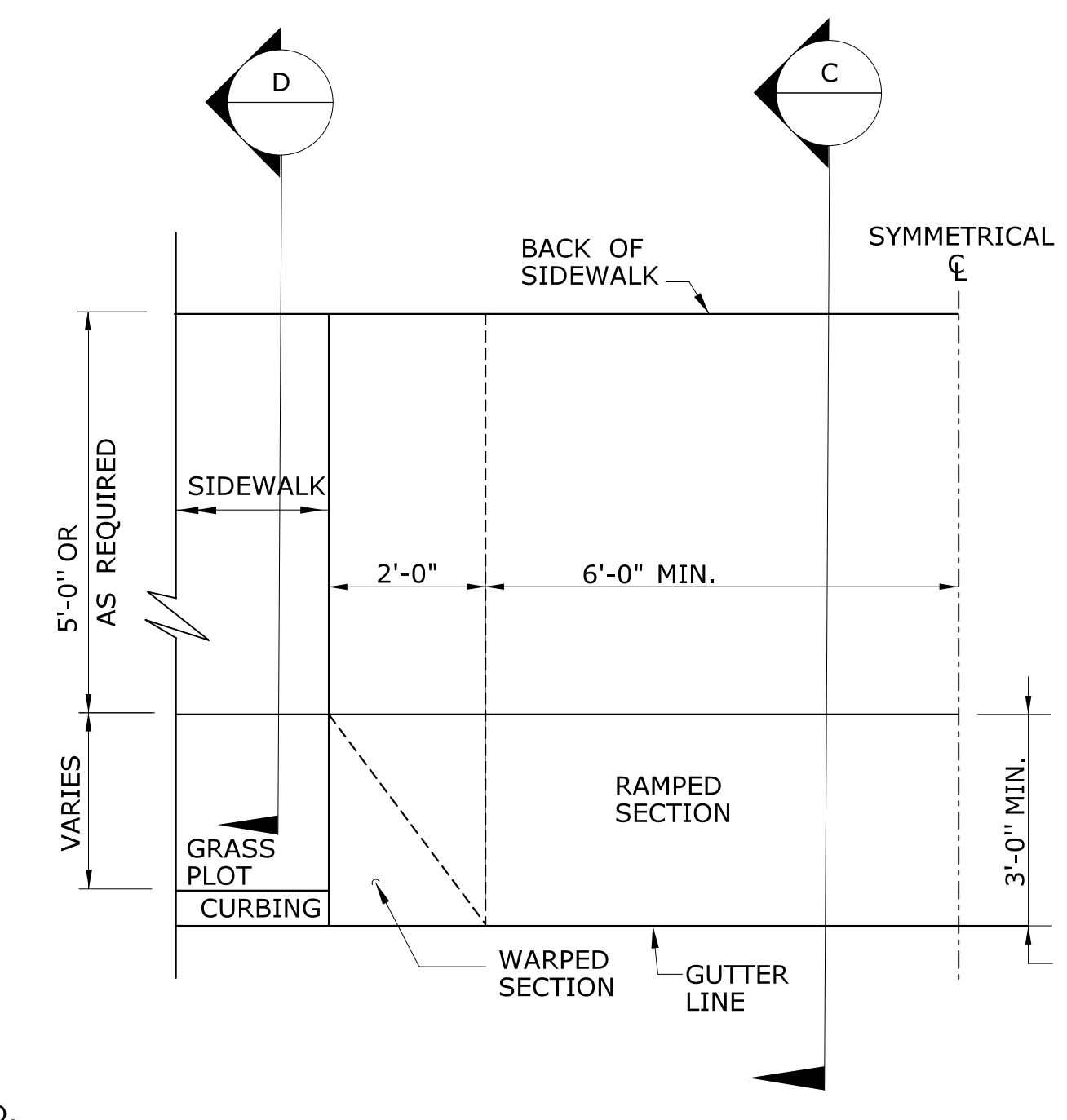


SECTION D

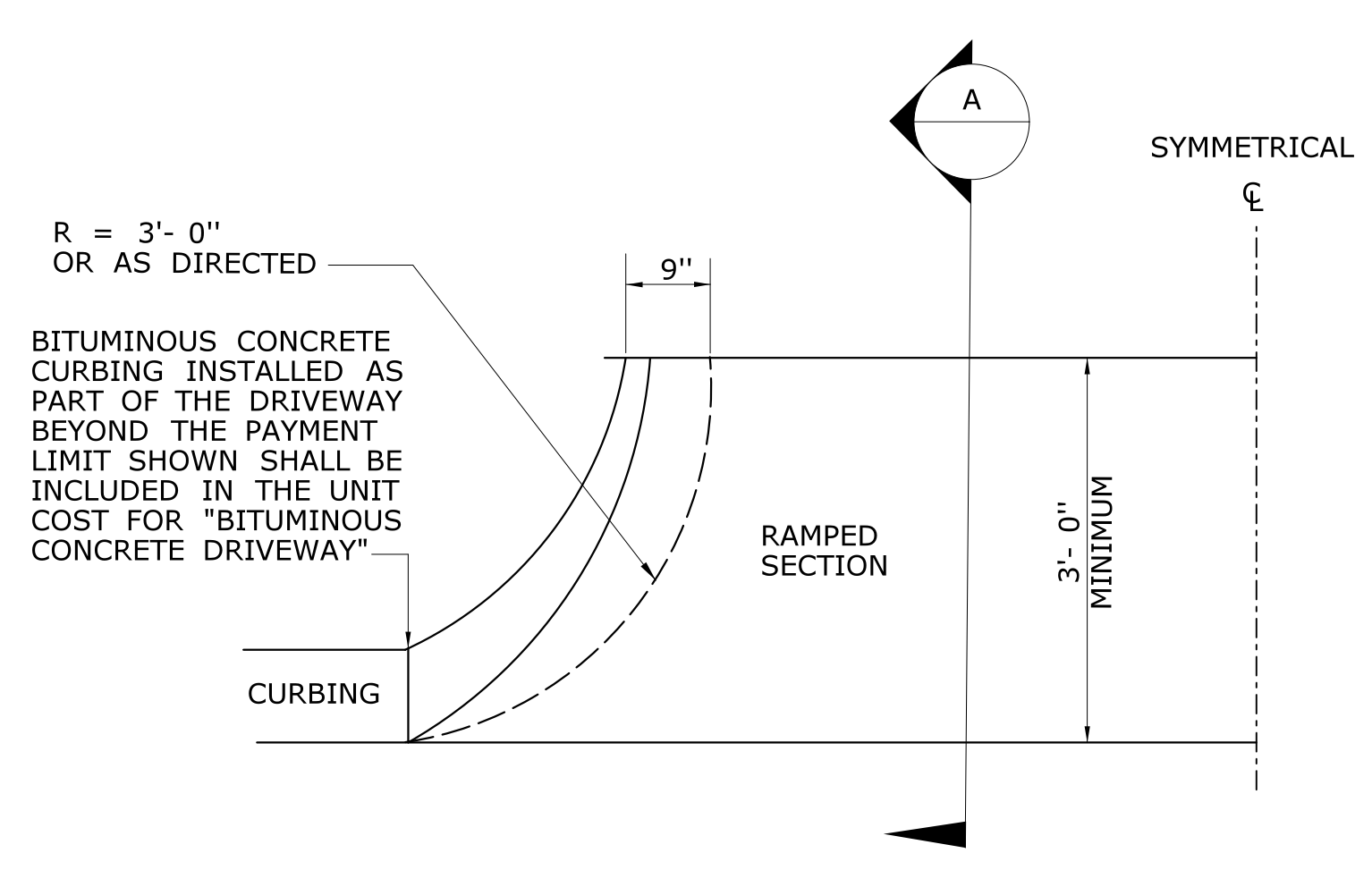
**5' WIDE CONCRETE
SIDEWALK WITH GRASS PLOT**



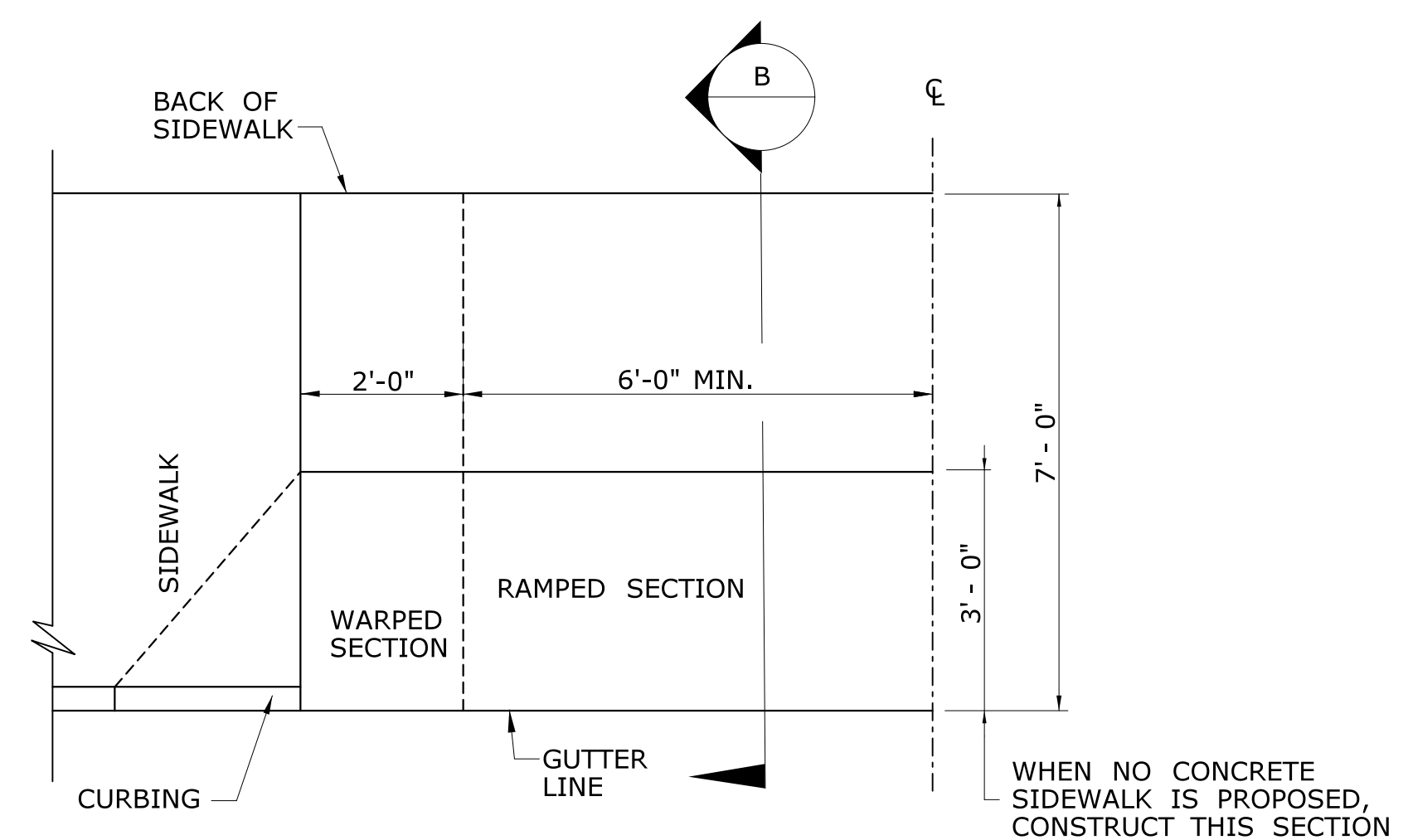
HALF ELEVATION



**HALF PLAN OF
CONCRETE DRIVEWAY RAMP WHERE
CURB IS SEPARATED FROM
SIDEWALK BY GRASS PLOT**

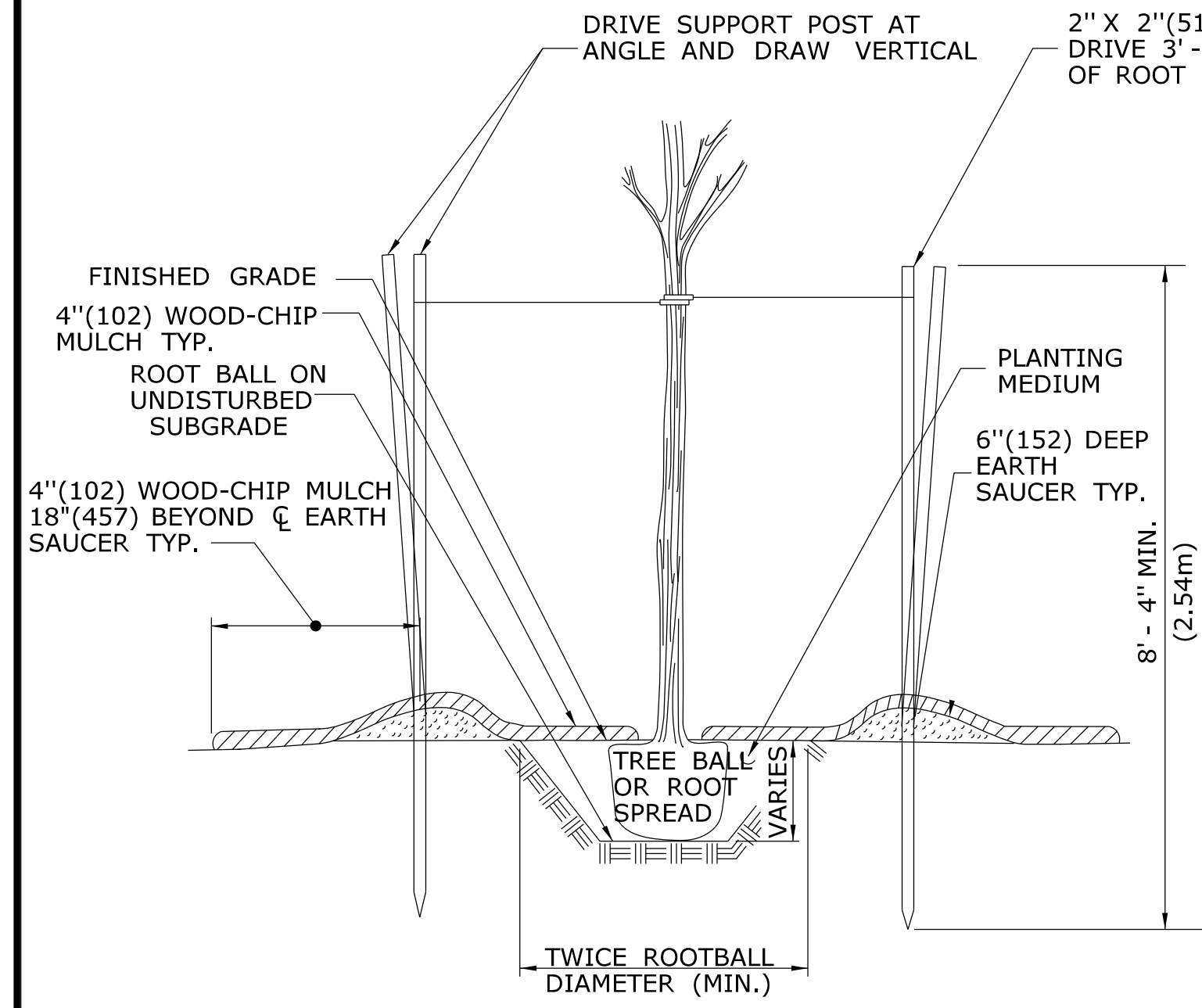


**HALF BITUMINOUS CONCRETE
DRIVEWAY PLAN**

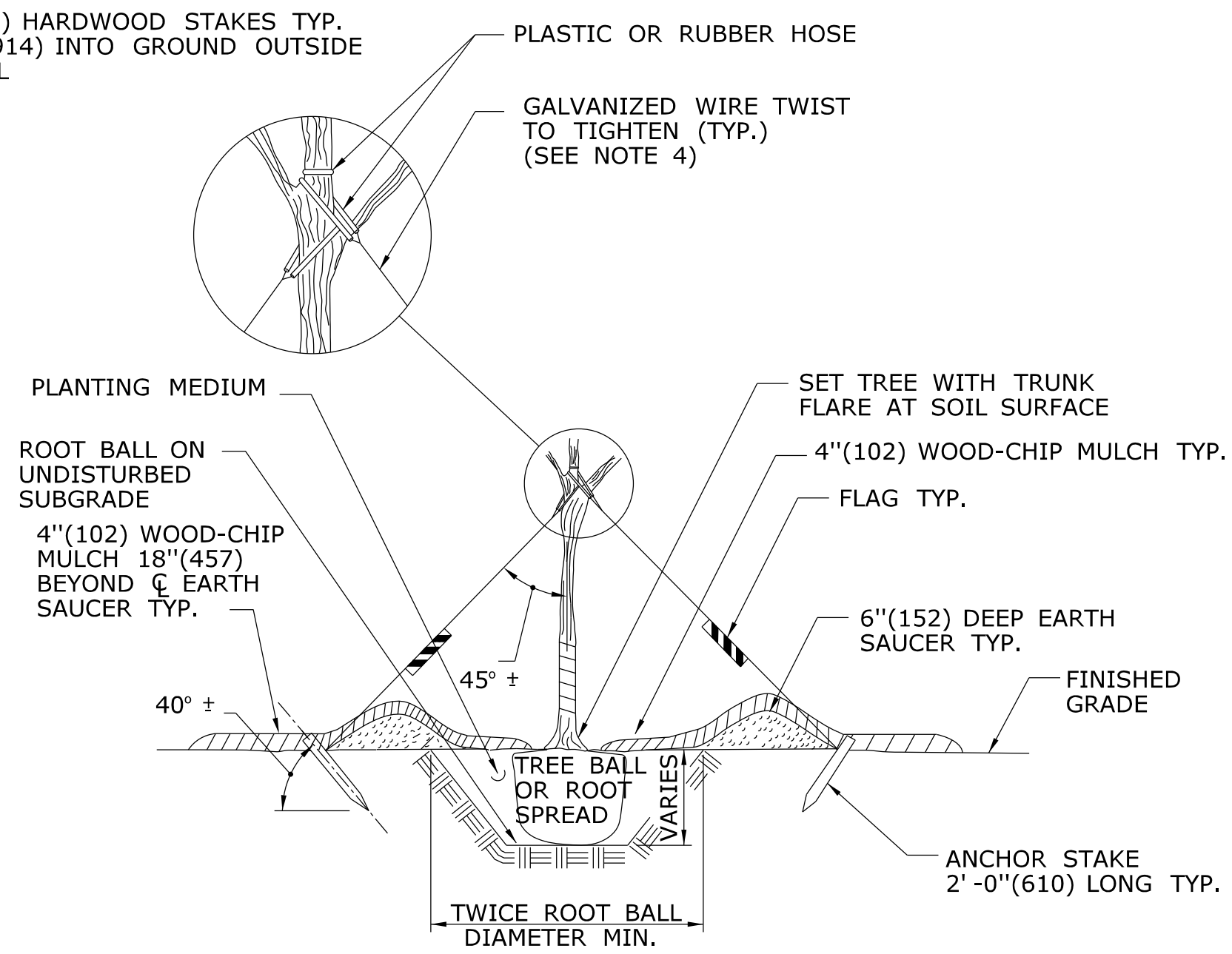


**HALF PLAN OF
CONCRETE DRIVEWAY RAMP WHERE
SIDEWALK ADJOINS CURBING**

1	6/01/10	REVISED BORDER TITLE	THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		SUBMITTED BY:	NAME/DATE/TIME:	CTDOT STANDARD SHEET	STANDARD SHEET TITLE: DRIVEWAY RAMPS AND SIDEWALKS	STANDARD SHEET NO.: HW-921_01	
2	6/01/10	REVISED HALF ELEVATION DETAILS			APPROVED BY:	NAME/DATE/TIME:				
3	1/12	REVISE 2% MAX. SLOPE NOTE			NOT TO SCALE					OFFICE OF ENGINEERING
4	6/17	REVISED SLOPES & MATERIAL COMPOSITIONS								
-	-	INCREASED WALKING WIDTH OF CONCRETE DRIVEWAY RAMP								
REV.	DATE	REVISION DESCRIPTION	Plotted Date: 6/6/2017	Filename: HW-921_01.dgn	Model: CT.Civil.2D.Sheet					



SECTION A



SECTION B

NOTE:
 USE 3 POSTS FOR STAKING DECIDUOUS TREES 3"(76) CALIPER OR GREATER AND EVERGREEN TREES 8'(2.4m) HIGH OR GREATER. USE 2 POSTS FOR STAKING DECIDUOUS TREES LESS THAN 3"(76) CALIPER AND EVERGREEN TREES LESS THAN 8'(2.4m) HIGH.

EXAMPLES OF MINIMUM SIZE OF ROOT BALL FOR NURSERY GROWN PLANTS.

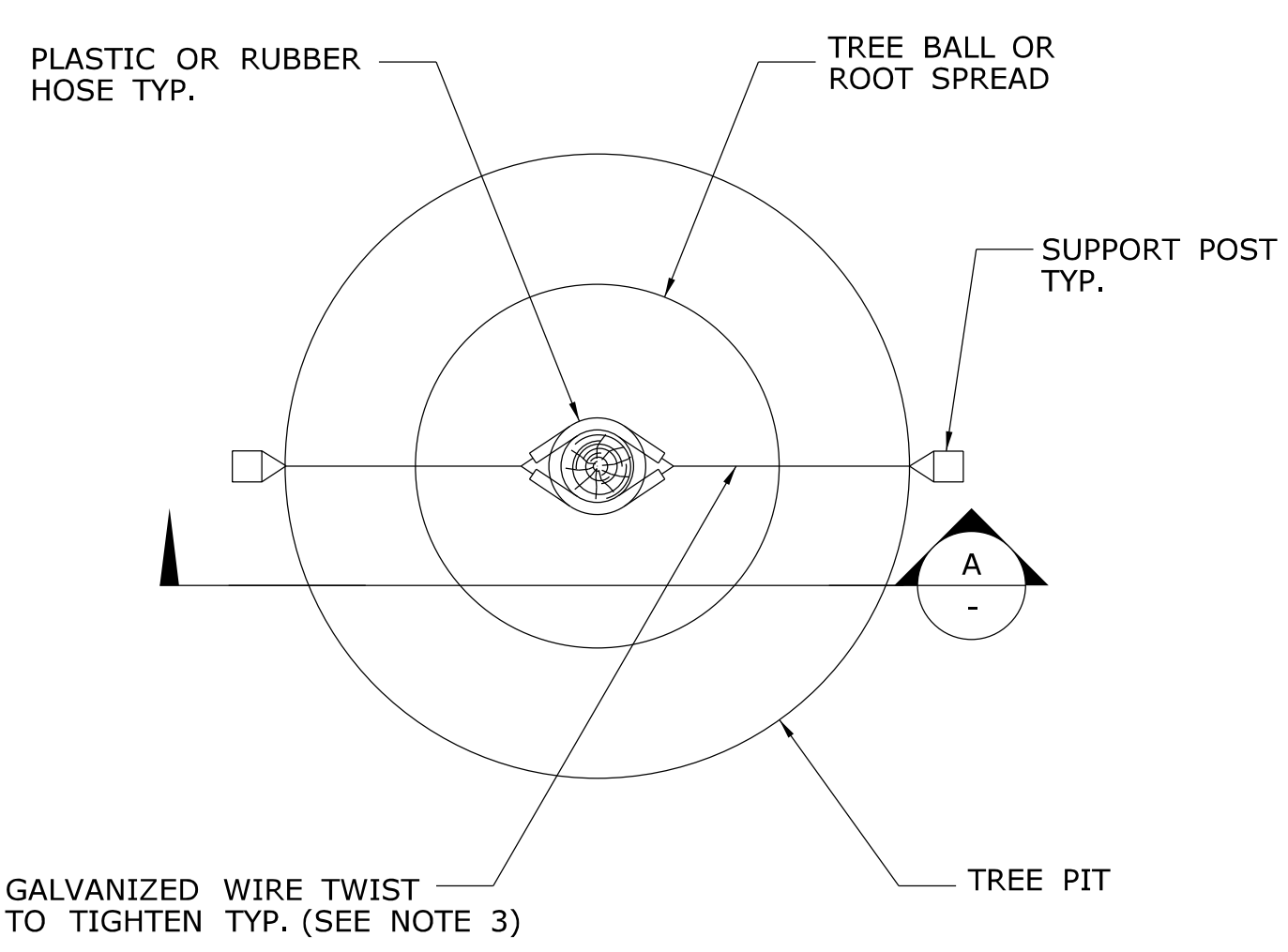
CALIPER* INCHES(mm)	BALL DIAMETER INCHES(mm)	PLANTING PIT SIZE INCHES(mm)
-	8(203)	16(406)
-	10(254)	20(508)
1/2(12.5)	12(304)	24(610)
3/4(19)	14(356)	28(711)
1(25)	16(406)	32(813)
1 1/2(38)	20(508)	40(1016)
2(50)	24(610)	48(1219)
2 1/2(65)	28(711)	56(1422)
3(75)	32(813)	64(1626)
3 1/2(90)	38(965)	76(1930)
4(100)	42(1166)	84(2134)
5(125)	54(1372)	108(2743)
6(150)**	-	-

* THE CALIPER OF THE TRUNK IS MEASURED 6"(152) ABOVE THE GROUND UP TO AND INCLUDING 4"(102) SIZES AND 12"(305) ABOVE THE GROUND FOR LARGER SIZES OR AS SPECIFIED IN THE MOST RECENT EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.

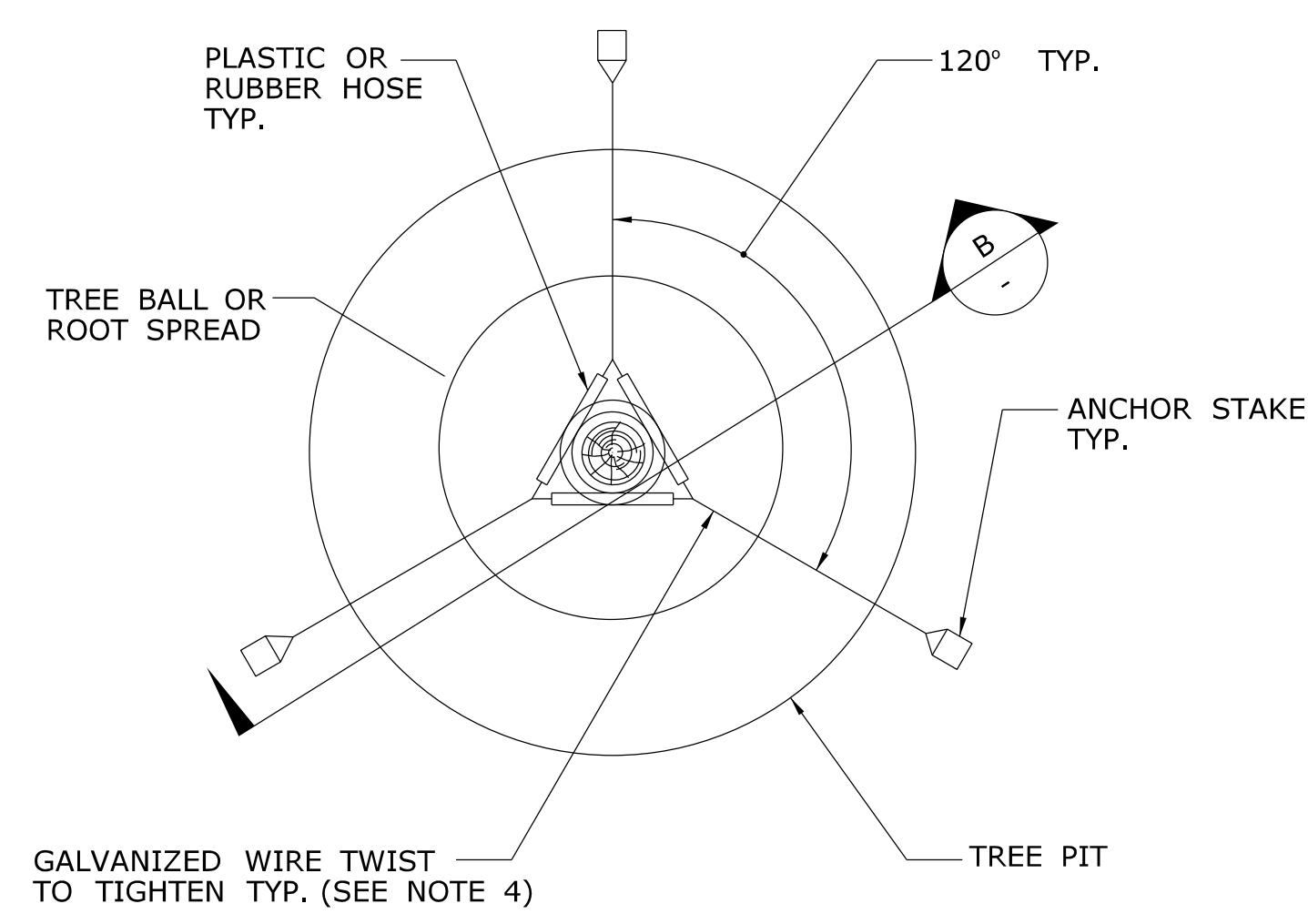
** TREES GREATER THAN OR EQUAL TO 6"(152) CALIPER SHALL HAVE A ROOT BALL DIAMETER EQUAL TO 10"(254) PER INCH(25mm) OF TRUNK CALIPER (A 7"(178) CALIPER TREE SHOULD HAVE A ROOT BALL DIAMETER EQUAL TO 70"(1778)).

- GENERAL NOTES:**
1. THE PLANTING PIT SIZE SHALL BE TWICE THE DIAMETER OF THE ROOT BALL IN WIDTH AND 2"(51) LESS THAN THE HEIGHT OF THE ROOT BALL.
 2. ALL EXTERIOR PACKAGING MATERIAL APPLIED TO PLANTS SHALL BE REMOVED AFTER THE PLANT IS LOCATED IN THE PLANTING PIT. CUT AND REMOVE TWINE, BURLAP OR WIRE BASKETS FROM THE TOP 2/3RDS OF THE ROOT BALL.
 3. USE DOUBLE STRAND NO. 12 WIRE FOR DECIDUOUS TREES GREATER THAN OR EQUAL TO 3"(76) CALIPER AND USE DOUBLE STRAND NO. 10 WIRE FOR EVERGREEN TREES GREATER THAN OR EQUAL TO 8"(203) CALIPER.
 4. TREE TRUNK WRAPPING MATERIAL SHALL BE USED AS DIRECTED BY THE ENGINEER.
 5. PLANTING PITS FOR INDIVIDUAL SHRUBS ON SLOPES SHALL BE THREE TIMES THE DIAMETER OF THE ROOT BALL IN WIDTH.

GUYING PLAN

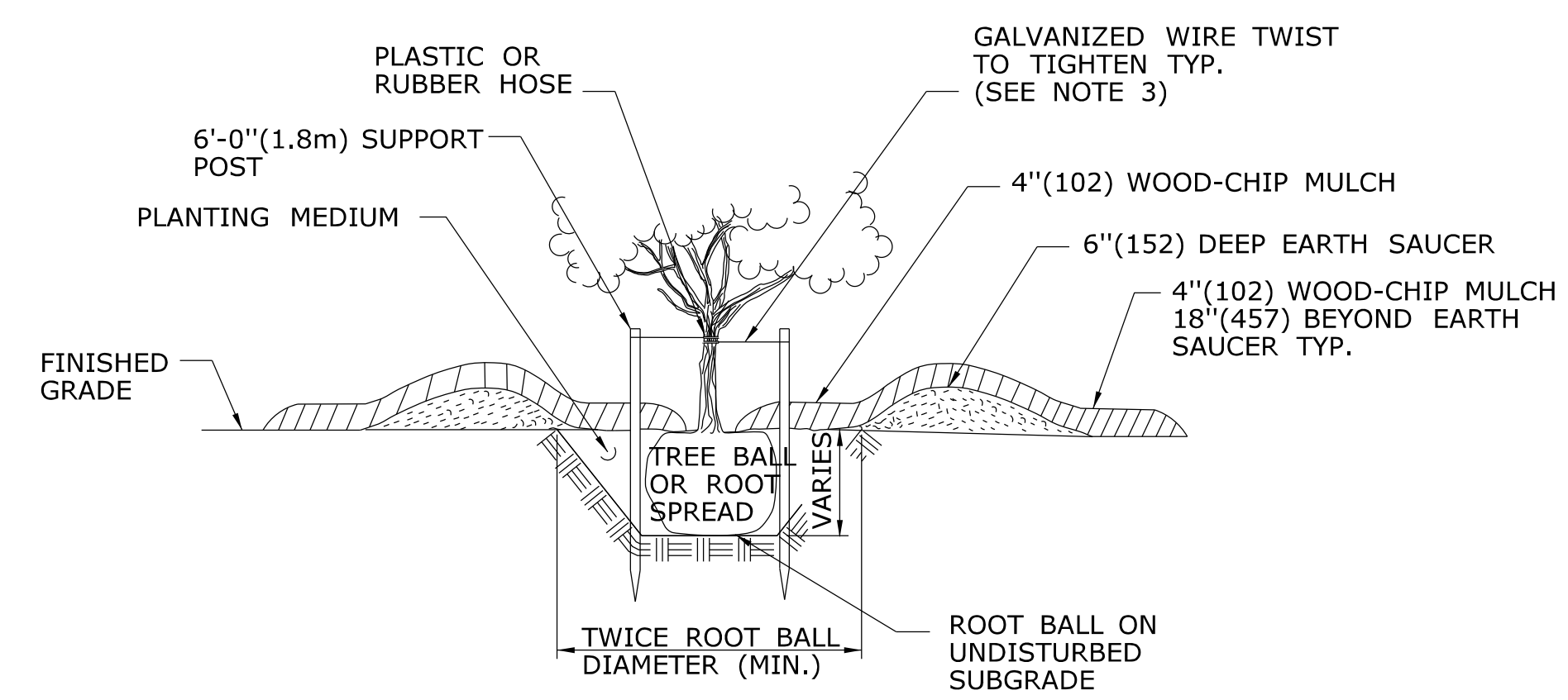


PLAN A

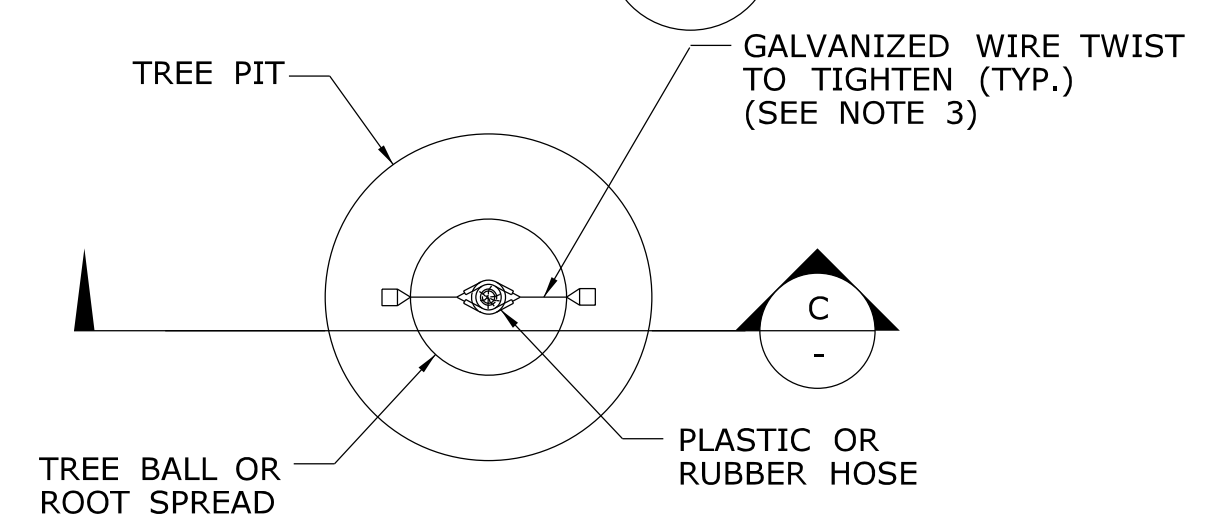


PLAN B

STAKING PLAN

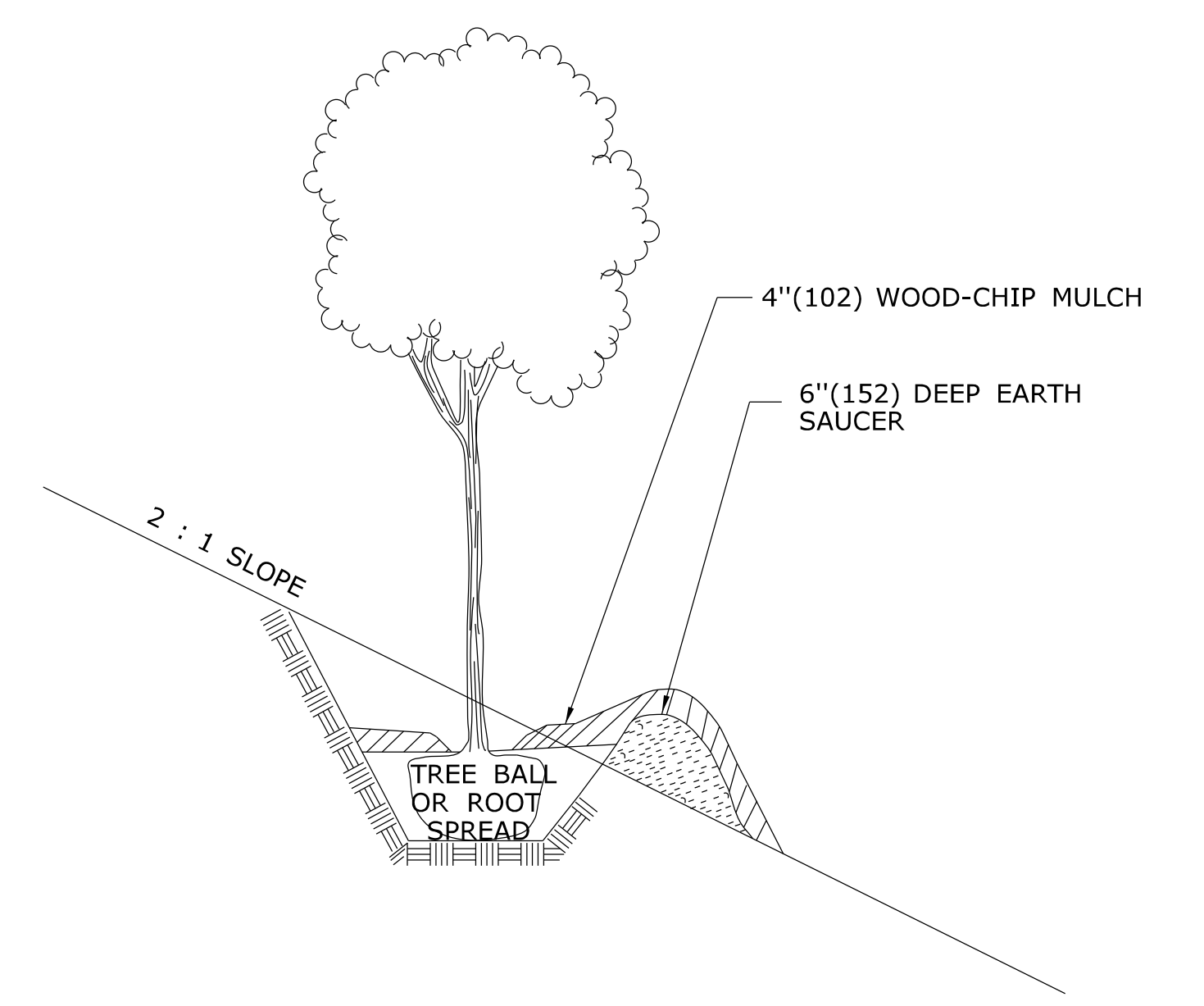


SECTION C



PLAN C

STAKING PLAN FOR LOW BRANCHING DECIDUOUS AND EVERGREEN TREES FROM 5'(1.5m) TO 8'(2.4m) HIGH.



GRADING PLAN FOR TREES ON SLOPES

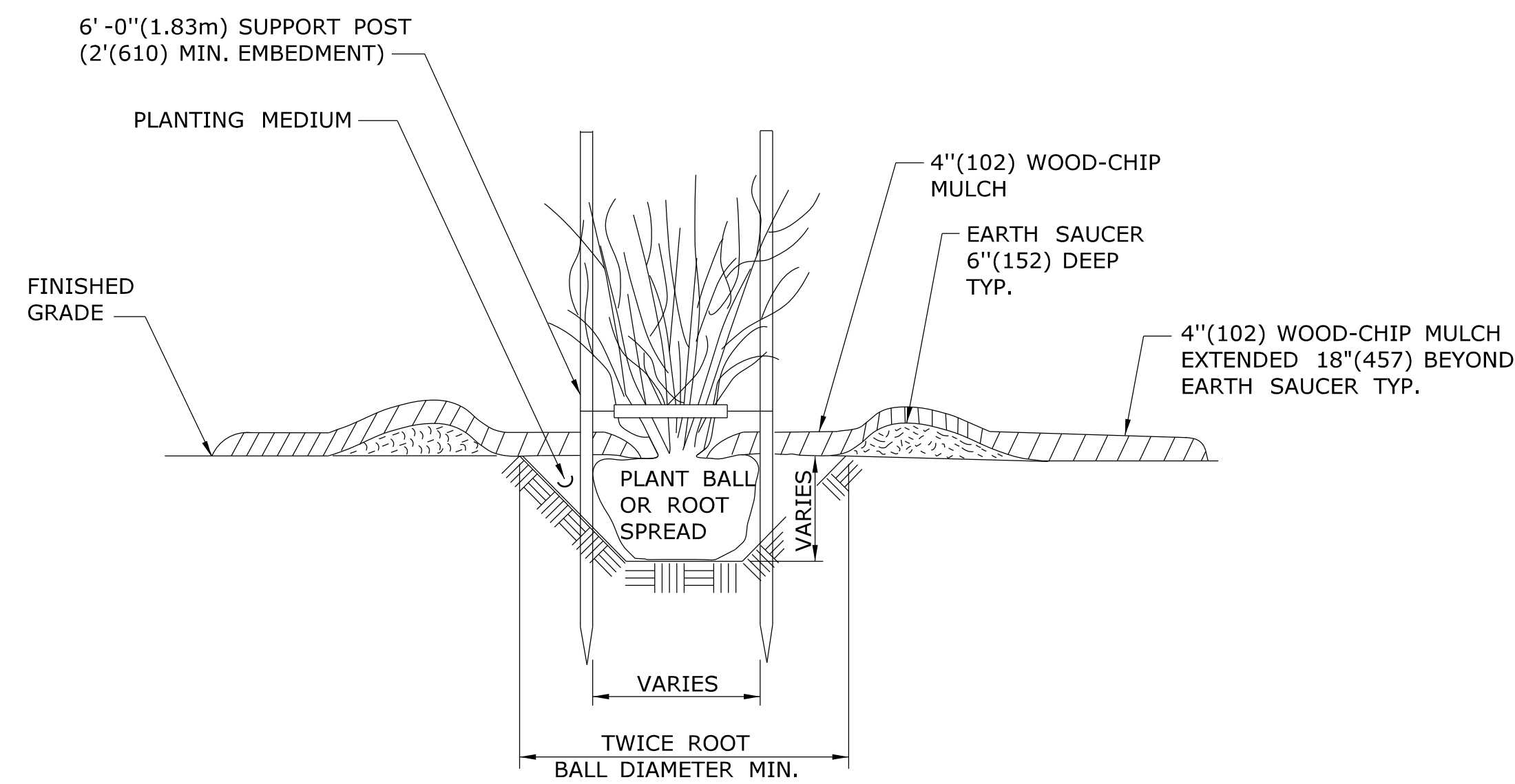
EXAMPLES OF MINIMUM CONTAINER SIZES FOR NURSERY GROWN PLANTS

CALIPER* INCHES(mm)	HEIGHT** FEET(mm)	CONTAINER SIZE GALLONS(LITERS)
-	1(305)	0.7-1.1(2.6-4.2)
-	2(610)	0.7-1.1(2.6-4.2)
-	3(914)	0.7-1.1(2.6-4.2)
-	4(1219)	1.4-2.0(5.3-7.6)
-	5(1524)	3.4-4.2(12.9-15.9)
-	6(1829)	4.7-5.4(17.8-20.4)
1(25)	7(2134)	5.8-7.8(21.9-29.5)
-	8(2438)	9.0-11.5*34.1-43.5)
1½(38)	-	12.0-16.0(45.4-60.6)
2(51)	-	25.0-29.7(94.6-112.4)
2½(64)	-	25.0-29.7(94.6-112.4)

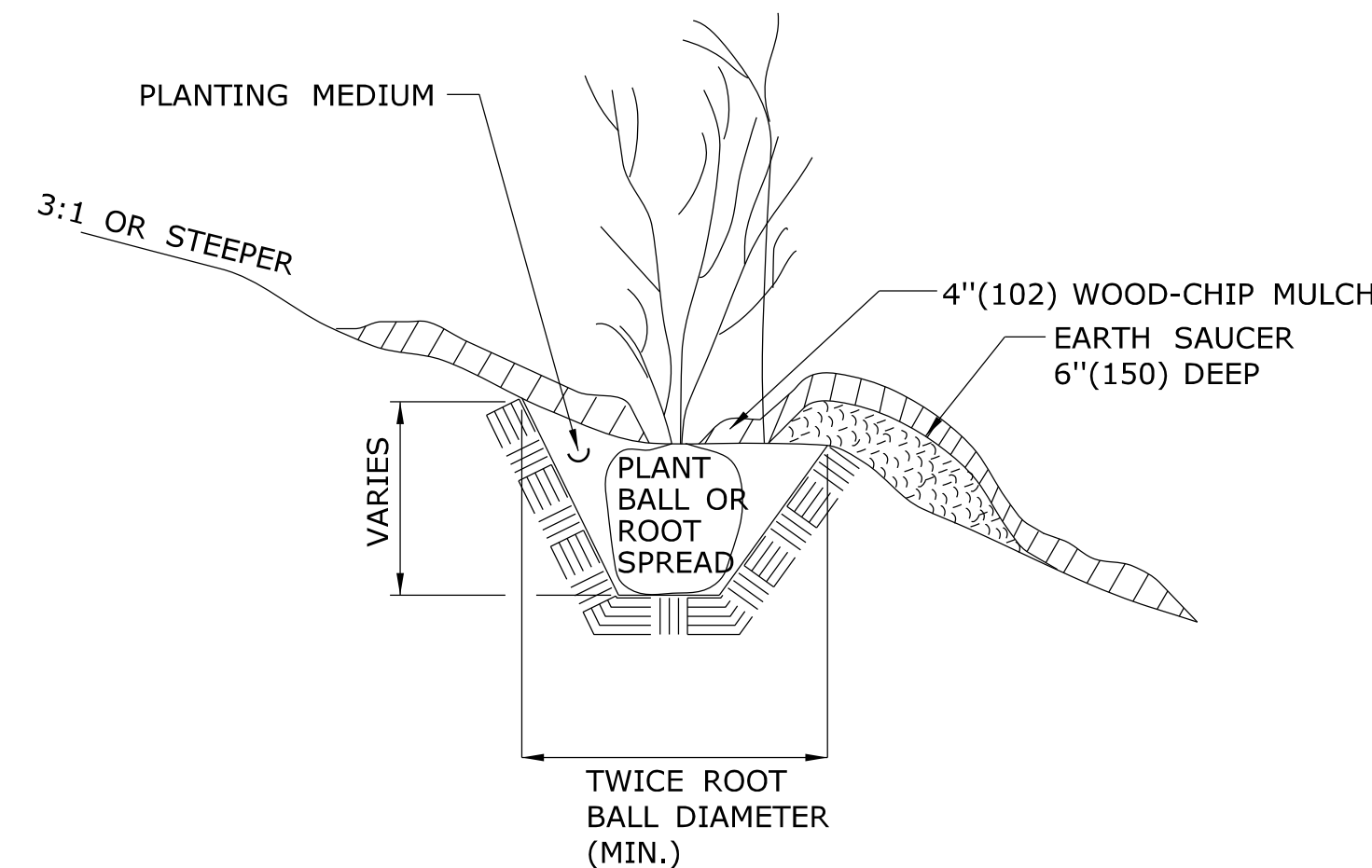
* THE CALIPER IS MEASURED 4"(102) ABOVE GROUND LEVEL.

** ONLY DECIDUOUS SHRUBS ARE INCLUDED IN THIS TABLE. EVERGREEN SHRUBS ARE MEASURED BY HEIGHT BUT, CONTAINER SIZE DEPENDS ON BOTH SIZE AND SHAPE AND ARE GENERALLY 1 TO 2 SIZES LARGER THAN DECIDUOUS PLANTS.

TABLE FOR SHRUBS

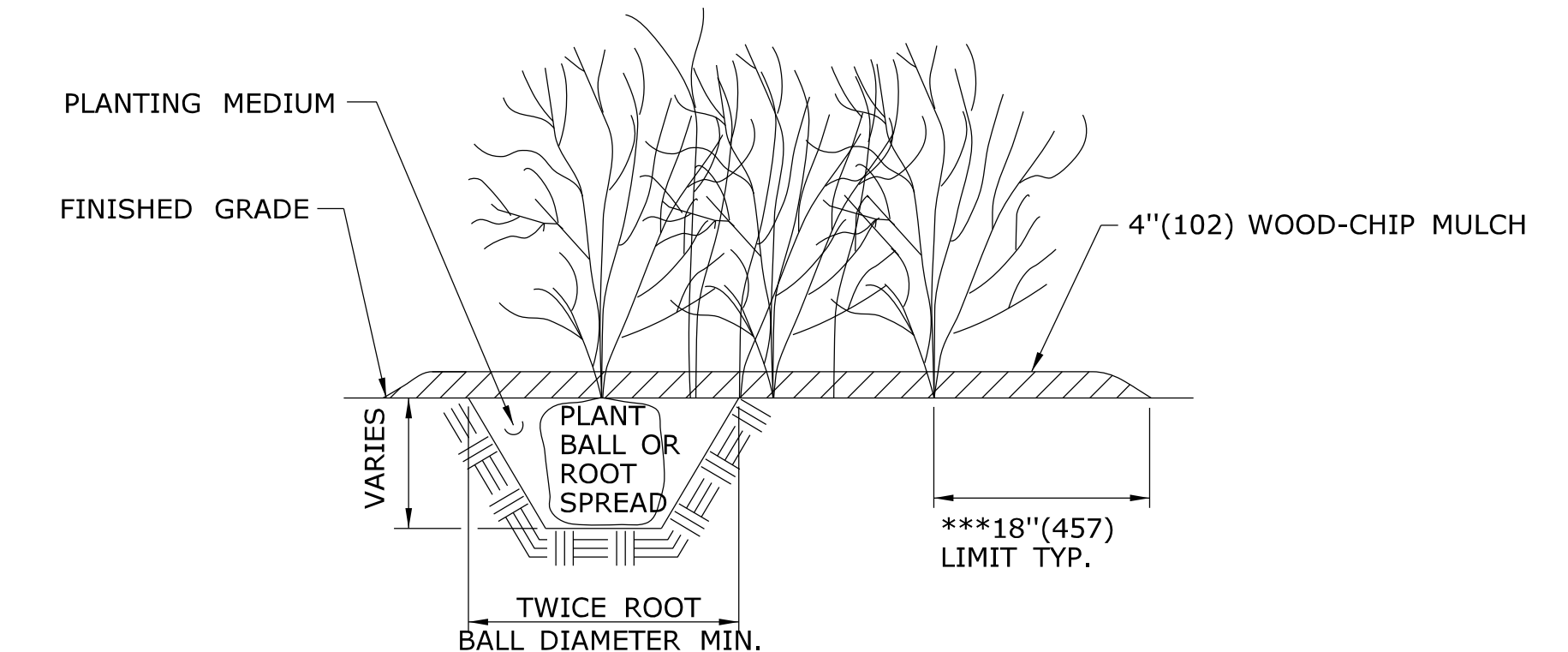


SECTION A



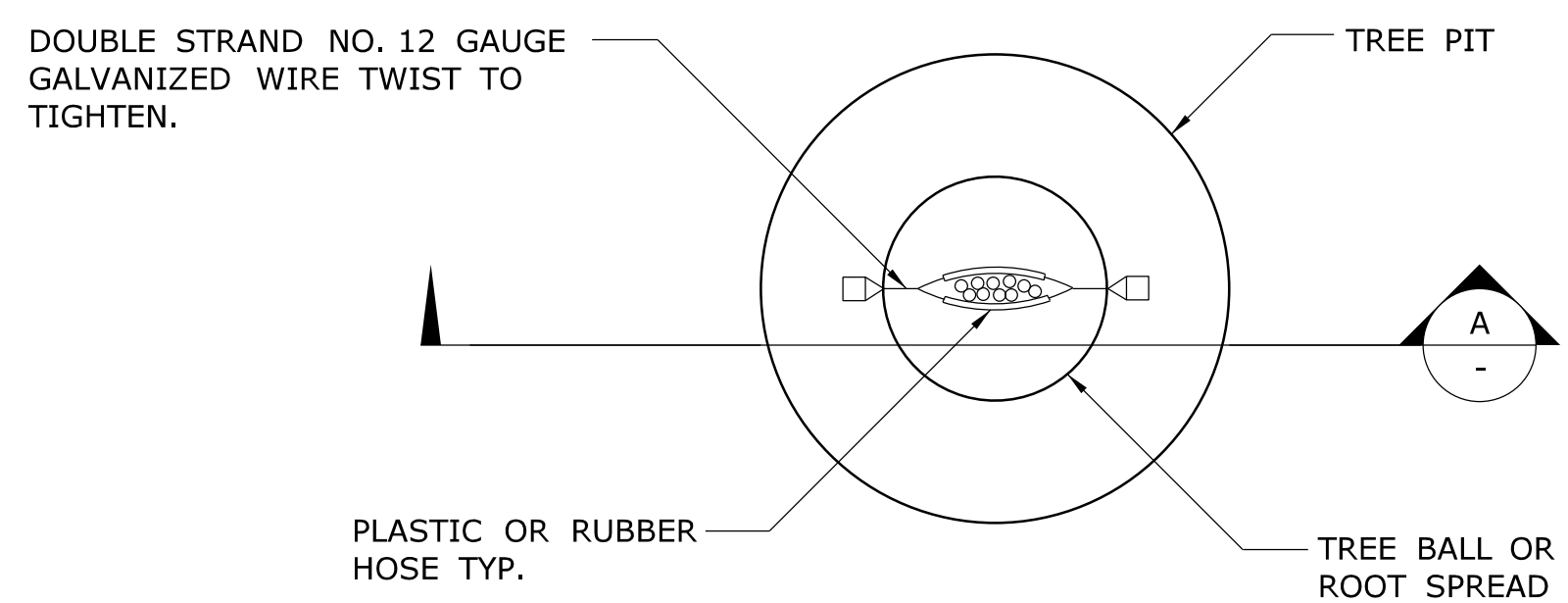
SECTION

PLANTING FOR SHRUBS IN INDIVIDUAL PITS ON SLOPES



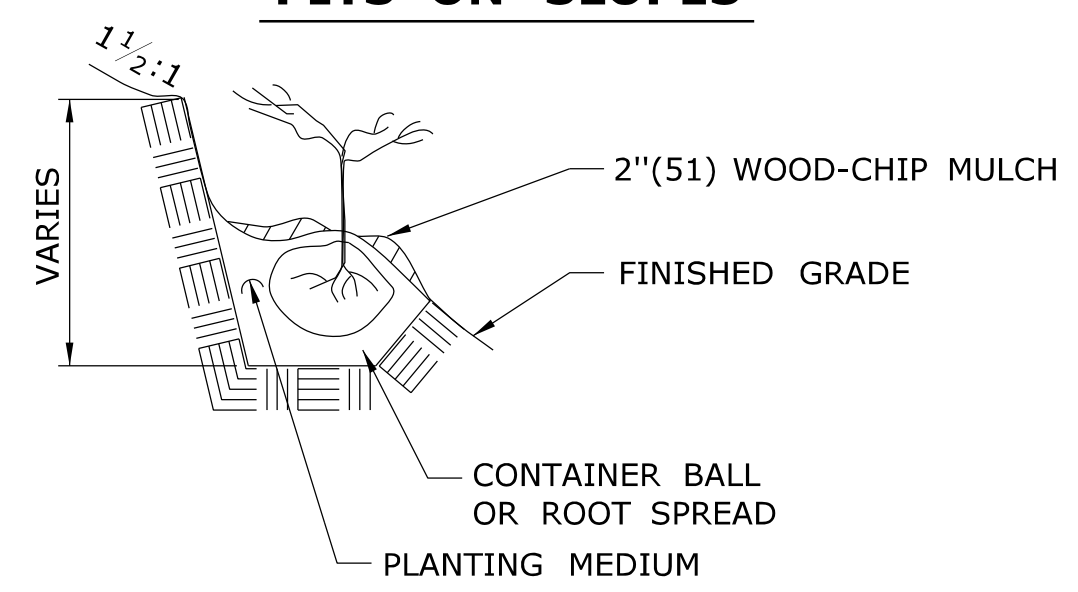
*** UNLESS OTHERWISE DIRECTED, WOOD-CHIP MULCH SHALL BE PLACED TO A LIMIT OF 18"(457) BEYOND THE CENTER OF THE OUTERMOST SHRUBS IN SHRUB BED.

PLANTING FOR SHRUBS IN BEDS



PLAN

STAKING FOR MULTI-STEMMED DECIDUOUS TREES FROM 5'(1.5m) TO 10'(3.0m) HIGH



NOTE: PLACE PLANTS AT THE SAME DEPTH THAT THE SEEDLING WAS GROWN IN THE NURSERY.

PLANTING FOR SEEDLINGS, VINES AND GROUND COVER PLANTS IN PITS ON SLOPES

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED

DOCUMENT ALL LOOP DETECTOR VALUES BOTH CALCULATED AND MEASURED.

DEFINITIONS:

LOOP: #14 AWG WIRE IN SAWCUT, TERMINATED IN HANDHOLE, IMSA SPEC 51-7.
 LEAD-IN: 14/2 SHIELDED TWISTED PAIR CABLE FROM HANDHOLE TO CONTROLLER, IMSA SPEC 50-2.
 LOOP CIRCUIT: LOOP SAWCUT WIRE SPLICED TO 14/2 LEAD-IN CABLE.
 AMPLIFIER: ELECTRONIC DEVICE CONNECTED TO LOOP CIRCUIT. SENSES CHANGE IN RESONANT FREQUENCY AND CREATES AN OUTPUT TO THE CONTROLLER.
 MEGOHMMETER: INSTRUMENT SPECIFICALLY DESIGNED TO TEST THE INSULATION RESISTANCE OF A CIRCUIT. COMMON MANUFACTURERS: AMEC®, AMPROBE®, FLUKE®, MEGGER®.

1: RESISTANCE:

1a: INSULATION RESISTANCE: PERFORM A 600 VOLT (MINIMUM) MEGOHMMETER TEST ON LOOP CIRCUIT. THE LOOP AMPLIFIER MUST BE DISCONNECTED FROM THE LOOP CIRCUIT OR THE LOOP AMPLIFIER WILL BE DAMAGED. THE RESISTANCE OF THE LOOP WIRE TO GROUND MUST BE GREATER THAN 100 MEG OHMS.

1b: WIRE RESISTANCE: MEASURE THE DC RESISTANCE OF THE LOOP CIRCUIT. THE LOOP CIRCUIT MUST BE DISCONNECTED FROM THE AMPLIFIER. USING AN OHMMETER CONNECTED ACROSS THE LOOP CIRCUIT, MEASURE THE DC RESISTANCE OF THE CONDUCTORS. THE RESISTANCE SHOULD BE LESS THAN 4 OHMS.

NOTE: ALL TESTS SHALL BE DONE AT THE CONTROLLER ASSEMBLY (CA), HOWEVER IT IS RECOMMENDED TO PERFORM A PRELIMINARY MEGOHMMETER TEST AT THE HANDHOLE PRIOR TO SEALING THE SAWCUT AND SPLICING TO THE LEAD-IN. IF A DEFECTIVE LOOP WIRE IS FOUND, IT MAY BE EASILY REPLACED.

2: LOOP CIRCUIT INDUCTANCE:

2a: CALCULATE INDUCTANCE OF LOOP (L_{LOOP}) AND LEAD-IN CABLE (L_{14/2}).

<u>LOOP INDUCTANCE (ENGLISH)</u>	<u>LOOP INDUCTANCE (METRIC)</u>
$L_{LOOP} = (P/4) (N^2 + N)$	$L_{LOOP} = (3.28P/4) (N^2 + N)$
LEAD-IN INDUCTANCE	LEAD-IN INDUCTANCE
$L_{14/2} = (0.24 \mu h/FT) (D)$	$L_{14/2} = (0.78 \mu h/m) (D)$

WHERE:

L_{LOOP} = INDUCTANCE OF INDIVIDUAL LOOP SEGMENTS IN MICROHENRIES (μh).
 L_{14/2} = INDUCTANCE OF LEAD-IN CABLE.
 P = PERIMETER OF INDIVIDUAL LOOP SEGMENT, IN FEET OR METERS.
 N = NUMBER OF TURNS.
 D = LENGTH OF LEAD-IN CABLE FROM SPLICE IN HANDHOLE TO CONTROLLER, IN FEET OR METERS.
 $L_T = L_1 + L_2 + L_3$ etc.,
 (TOTAL INDUCTANCE OF SEGMENTED LOOP SPLICED IN SERIES.)
 $L_T = 1 / [(1/L_1) + (1/L_2) + (1/L_3) + \text{etc.}]$,
 (TOTAL INDUCTANCE OF SEGMENTED LOOP SPLICED IN PARALLEL.)

WHERE:

L_T = TOTAL INDUCTANCE OF THE SEGMENTED ARRANGEMENT.
 L₁, L₂, L₃ = INDUCTANCE OF INDIVIDUAL LOOP SEGMENTS.

EXAMPLE: (IN ENGLISH)

6' x 6', 4 TURNS, APPROXIMATELY 300' FROM THE CONTROLLER

$L_{LOOP} = (24/4) (4^2 + 4)$	$L_{14/2} = (0.24 \mu h/FT) (300)$
$L_{LOOP} = (6) (20)$	$L_{14/2} = (0.24) (300)$
$L_{LOOP} = 120 \mu h$	$L_{14/2} = 72 \mu h$

2b: MEASURE INDUCTANCE OF LOOP AND LEAD-IN AT CONTROLLER. USE INSTRUMENT DESIGNED TO MEASURE LOOP CIRCUIT INDUCTANCE.

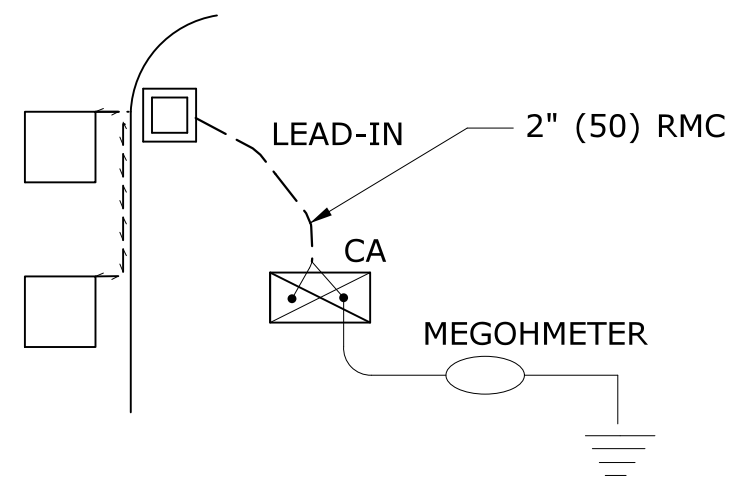
3: POWER INTERRUPTION:

AFTER THE AMPLIFIER HAS TUNED AND IS OPERATING, DISCONNECT POWER BY REMOVING FUSE OR HARNESS CONNECTOR. RETURN POWER TO THE AMPLIFIER AND CONFIRM IT RE-TUNES AUTOMATICALLY WITHOUT ANY MANUAL ADJUSTMENTS.

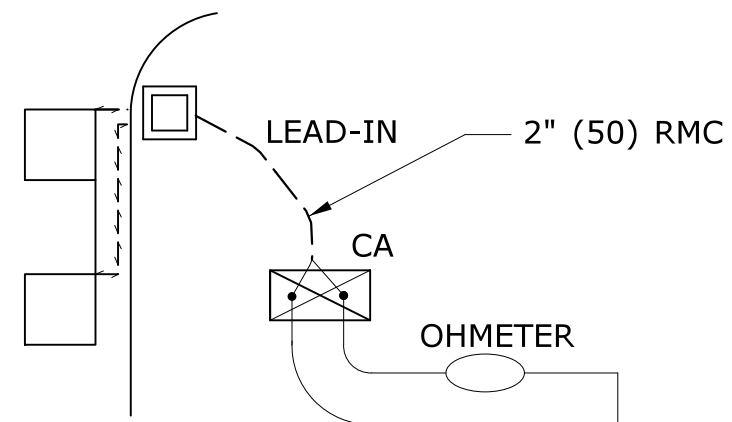
INDUCTIVE LOOP TEST PROCEDURE

PIN	COLOR	FUNCTION
A	WHITE	110 VAC Neutral
B	BROWN	Output Relay Common (moving contact)
C	BLACK	110 VAC (Fused)
D	RED	Loop
E	ORANGE	Loop
F	YELLOW	Output Relay Contact (Closes with moving contact when detecting vehicle)
G	BLUE	Output Relay Contact (Opens with moving contact when detecting vehicle)
H	GREEN	Chassis Ground
J	GREY	110 VAC Delay/Extend Override
Shell		Ground (shall be connected to pin H in the connector)

DETECTOR AMPLIFIER PIN DESIGNATION



TEST 1a



TEST 1b

LOOP NUMBER	RESISTANCE OHMS		INDUCTANCE MICROHENRIES (μh)		AMPLIFIER POWER INTERRUPTION PASS/FAIL (3)
	TO GROUND (1a)	LOOP WIRE (1b)	CALCULATED (2a)	MEASURED (2b)	
D1 FRONT					
D1 REAR					
D2A					
D2B					
D4A FRONT					
D4B REAR					
D5					
D6A					
D6B					

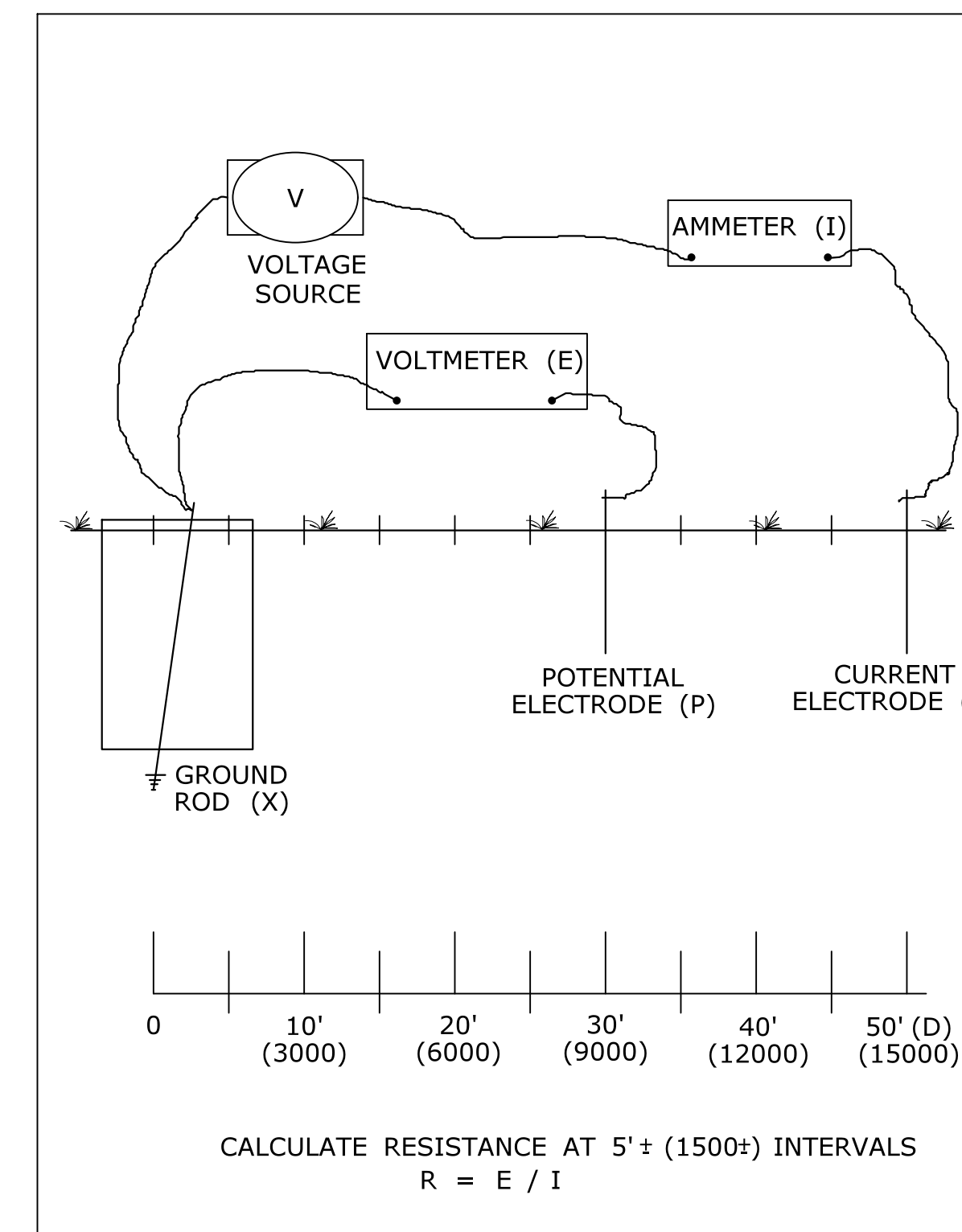
LOOP CIRCUIT TEST DATA (EXAMPLE)

TEST PROCEDURE:

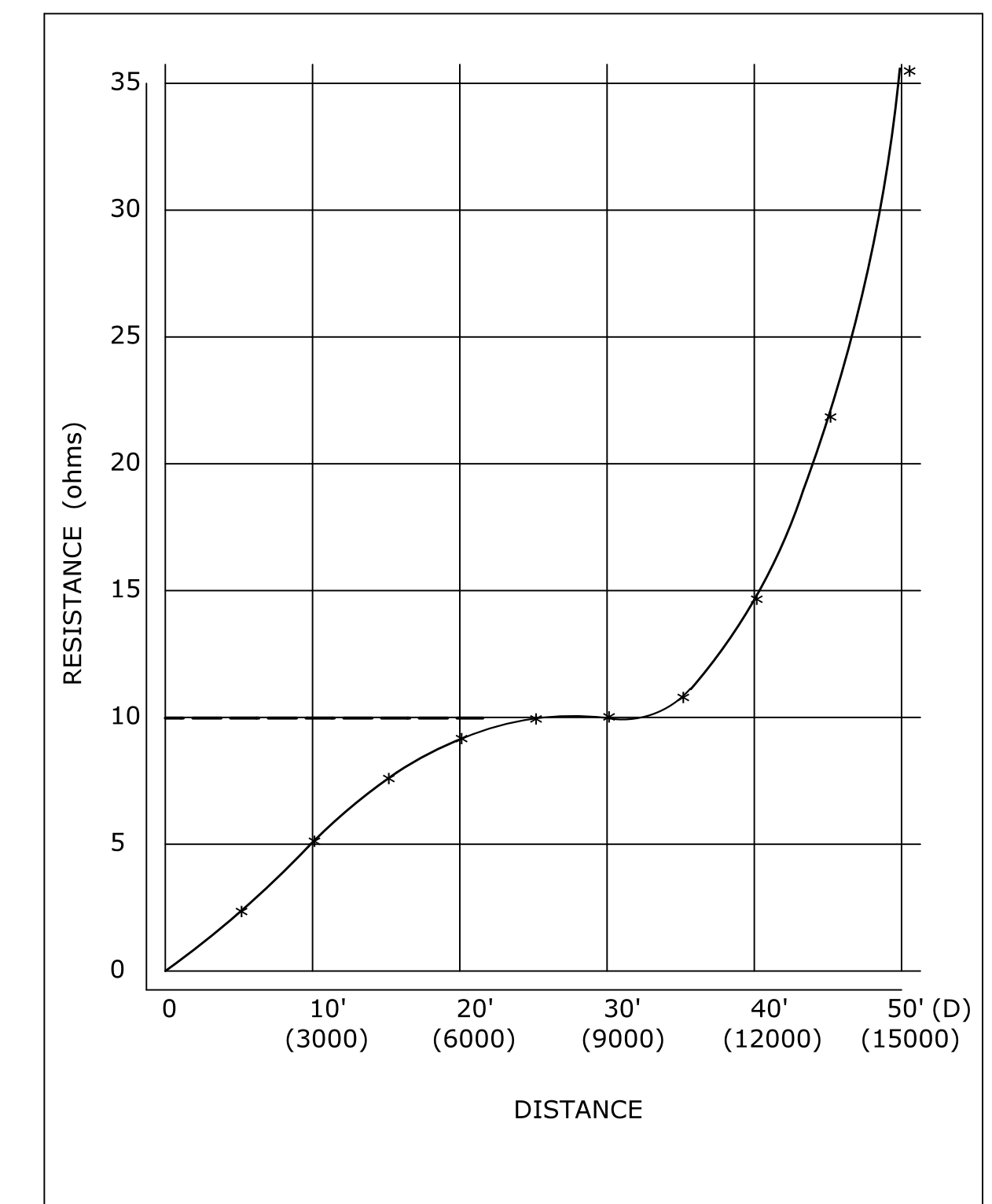
- INSERT ELECTRODE (C) A DISTANCE (D) FROM THE FOUNDATION. RECOMMEND A MINIMUM 50'.
- CONNECT A VOLTAGE SOURCE AND AMMETER BETWEEN THE FOUNDATION GROUND ROD (X) AND C.
- MEASURE THE CURRENT FLOW (I) BETWEEN X AND C.
- INSERT POTENTIAL ELECTRODE (P) AT 5' (1500) INTERVALS IN A STRAIGHT LINE TO ELECTRODE C.
- MEASURE VOLTAGE (E) AT EACH LOCATION OF P.
- CALCULATE RESISTANCE (R) AT EACH LOCATION OF P USING THE FORMULA $R = E/I$.
- PLOT THE VALUES ON A RxD GROUND RESISTANCE CHART.
- THE ACTUAL GROUND RESISTANCE IS WHERE THE PLOTTED CURVE IS RELATIVELY FLAT, USUALLY AT 62%± OF D.
- SEE EXAMPLE CHART: CURVE FLATTENS OUT AT 10 OHMS, APPROXIMATELY 30' (9000) FROM FOUNDATION.
- IF GROUND RESISTANCE IS GREATER THAN 10 OHMS, PERFORM CORRECTIVE ACTION AND RE-TEST.

SUGGESTED CORRECTIVE ACTION:

- A. INSTALL ADDITIONAL 10' (3000) GROUND ROD(S). REFER TO NESC SECTION 09, RULE 94.B.2. DRIVE ADDITIONAL GROUND RODS NO CLOSER TO FOUNDATION THAN 6' (1800). IF MORE THAN ONE IS NEEDED, SPACE MINIMUM 6' (1800) APART. BONDS TO ADDITIONAL GROUND ROD(S) SHALL BE MADE BY A CLAMP DESIGN FOR DIRECT BURIAL OR BY EXOTHERMIC WELDING TECHNIQUE. TOP OF ADDITIONAL GROUND ROD(S) SHALL BE 6" (150) BELOW GRADE.
- B. IN AREAS OF SHALLOW BEDROCK, INSTALL A GROUND GRID OR ARRAY CONSISTING OF BURIED WIRE, RODS, STRIPS OR PLATES. REFER TO NESC SECTION 09, RULE 94.B.3. REFER TO NEC SECTION 250. MINIMUM DEPTH OF 18" (450). GRID CONNECTIONS AND BONDS ON GROUND GRID SHALL BE MADE BY CLAMPS DESIGNED FOR DIRECT BURIAL OR BY EXOTHERMIC WELDING TECHNIQUE.



3 POINT GROUND RESISTANCE TEST CIRCUIT



GROUND RESISTANCE CHART (EXAMPLE)

NOTES:

1. WHEN REQUESTED BY THE ENGINEER, MEASURE RESISTANCE-TO-GROUND OF GROUND ROD AT TRAFFIC CONTROL FOUNDATIONS. SEE FALL-OF-POTENTIAL METHOD. IF LESS THAN 10 ohms, INSTALL SUPPLEMENTAL ELECTRODES AS REQUIRED. NEC ARTICLE 250.
2. DURING THE TEST, THE GROUND ROD SHOULD NOT BE BONDED TO ANY RMC IN THE FOUNDATION.
3. THE VOLTAGE SOURCE, VOLTMETER, AMMETER, ELECTRODES P AND C, AND CONNECTING CABLES ARE AVAILABLE AS A SPECIALIZED TEST INSTRUMENT.
4. REFER TO NATIONAL ELECTRICAL SAFETY CODE (NESC) SECTION 09, GROUNDING METHODS FOR ELECTRIC SUPPLY AND COMMUNICATIONS FACILITIES.
5. REFER TO NATIONAL ELECTRICAL CODE (NEC) CHAPTER 2, ARTICLE 250, GROUNDING.

3 POINT FALL-OF-POTENTIAL GROUND RESISTANCE TEST

LEGEND AS SHOWN ON TRAFFIC CONTROL SIGNAL PLAN:

□	INDUCTIVE LOOP DETECTOR
---	SAW CUT
—	RIGID METAL CONDUIT
□	HANDHOLE

REV.	DATE	REVISION DESCRIPTION
2	1-2014	REVISED GROUND RESISTANCE NOTES.
1	4-2012	MINOR REVISIONS.

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Plotted Date: 1/7/2014

DIMENSIONS ARE IN ENGLISH ("') & METRIC UNITS (mm). METRIC DIMENSIONS ARE ROUNDED: - OVER 1" TO NEAREST 5 mm. - UNDER 1" TO NEAREST 1 mm.

NOT TO SCALE

STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION

File name: CTDOT_TRAFFIC_STD.DGN Model: TR-1000_01

SUBMITTED BY: NAME/DATE/TIME:

APPROVED BY: NAME/DATE/TIME:

CTDOT STANDARD SHEET

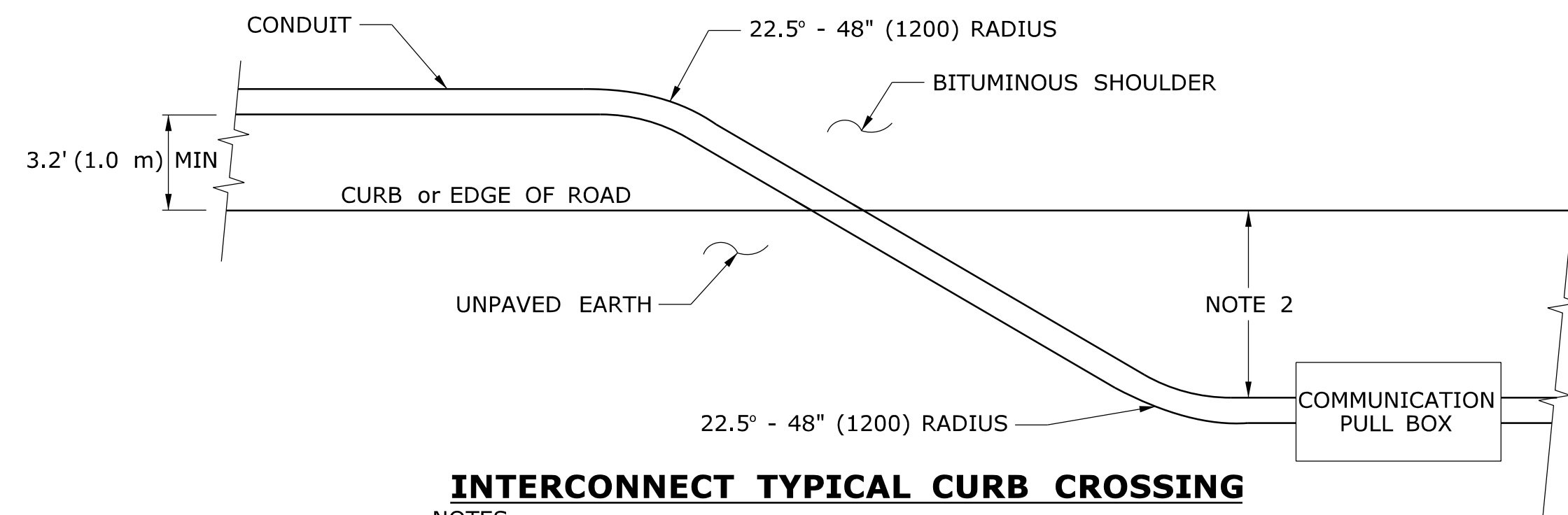
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

GENERAL CLAUSES (TEST PROCEDURES)

STANDARD SHEET NO.:

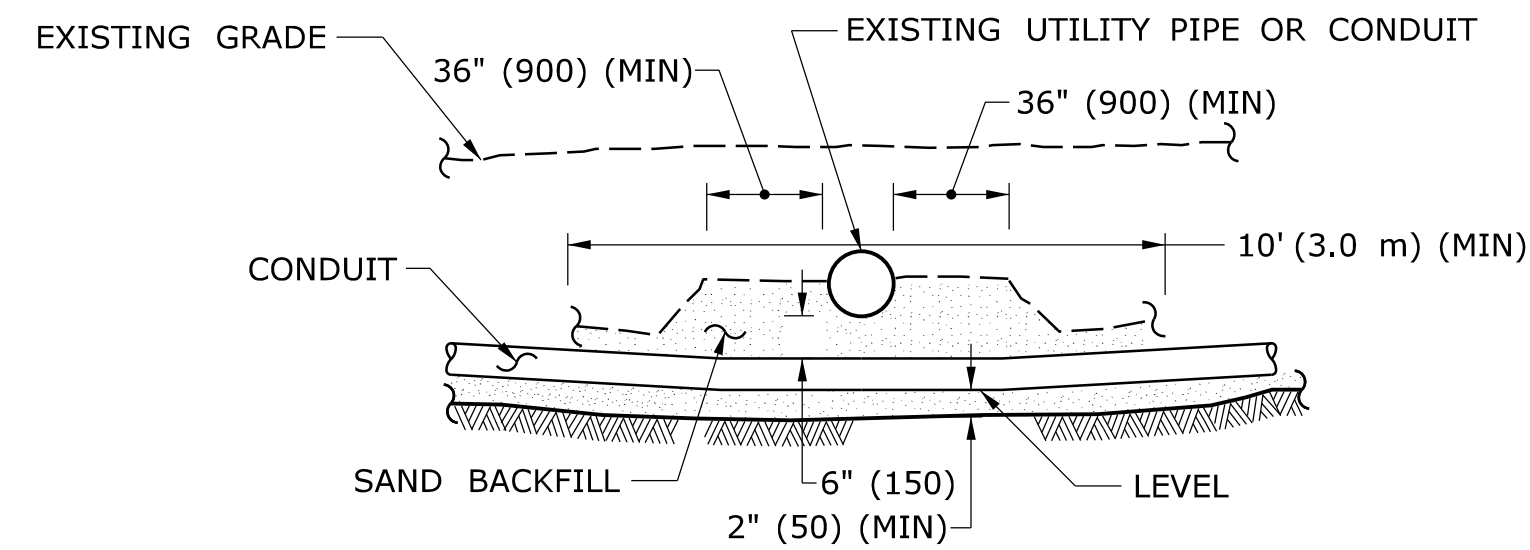
TR-1000_01



INTERCONNECT TYPICAL CURB CROSSING

NOTES:

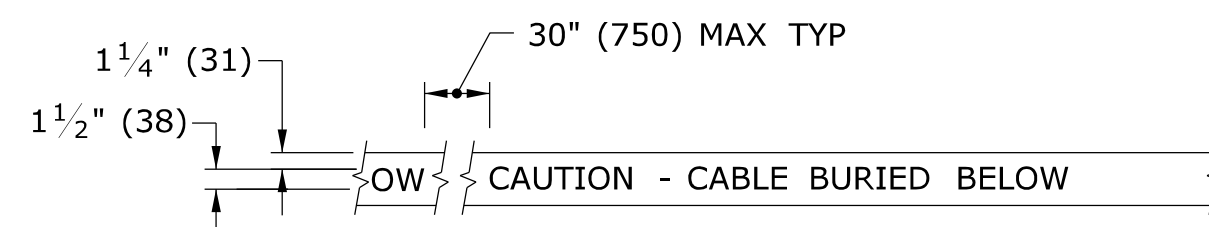
- RESTORE AREAS DISTURBED BY TRENCH TO ORIGINAL CONDITION.
- INSTALL PULL BOX A MINIMUM OF 10' (3.0 m) FROM CURB UNLESS OTHERWISE SHOWN ON PLANS OR DIRECTED BY ENGINEER.



CROSSING UNDER EXISTING UTILITY

NOTES:

- WHEN ENCOUNTERED AT APPROXIMATELY THE SAME DEPTH, CROSS BENEATH.
- PROTECT & SUPPORT EXPOSED EXISTING UTILITY.



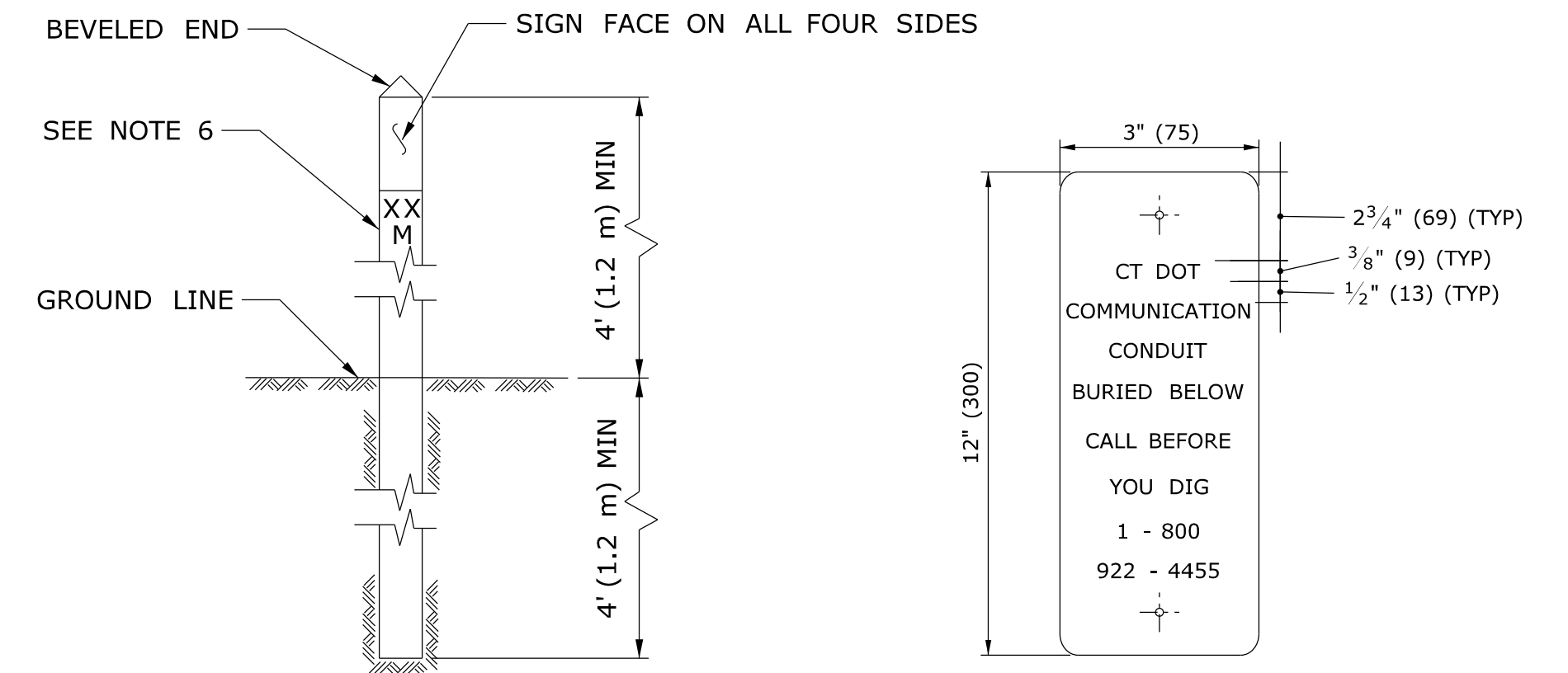
DETECTABLE WARNING TAPE

NOTE:

STANDARD SPECIFICATIONS, ARTICLE: 1.05.15

1. TAPE COLORS:

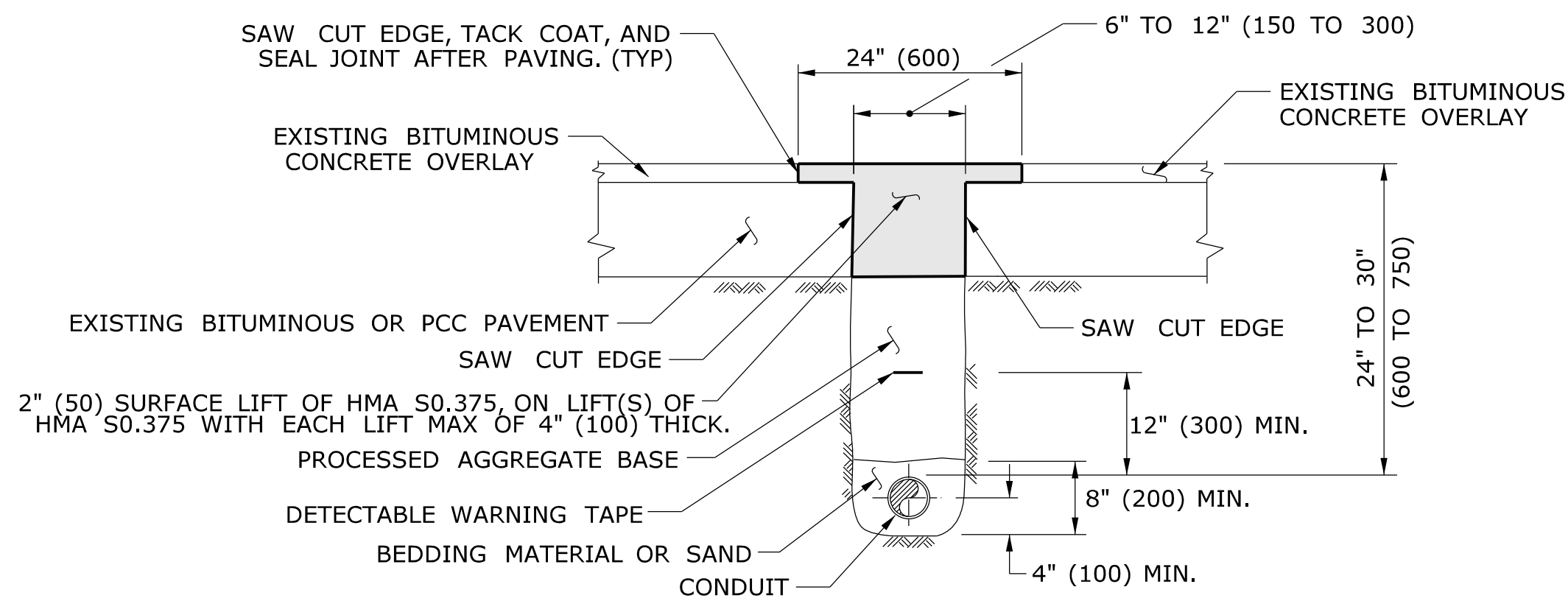
- COMMUNICATION - ORANGE BACKGROUND / BLACK LEGEND
- POWER - RED BACKGROUND / BLACK LEGEND



INTERCONNECT CONDUIT IDENTIFICATION POST

NOTES:

- 4" x 4" (100 x 100) NOMINAL, PRESSURE TREATED WOOD POST.
- ATTACH SIGN TO POST WITH 1/4" x 1 1/4" (6 x 31) STAINLESS STEEL LAG SCREW WITH NYLON WASHER ON FACE OF SIGN.
- SIGN COLORS: BACKGROUND - ORANGE (RETROREFLECTIVE) LEGEND - BLACK (OPAQUE).
- INSTALL POST APPROX 24" (600) FROM RMC IN VICINITY OF EACH PULL BOX.
- INSTALL POSTS BETWEEN PULL BOXES, APPROX 10' (3.0 m) OFF CURB. SPACE POSTS 1500± (460 m±) APART.
- PERMANENTLY ATTACH STAINLESS STEEL NUMBERS INDICATING DISTANCE TO TRENCH IN FEET (METERS) CONTAINING COMMUNICATION CABLE. ATTACH NUMBERS TO SIDE OF POST FACING CONDUIT. INCLUDE "M" SUFFIX IF METERS.

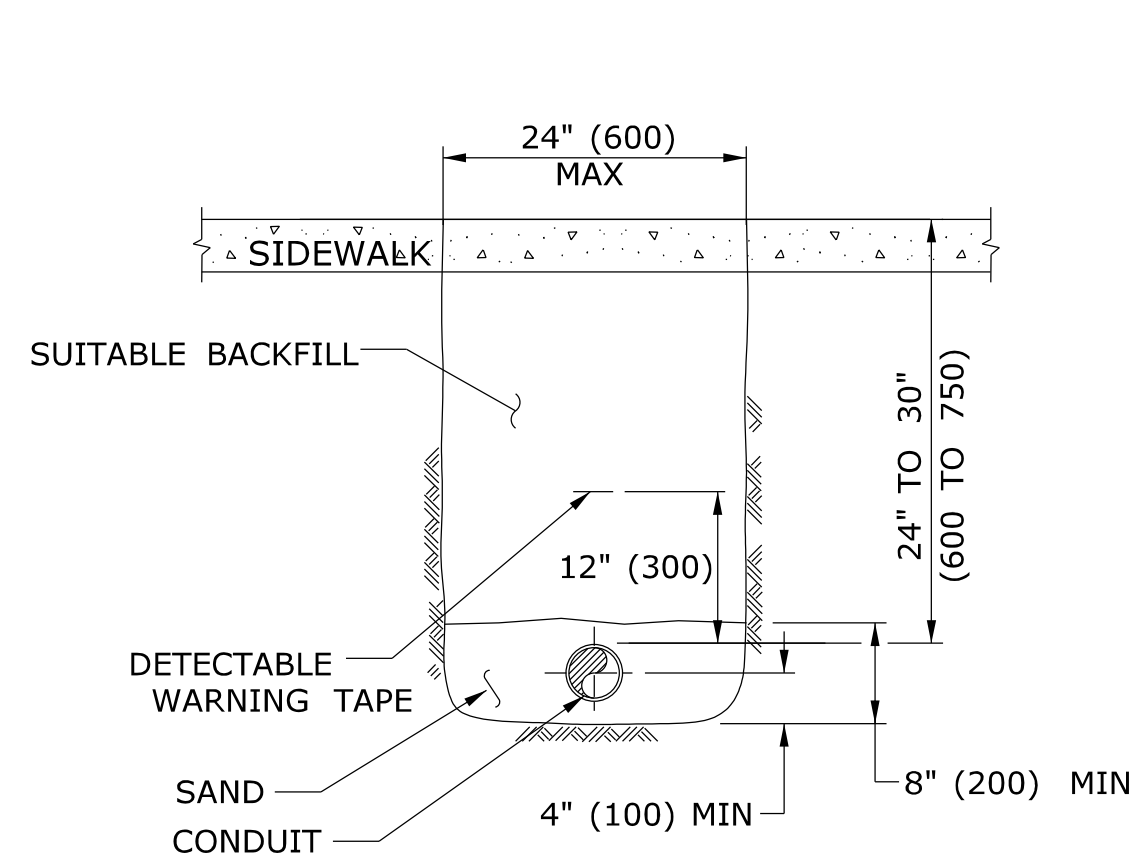


PAVEMENT - BITUMINOUS CONCRETE OR OVERLAVED PORTLAND CEMENT CONCRETE

NOTES:

STANDARD SPECIFICATIONS, ARTICLE: 3.04 & 4.06.03

- TOTAL HOT MIX ASPHALT (HMA) THICKNESS TO MATCH EXISTING BITUMINOUS CONCRETE AND PORTLAND CEMENT CONCRETE (PCC) THICKNESS.
- WHEN ALLOWED BY ENGINEER, USE CONTROLLED LOW STRENGTH MATERIAL (CLSM) AS BEDDING MATERIAL. TOP OF CLSM AT LEAST 20" (500) BELOW SURFACE.

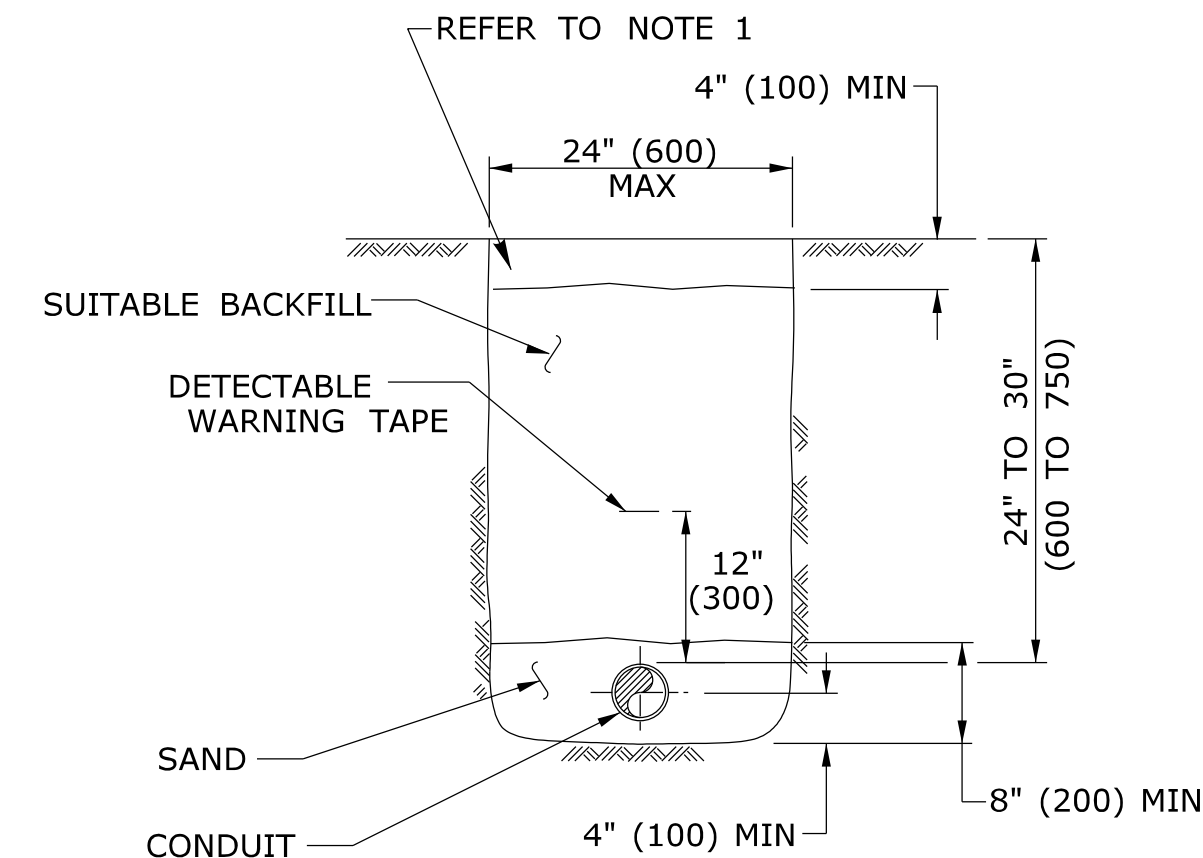


SIDEWALK

NOTES:

STANDARD SPECIFICATIONS, ARTICLE: 9.21 & 9.22

- WHERE CONCRETE SIDEWALK DAMAGED OR CUT, REPLACE THE ENTIRE SECTION BETWEEN JOINTS. REPLACEMENT SIDEWALK IS PAID FOR AT THE CONTRACT UNIT PRICE FOR "CONCRETE SIDEWALK".



EARTH

NOTES:

STANDARD SPECIFICATIONS, ARTICLE: 9.50

- IN MOWED AREAS: PLACE TOPSOIL, FERTILIZER, SEED, & MULCH.

GENERAL NOTES:

- TOP OF CONDUIT NO LESS THAN 24" (600) DEEP.
- COMPACT BACKFILL IN ≤ 6" (150) LIFTS. HAND COMPACTION NOT PERMITTED.

LEGEND AS SHOWN ON TRAFFIC CONTROL SIGNAL PLAN:
 --- RMC (RIGID METAL CONDUIT)

REV.	DATE	REVISION DESCRIPTION
1	4-2012	REVISED BITUMINOUS CONCRETE TO HMA, & MINOR REVISIONS.
		REVISION DESCRIPTION

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 - UNDER 1" TO NEAREST 1 mm.

NOT TO SCALE

STATE OF CONNECTICUT
 DEPARTMENT OF TRANSPORTATION

Plotted Date: 4/14/2012

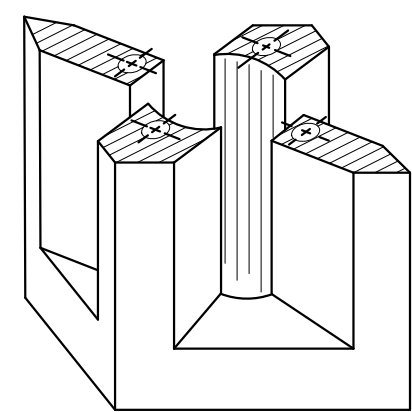
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 APPROVED BY: NAME/DATE/TIME:

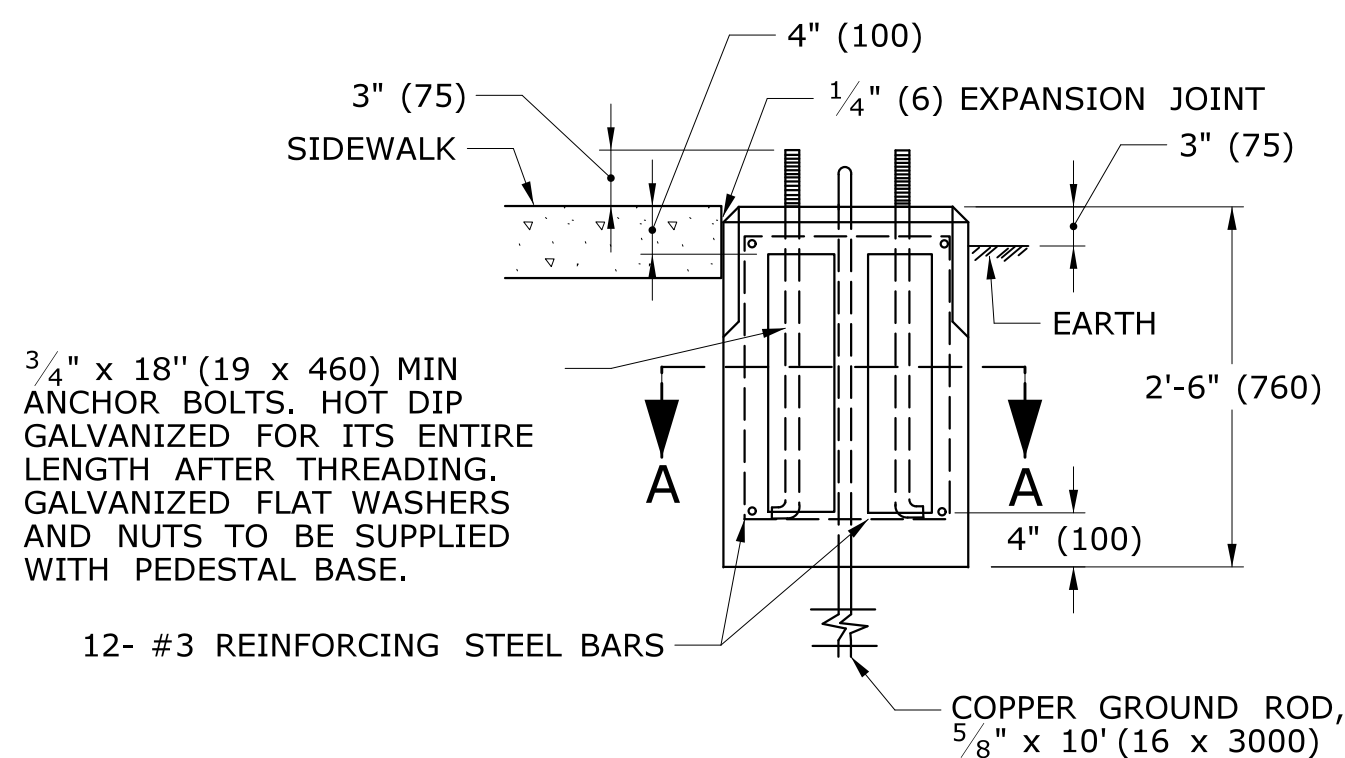
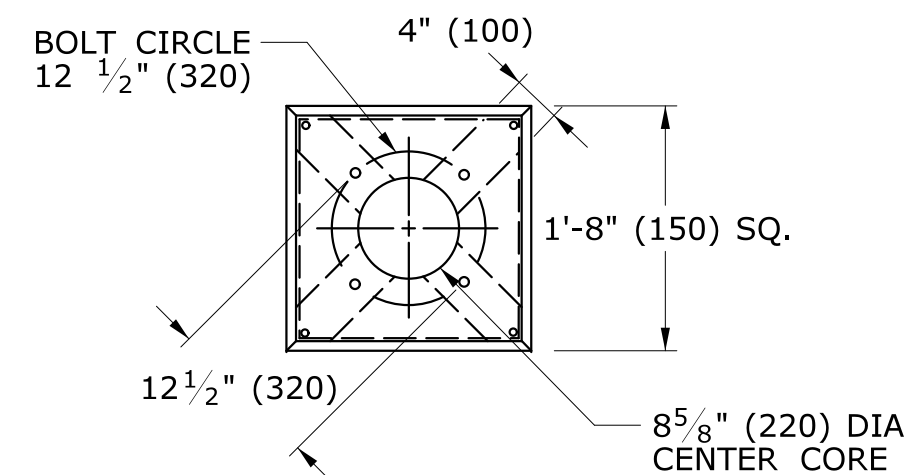
CTDOT
 STANDARD SHEET
 OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
TRENCHING & BACKFILLING, ELECTRICAL CONDUIT

STANDARD SHEET NO.:
TR-1001_01



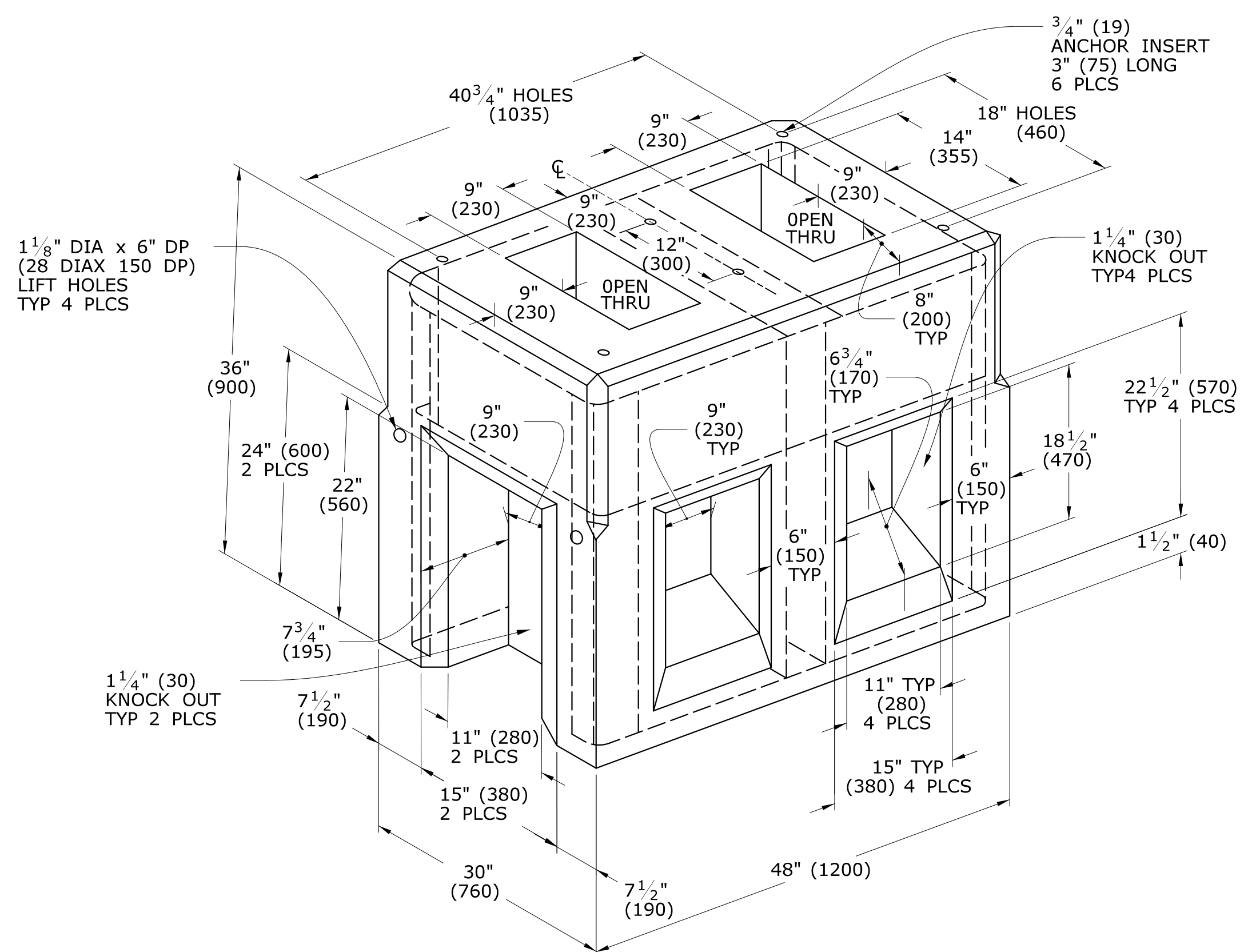
PICTORIAL SECTION A-A



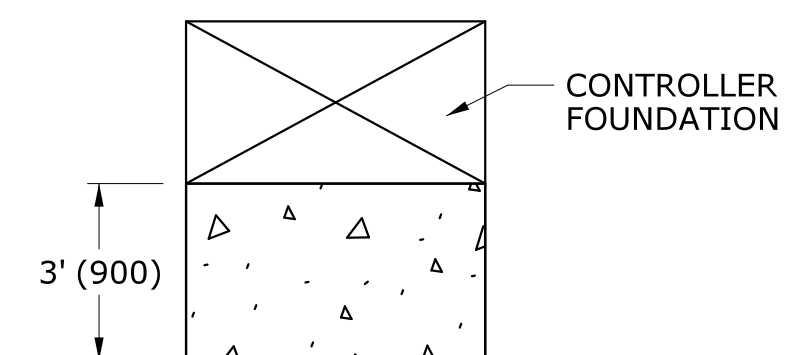
TRAFFIC CONTROL FOUNDATION PEDESTAL - TYPE I - PRECAST

NOTES:

PLACE NO. 6 CRUSHED STONE IN CENTER OPENING AFTER CONDUITS AND GROUND ROD HAVE BEEN INSTALLED.

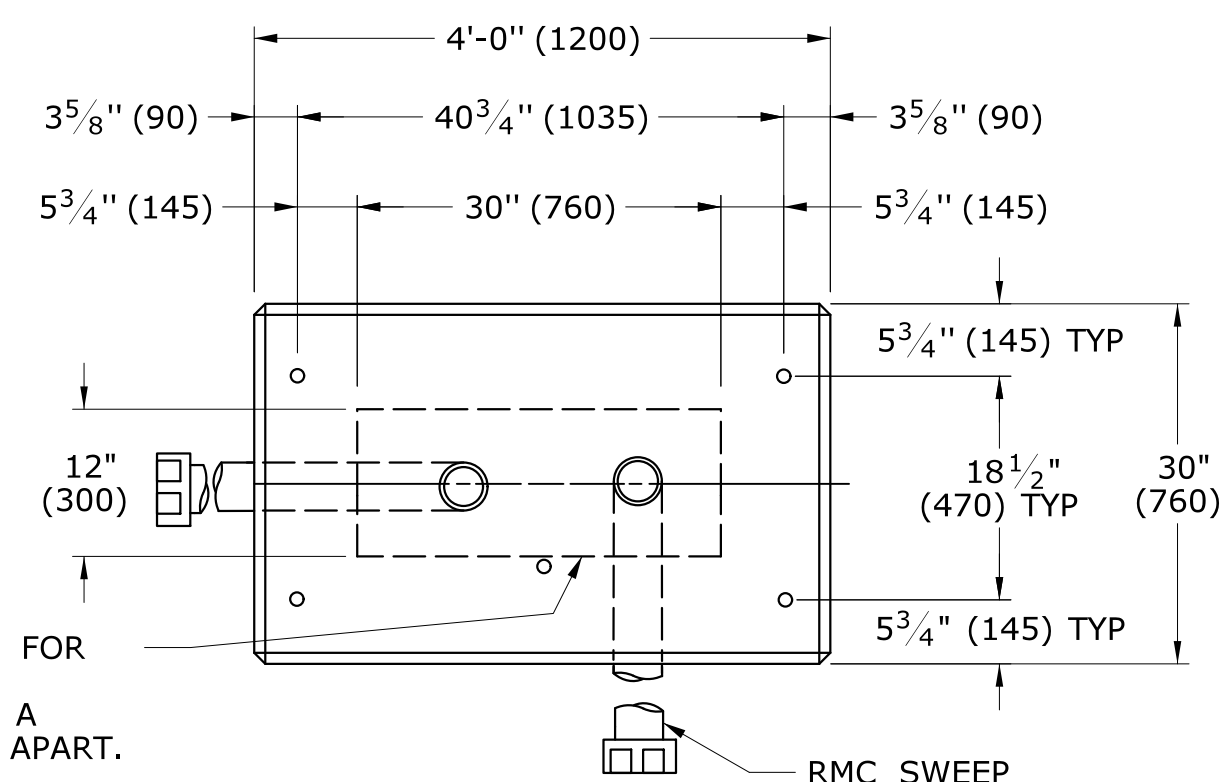


TRAFFIC CONTROL FOUNDATION CONTROLLER - TYPE IV - PRECAST

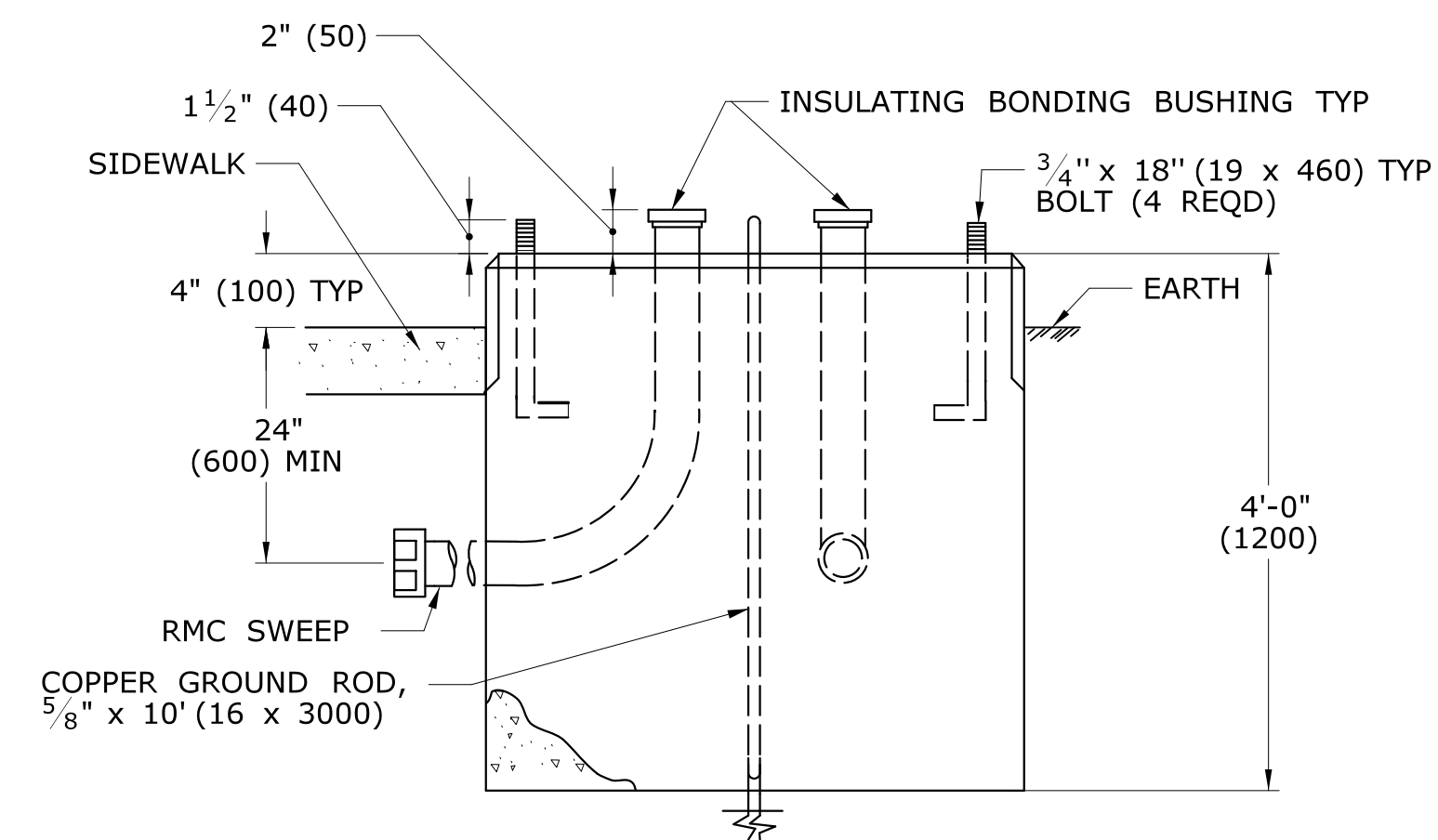


INSTALL PRECAST OR CAST IN PLACE CONCRETE SIDEWALK ON CABINET DOOR SIDE OF CONTROLLER FOUNDATION.
PITCH SIDEWALK 1/4" PER FOOT (20 PER METER) AWAY FROM THE CONTROLLER FOUNDATION.
REFER TO HIGHWAY STANDARD SHEET HW-921.01 FOR SIDEWALK CONSTRUCTION.

TYPICAL CONCRETE SIDEWALK AT CONTROLLER FOUNDATION



AREA OF LIMITATION FOR CONDUIT SWEEPS. SEPARATE CONDUITS A MINIMUM OF 2" (50) APART.



TRAFFIC CONTROL FOUNDATION CONTROLLER - TYPE IV - CAST IN PLACE

NOTES:

INSTALL FOUNDATION ON 6" (150) OF COMPACTED GRAVEL IN ACCORDANCE WITH SECTION 2.14. LEVEL FOUNDATION WITH A PROJECTION OF 4" (100) ABOVE FINISHED GRADE.
INSTALL COPPER GROUND ROD: 5/8" x 10' (16 x 3000).
PLACE NO. 6 CRUSHED STONE IN THE CENTER OPENINGS AFTER THE CONDUITS AND GROUND ROD HAVE BEEN INSTALLED. THE OPENINGS SHALL BE CAPPED WITH A 2" (50) GROUT LEVEL WITH THE TOP OF THE FOUNDATION AND NEATLY FINISHED. THE GROUT SHALL CONFORM WITH THE REQUIREMENTS OF ARTICLE M.3.01-12.
CONCRETE: CLASS "A" CONFORMING TO ARTICLE M.03.01.
#4 REBAR 2" (50) MIN COVER AROUND ALL OPENINGS, 3-#4 REBARS IN EACH CORNER. CONDUITS SHALL NOT PROJECT MORE THAN 2" (50) ABOVE FOUNDATION.

LEGEND AS SHOWN ON TRAFFIC CONTROL SIGNAL PLAN:	
[Symbol]	PROPOSED CONTROLLER
[Symbol]	EXISTING CONTROLLER
[Symbol]	PROPOSED STEEL SPAN POLE
[Symbol]	EXISTING STEEL SPAN POLE

REV.	DATE	REVISION DESCRIPTION
2	1-2014	REMOVED SPAN POLE FOUNDATION DETAILS, REVISED TYPICAL CONCRETE SIDEWALK AT CONTROLLER FOUNDATION.
1	4-2012	MINOR REVISIONS.

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Plotted Date: 1/7/2014

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NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_TRAFFIC_STD.DGN Model: TR-1002_01

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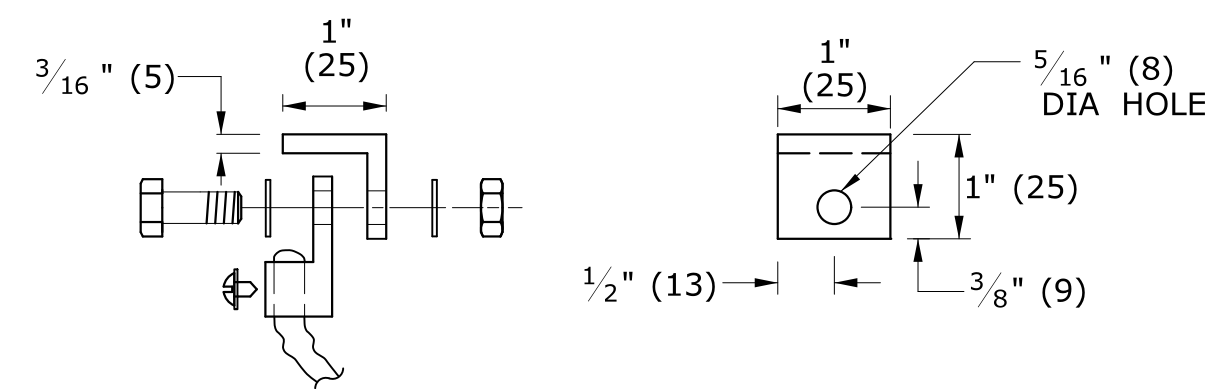
CTDOT
STANDARD SHEET
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
TRAFFIC CONTROL FOUNDATIONS

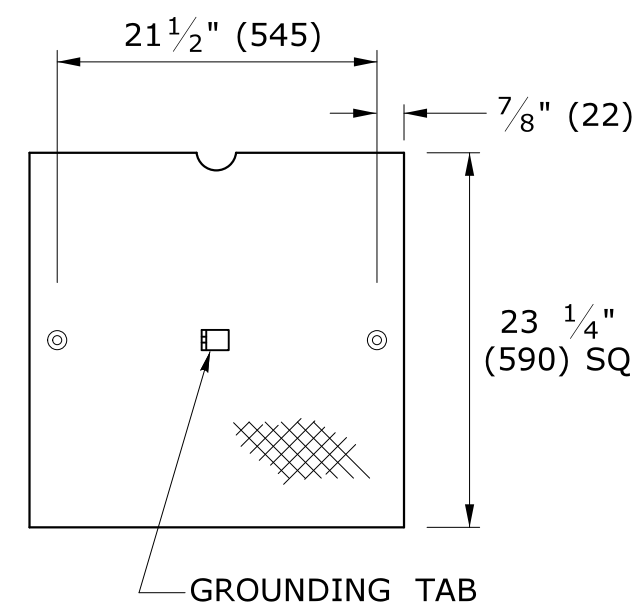
STANDARD SHEET NO.:
TR-1002_01

COVER NOTES:

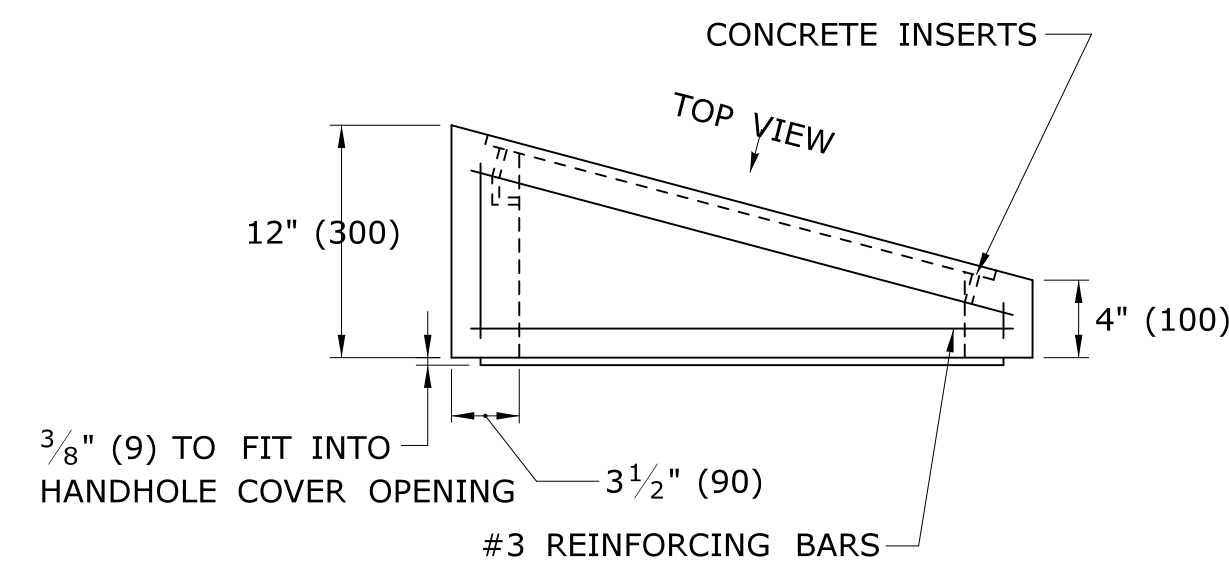
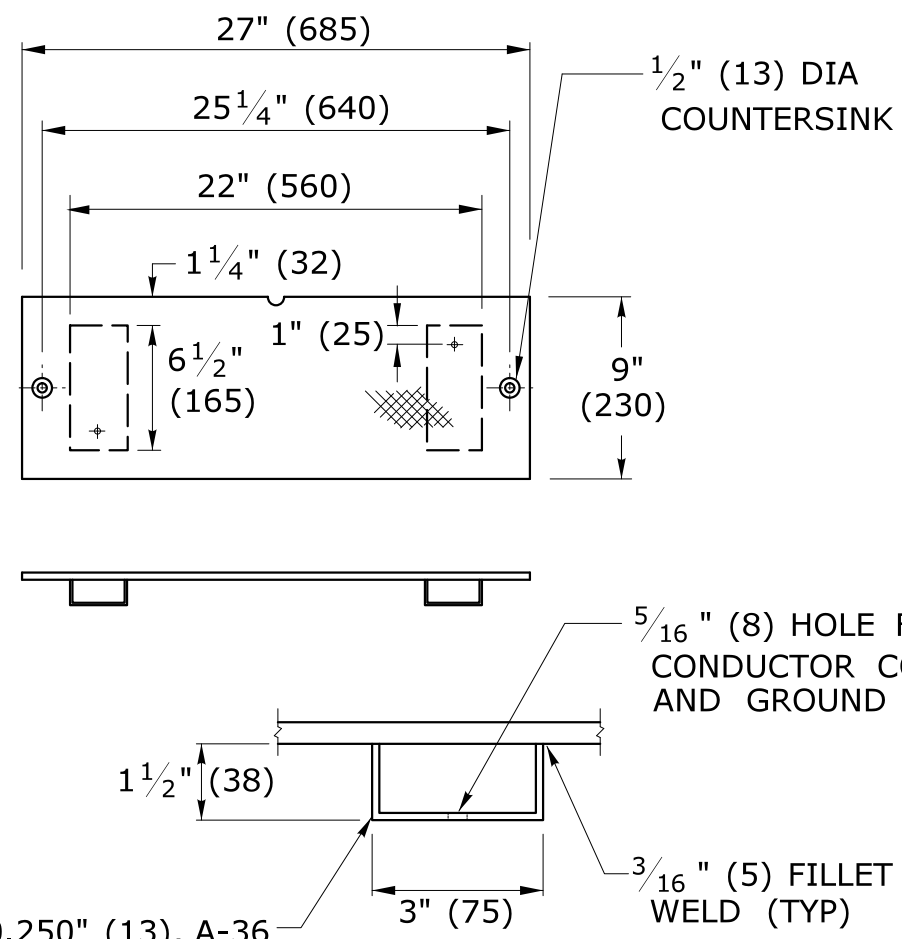
1. GROUNDING TAB WELDED TO BOTTOM CENTER OF COVER WITH $\frac{3}{16}$ " (5) WELD (3 SIDES).
2. ATTACH 6' (2 m) LENGTH OF NO. 8 GROUND WIRE TO GROUNDING TAB WITH CONDUCTOR CONNECTOR, $\frac{1}{4}$ " - 20 X $\frac{3}{4}$ " (M6 X 20) LG SST HEX HEAD BOLT, AND SST FLAT WASHER. ATTACH FREE END OF GROUND WIRE TO CONDUIT BONDING BUSHING IN HANDHOLE.
3. CONDUCTOR CONNECTOR: COPPER ALLOY BODY, BRASS SCREW, BRASS OR COPPER ALLOY PRESSURE PLATE.
4. COVER SCREW INSERT: $\frac{3}{8}$ "-16 (9-16), $1\frac{1}{2}$ "L (37L), STAINLESS STEEL.
5. COVER SCREW: $\frac{3}{8}$ "-16 (9-16), 1"L (25L), FLAT HEAD, SLOTTED, STAINLESS STEEL.



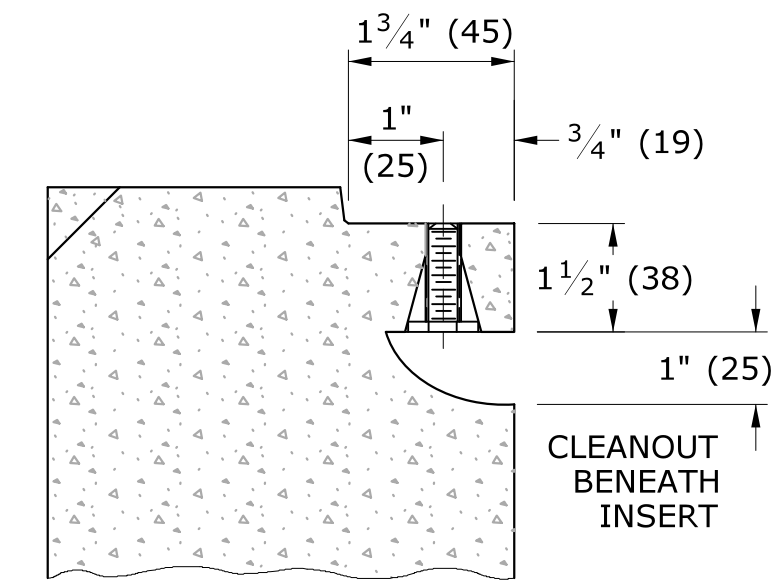
**STEEL GROUNDING TAB
w/ CONDUCTOR CONNECTOR**



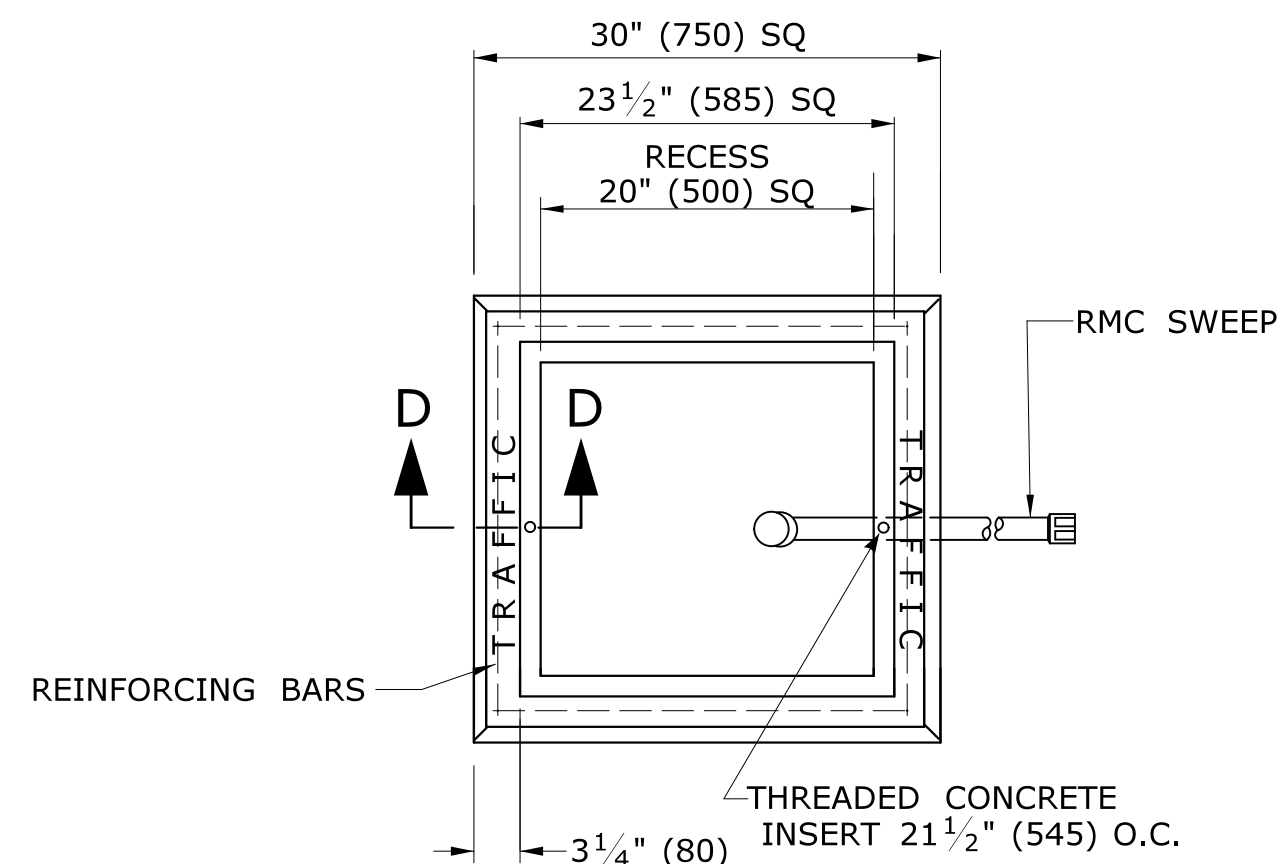
**NON SKID FLOOR PLATE
GALVANIZED STEEL, 3/8" (10)**



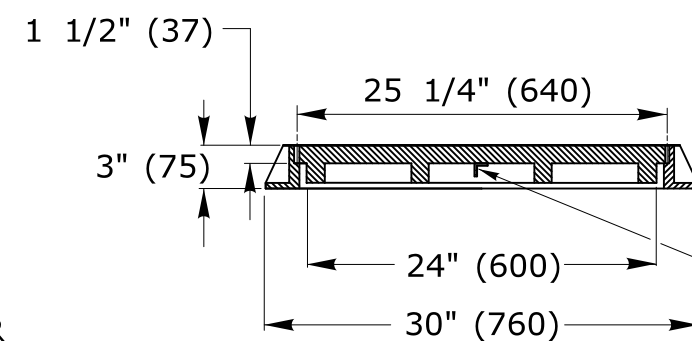
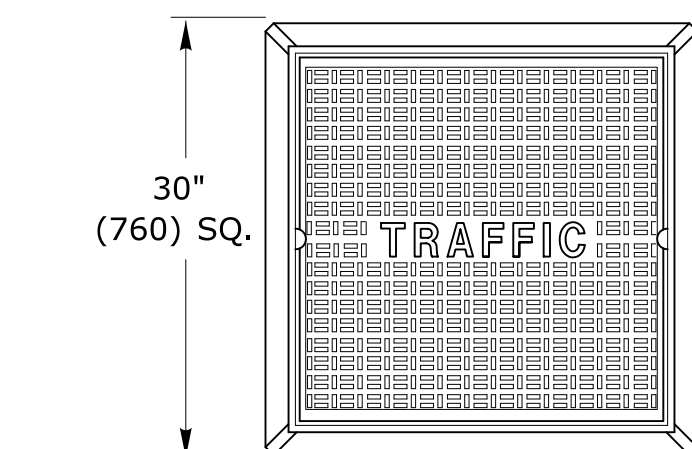
BANK ADAPTER



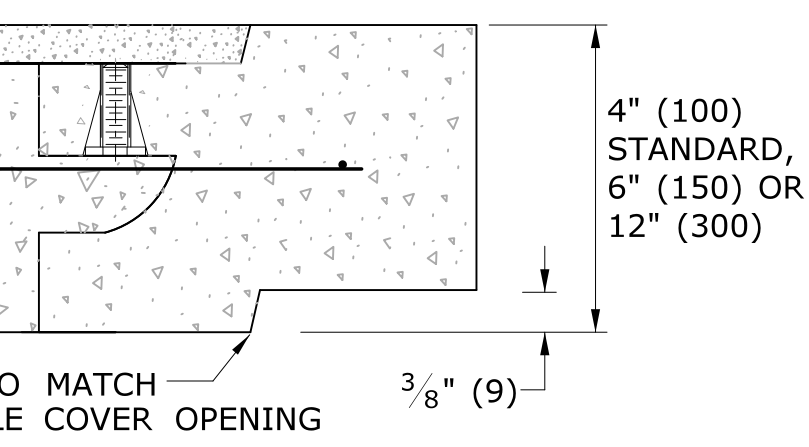
SECTION D-D



PLAN VIEW

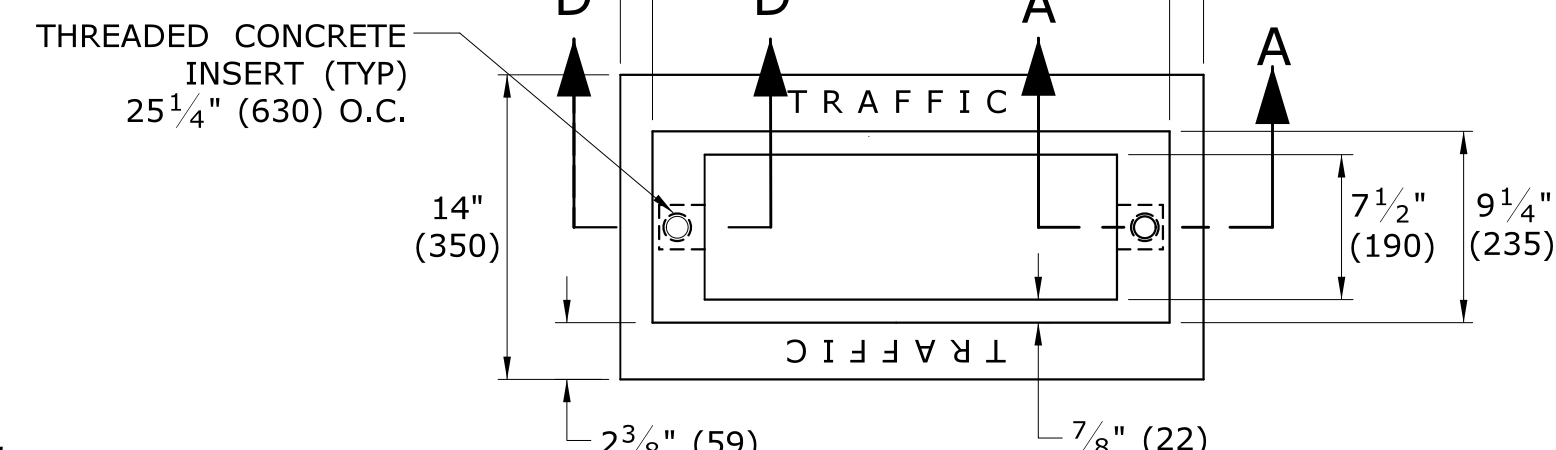


**CAST IRON
HANDHOLE COVERS**

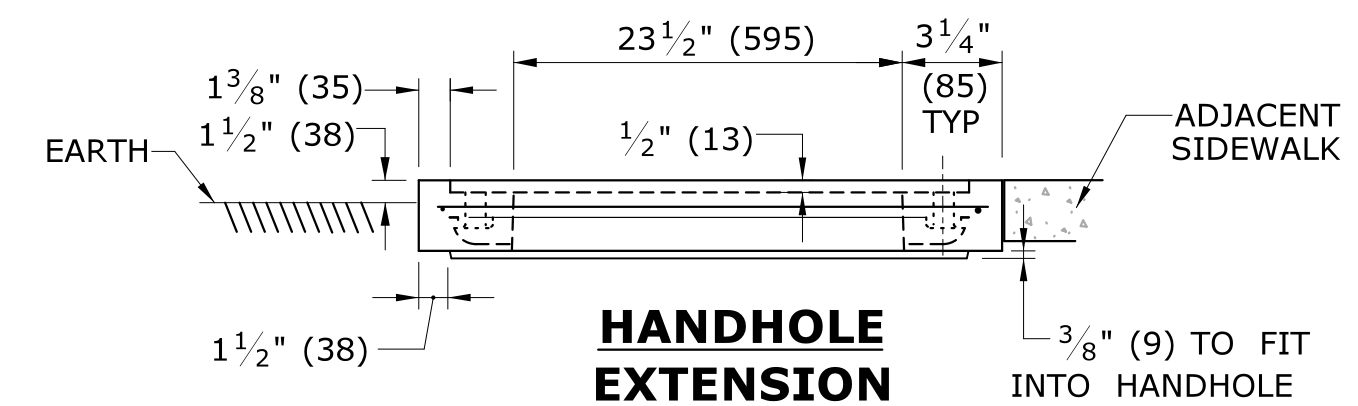


**SECTION A-A
HANDHOLE EXTENSIONS**

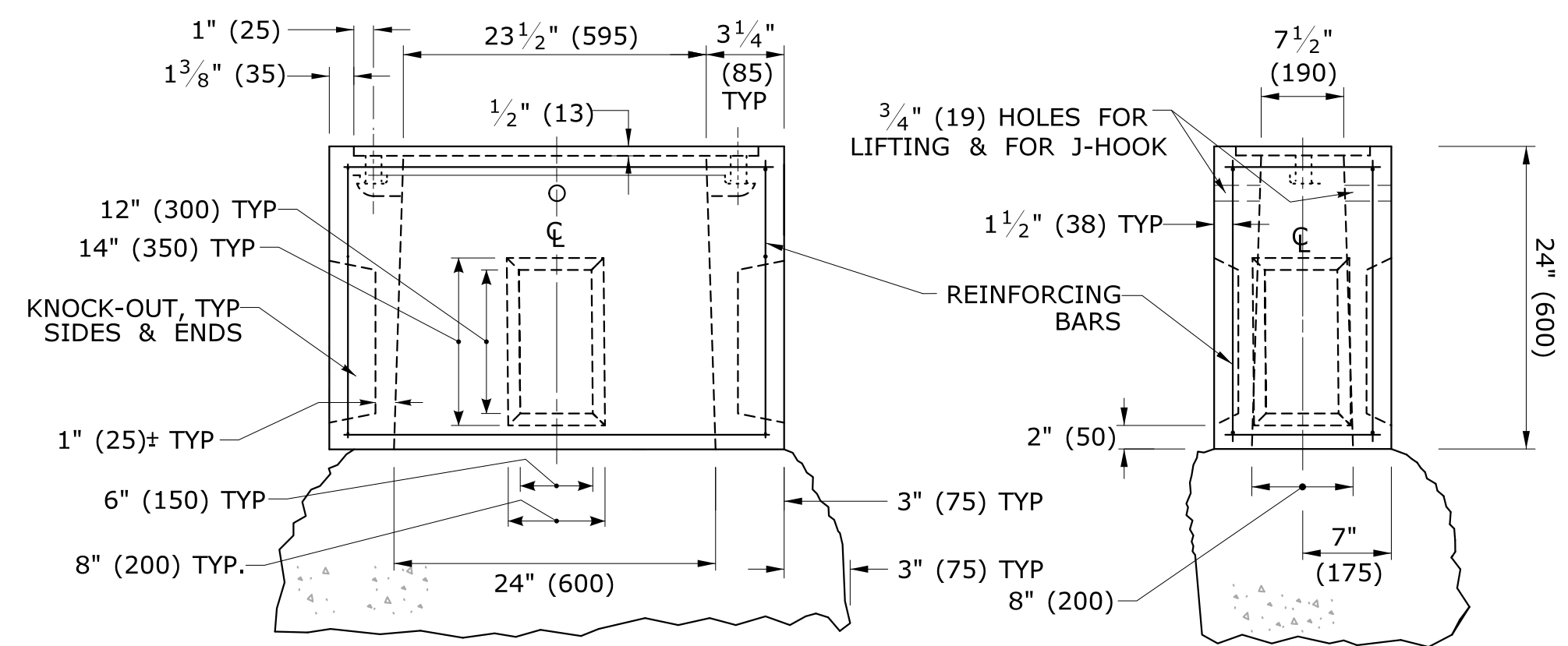
4 - #8 REINFORCING BARS REQ'D



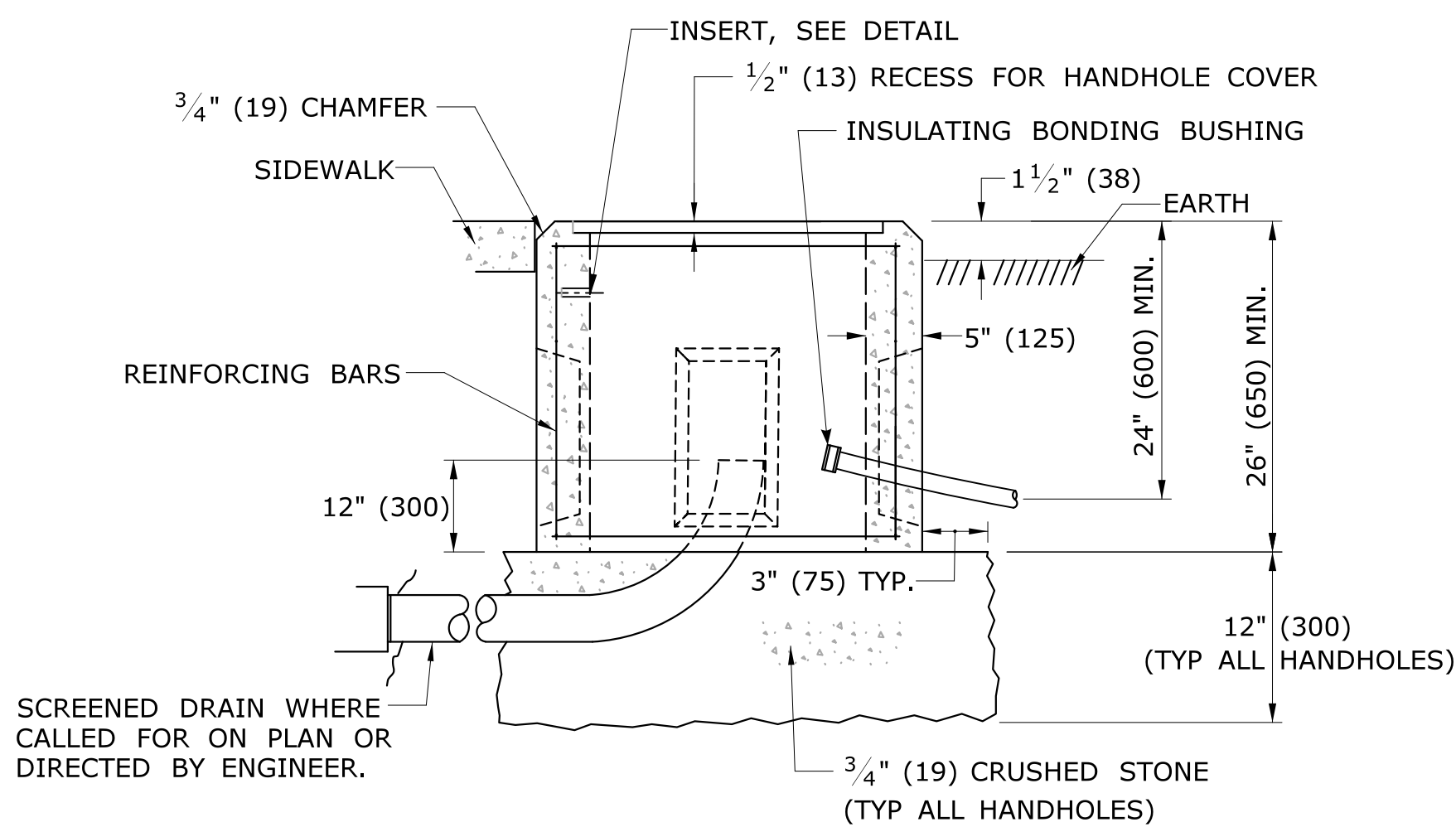
PLAN VIEW



**HANDHOLE
EXTENSION**



**BASE SECTION
CONCRETE HANDHOLE TYPE II**



CONCRETE HANDHOLE TYPE I

HANDHOLE NOTES:

1. MINIMUM CLASS "C" CONCRETE.
2. COMPLETE TYPE II HANDHOLE:
IN EARTH AREAS, CONSISTS OF A BASE SECTION WITH 4" (100) HANDHOLE EXTENSION,
IN SIDEWALK AREAS, CONSISTS OF A BASE SECTION WITH 4" (100) CAST IRON COVER.
3. PLAN VIEW DIMENSIONS, SECTION VIEW, & DETAILS, SAME FOR BASE SECTION, EXTENSIONS & BANK ADAPTER.
4. GROUT AROUND ALL CONDUITS.

5. INSTALL 30" (750) SIDE PARALLEL TO ROAD UNLESS OTHERWISE NOTED.
6. INSTALL HANDHOLES APPROX. 12" (300) BEHIND CURB OR
IF NO CURB, 24" (600) BEHIND EDGE OF ROAD UNLESS OTHERWISE SPECIFIED.
7. CAST THE WORD "TRAFFIC" INTO TOP EDGE OF HANDHOLE, 1 1/2" (38) LETTERS.
8. WHERE AN EXISTING CONCRETE SIDEWALK SLAB ABUTTING A HANDHOLE IS DAMAGED OR CUT DURING INSTALLATION, REPLACE THE ENTIRE SIDEWALK SECTION.
9. 12-#3 REINFORCING BARS REQUIRED FOR ALL HANDHOLES. (8 HORIZONTAL, 4 VERTICAL)

LEGEND AS SHOWN ON TRAFFIC CONTROL SIGNAL PLAN:	
□	PROPOSED HANDHOLE
■	EXISTING HANDHOLE

REV.	DATE	REVISION DESCRIPTION
2	4-2014	REVISED HANDHOLES NOTES, ADDED NOTE #6. ADDED "J" HOOK TO INSERT DETAIL.
1	4-2012	CAST IRON COVER: CHANGED BOLT TO PICK HOLE. ADDED EXTENSIONS, C-CHANNEL, CONDUCTOR CONNECTOR & MINOR REVISIONS.

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Plotted Date: 4/11/2014

NOT TO SCALE

**STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION**

Filename: CTDOT_TRAFFIC_STD.DGN Model: TR-1010_01

SUBMITTED BY: _____ NAME/DATE/TIME: _____

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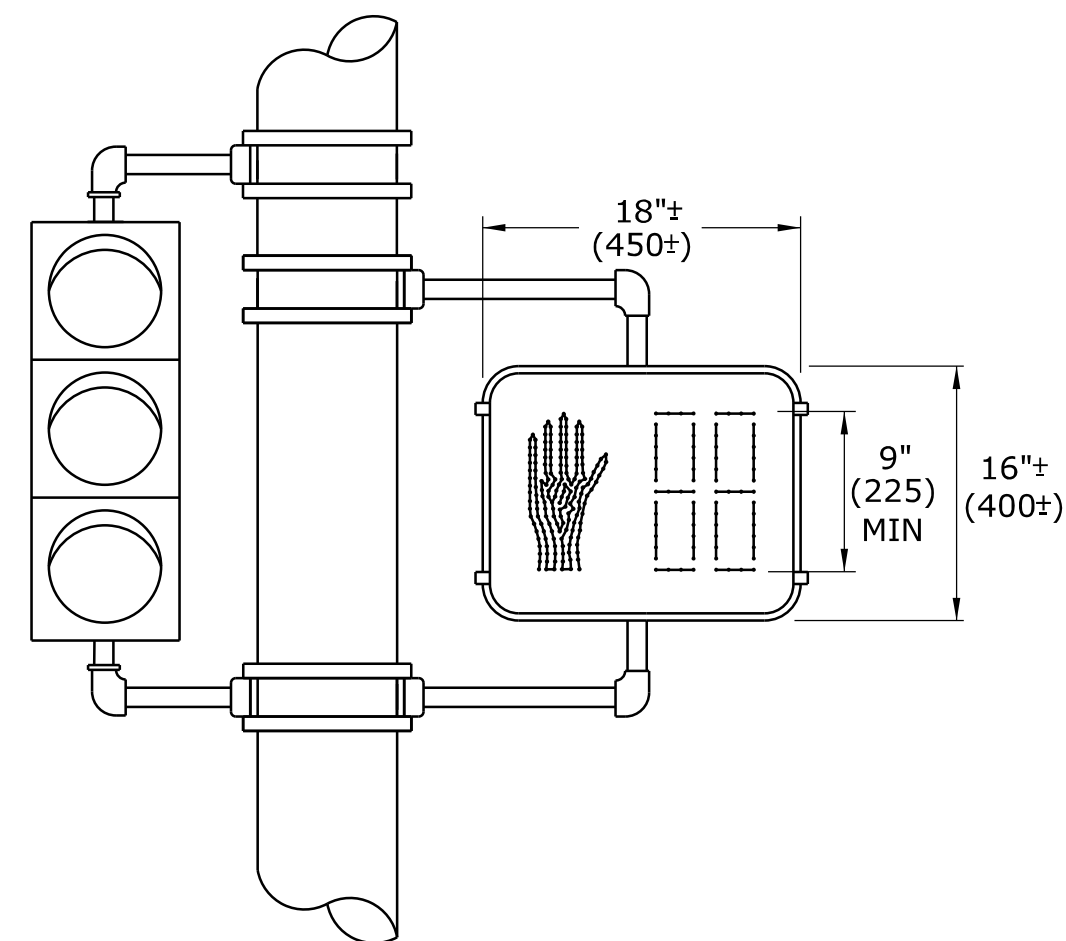
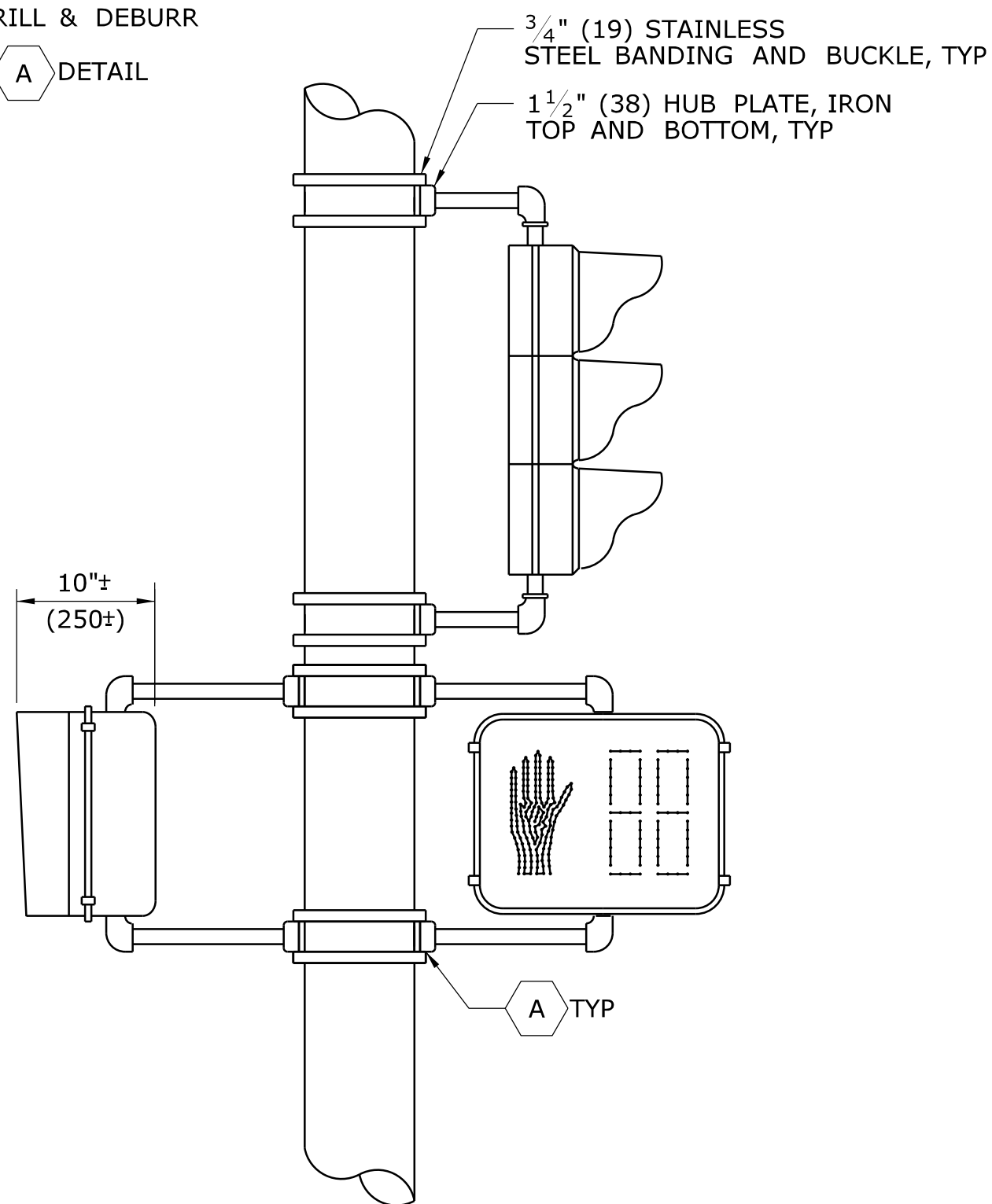
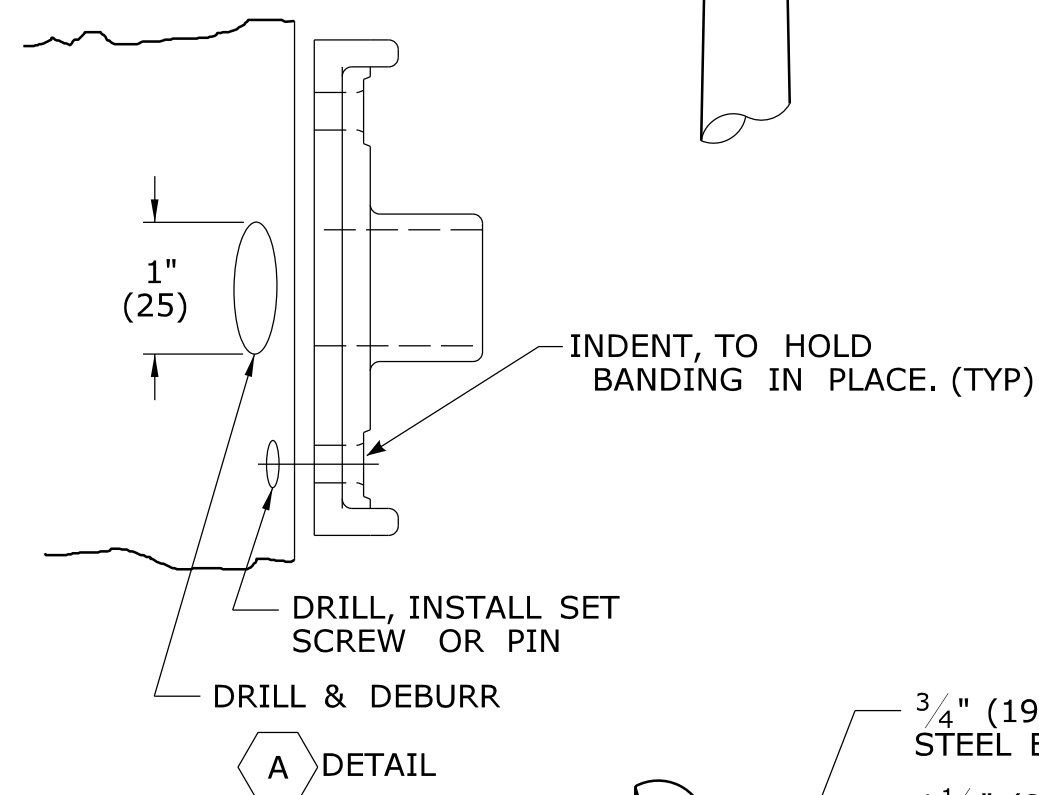
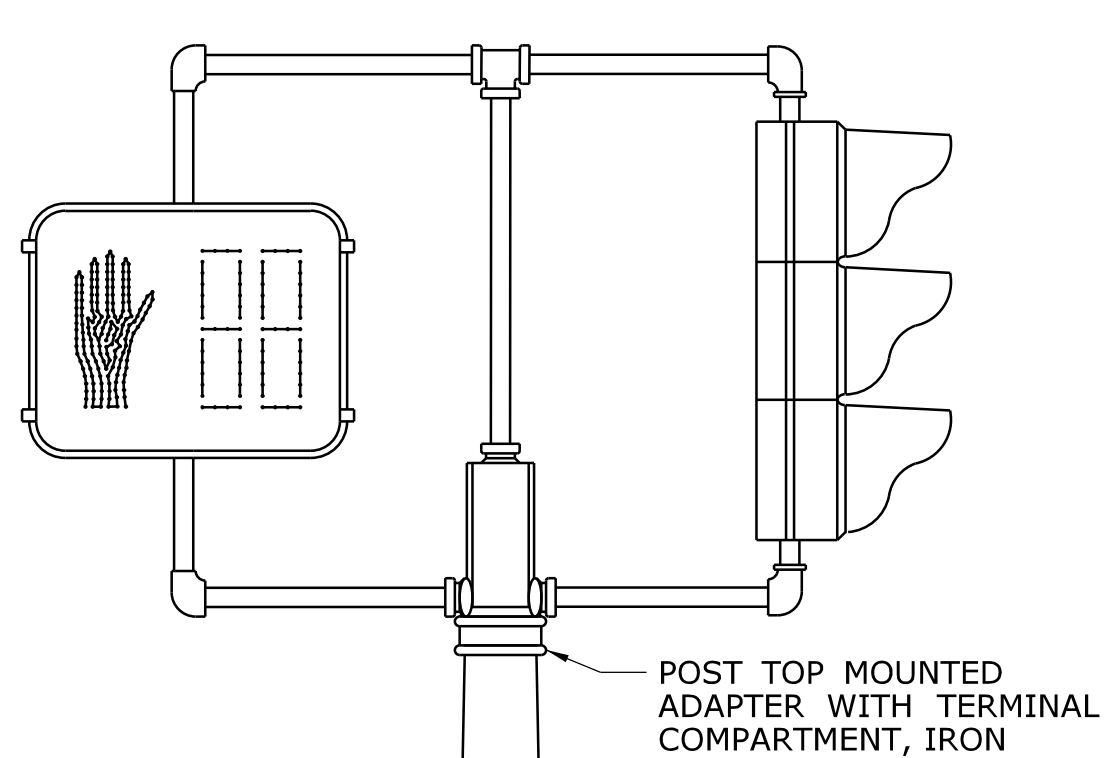
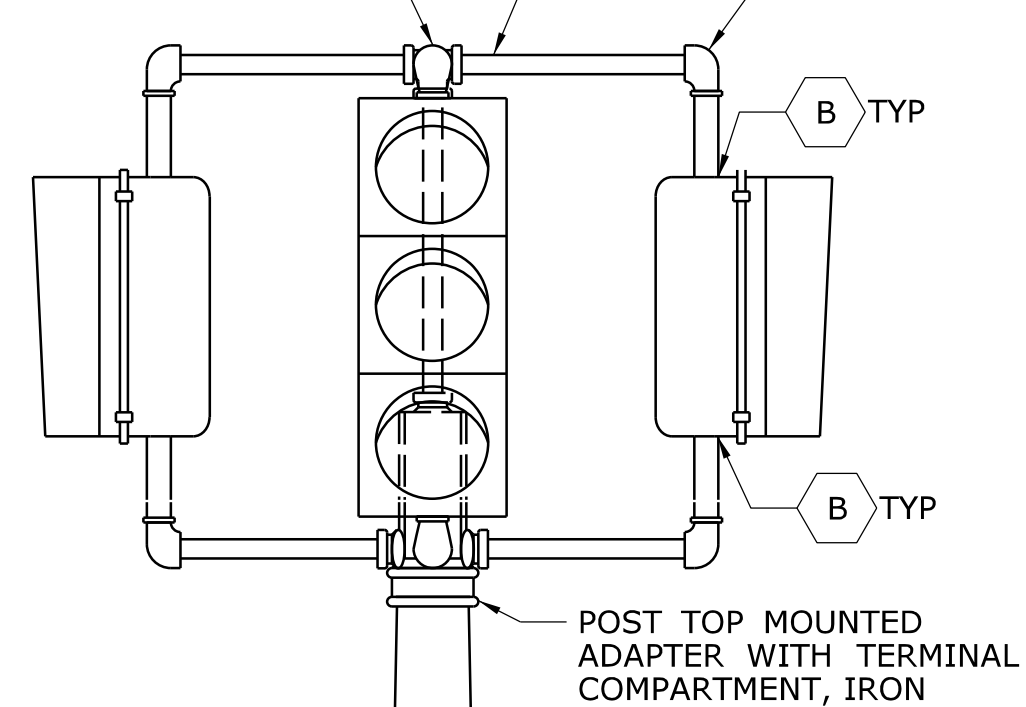
**CTDOT
STANDARD SHEET
OFFICE OF ENGINEERING**

STANDARD SHEET TITLE:
CONCRETE HANDHOLE

STANDARD SHEET NO.:
TR-1010_01

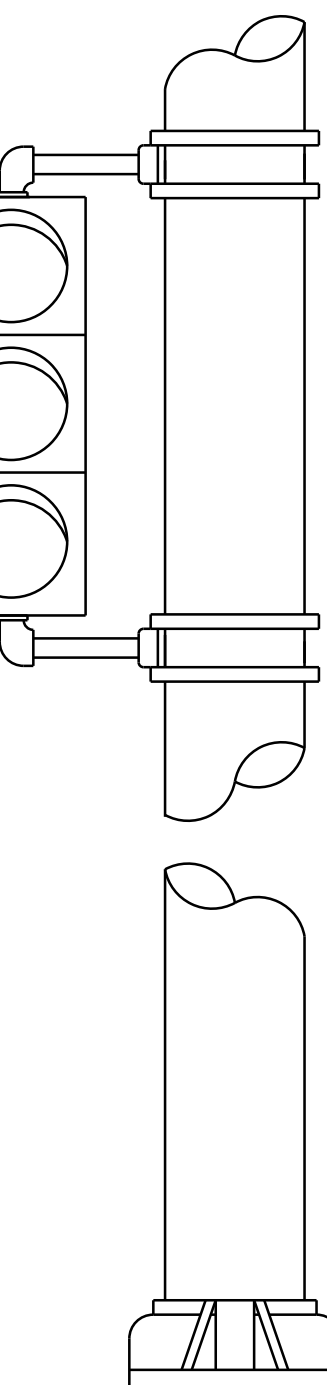
1 1/2" (38) SSIDE
OUTLET TEE, IRON, TYP

1 1/2" (38) NIPPLE, STEEL, TYP



**ONE WAY TRAFFIC SIGNAL
PEDESTAL MOUNTED**

**ONE WAY WALK SIGNAL
PEDESTAL MOUNTED**



**ONE WAY TRAFFIC SIGNAL
POLE MOUNTED**

8'-0" (2400) TYP

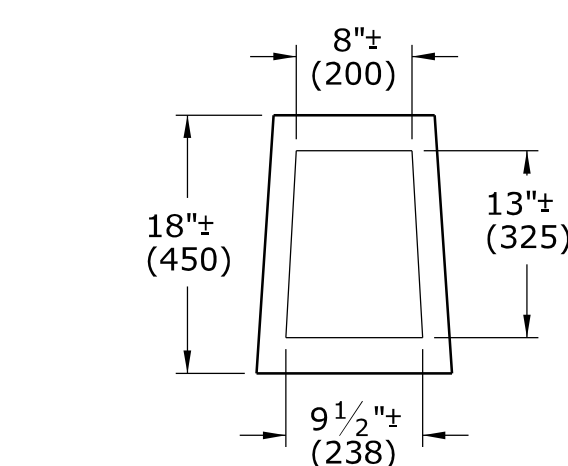
8'-0" (2400) TYP

POST TOP MOUNTED
ADAPTER, IRON

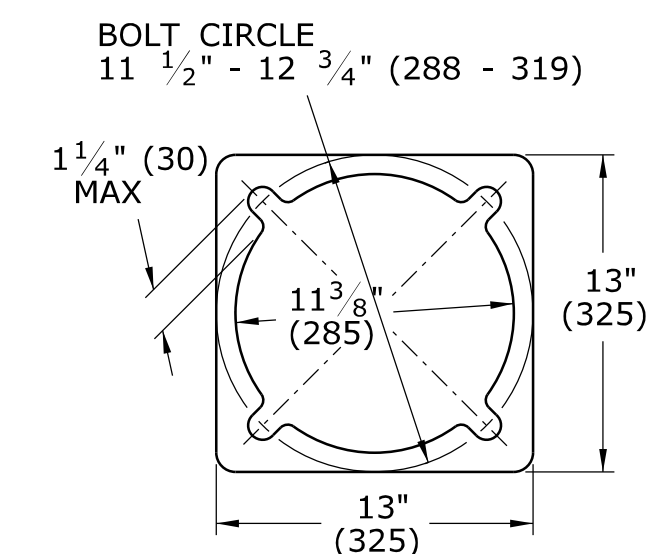
FILL TOP OF PEDESTAL WITH
EXPANSION AEROSOL FOAM
AFTER WIRES HAVE BEEN
INSTALLED.

POST TOP MOUNTED
ADAPTER, IRON

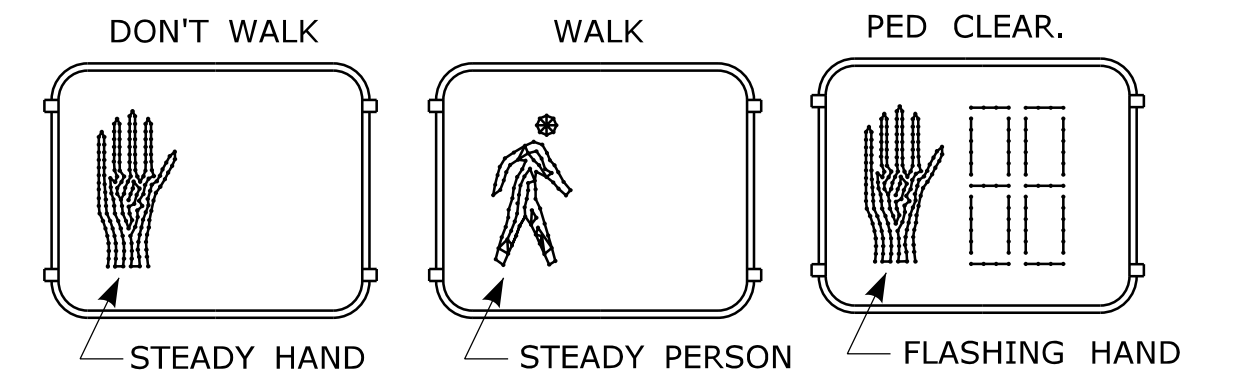
NOTE:
PEDESTAL MOUNTED ONE WAY VEHICLE
SIGNAL SHALL BE MOUNTED SAME AS
ONE WAY WALK SIGNAL.



**ALUMINUM PEDESTAL
DOOR OPENING DETAIL**

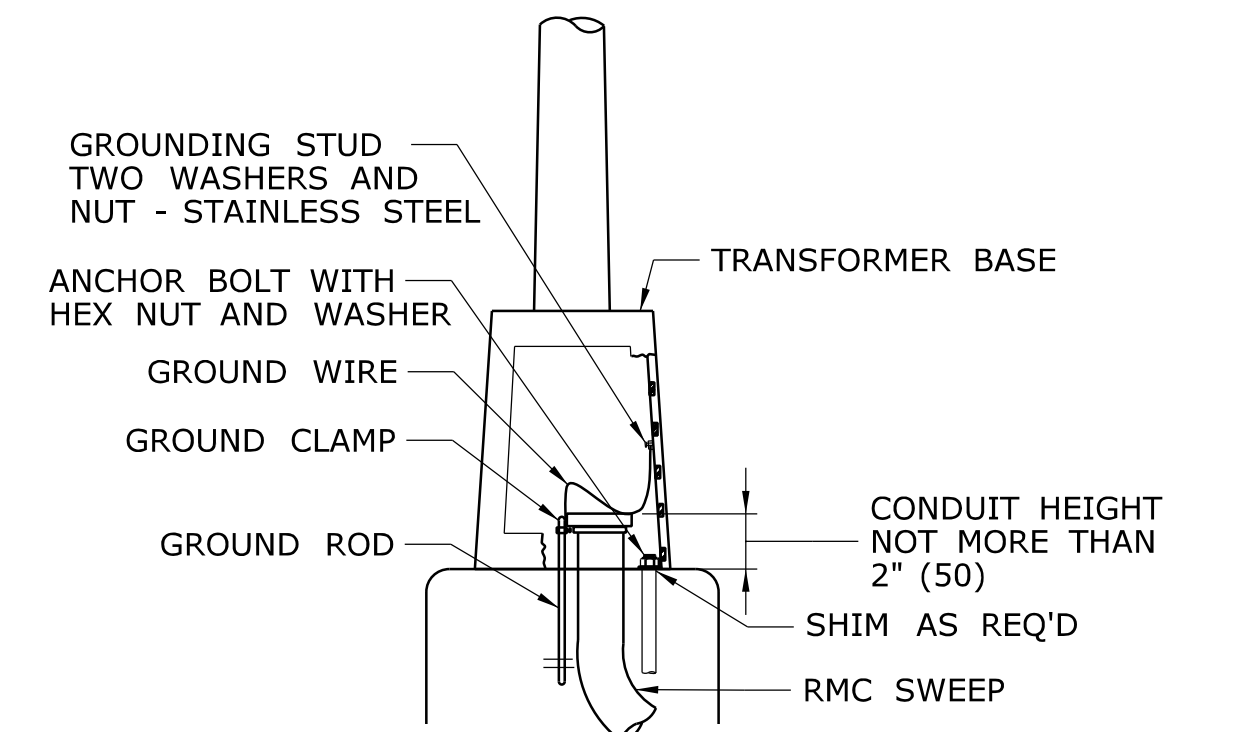
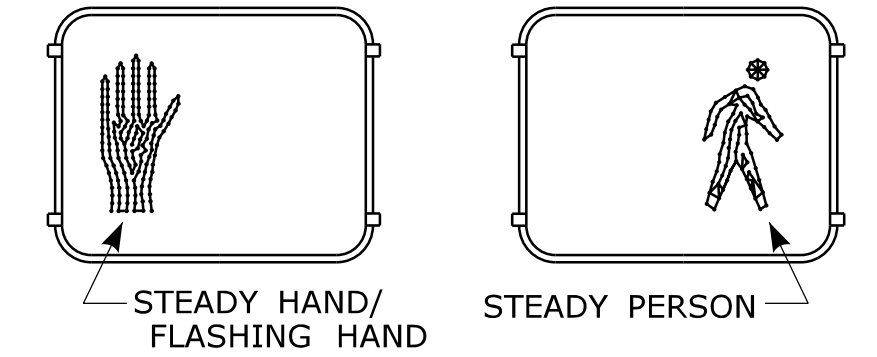


**ALUMINUM PEDESTAL
BASE PLAN**

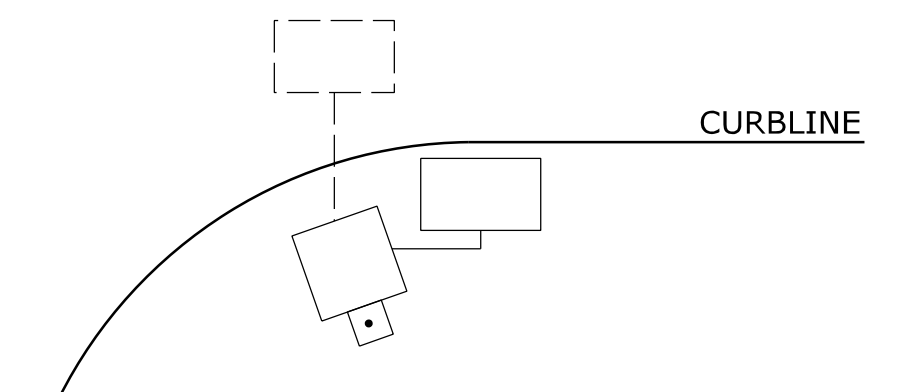


TYPICAL INDICATION WHEN LIT

NON-COUNTDOWN DISPLAY, ONLY WHEN SHOWN ON PLAN.
DON'T WALK/PED CLEAR.



**ALUMINUM PEDESTAL
INSTALLATION DETAIL**



WHEN PEDESTALS OR SPAN POLES ARE INSTALLED CLOSE TO THE CURB,
SIDE MOUNT PEDESTRIAN OR TRAFFIC SIGNALS TO AVOID VISOR DAMAGE
FROM TURNING VEHICLES.

NOTES:

- A SECURE LOWER HUB PLATE WITH STAINLESS STEEL SET SCREW OR PIN PRIOR TO BANDING TO PREVENT MOVEMENT. INSTALL CABLE THROUGH BOTTOM OF HUB PLATE.
- B REFER TO CTDOT TRAFFIC STANDARD SHEET, TR-1105.01, TRAFFIC SIGNALS & CABLE ASSIGNMENTS.
- C IF THREADED, MIN 1" (25) THREADED INTO BASE, SECURED WITH STAINLESS STEEL SET SCREWS.
- D BASE DESIGNED AS BREAK-AWAY.

INCANDESCENT WALK SIGNAL LAMPS ARE 67 WATTS, RATED AT 8000 HOURS LAMP LIFE.
LED WALK SIGNAL LAMPS ARE MAXIMUM 15 WATTS, WARRANTED AT 5 YEAR LIFE.

LEGEND AS SHOWN ON TRAFFIC CONTROL SIGNAL PLAN:		□ PEDESTRIAN SIGNAL
□	STEEL SPAN POLE, MAST ARM ASSEMBLY SHAFT	□ PEDESTAL MOUNTED, TRAFFIC & PEDESTRIAN SIGNALS
□	ALUMINUM PEDESTAL	□ POLE MOUNTED, TRAFFIC & PEDESTRIAN SIGNALS
□	TRAFFIC SIGNAL	

2	4-2012	MINOR REVISIONS.
1	1-2010	INCLUDED COUNTDOWN PEDESTRIAN SIGNALS.
REV.	DATE	REVISION DESCRIPTION

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

DIMENSIONS ARE IN ENGLISH (") & METRIC UNITS (mm).
METRIC DIMENSIONS ARE ROUNDED:
- OVER 1" TO NEAREST 5 mm
- UNDER 1" TO NEAREST 1 mm.

NOT TO SCALE



Filename: CTDOT_TRAFFIC_STD.dgn Model: TR-1102_01

SUBMITTED BY: NAME/DATE/TIME:

APPROVED BY: NAME/DATE/TIME:

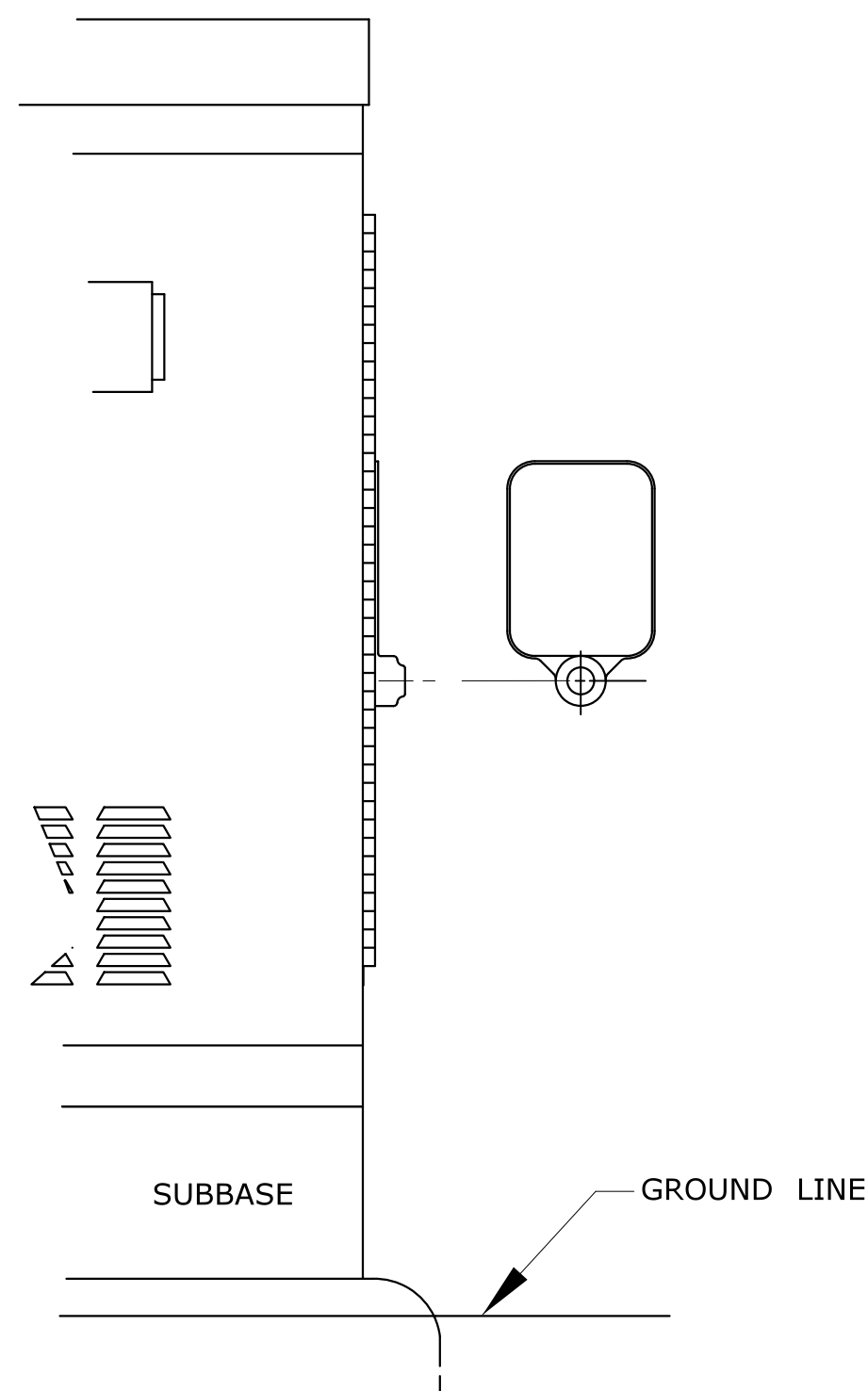
CTDOT
STANDARD SHEET
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

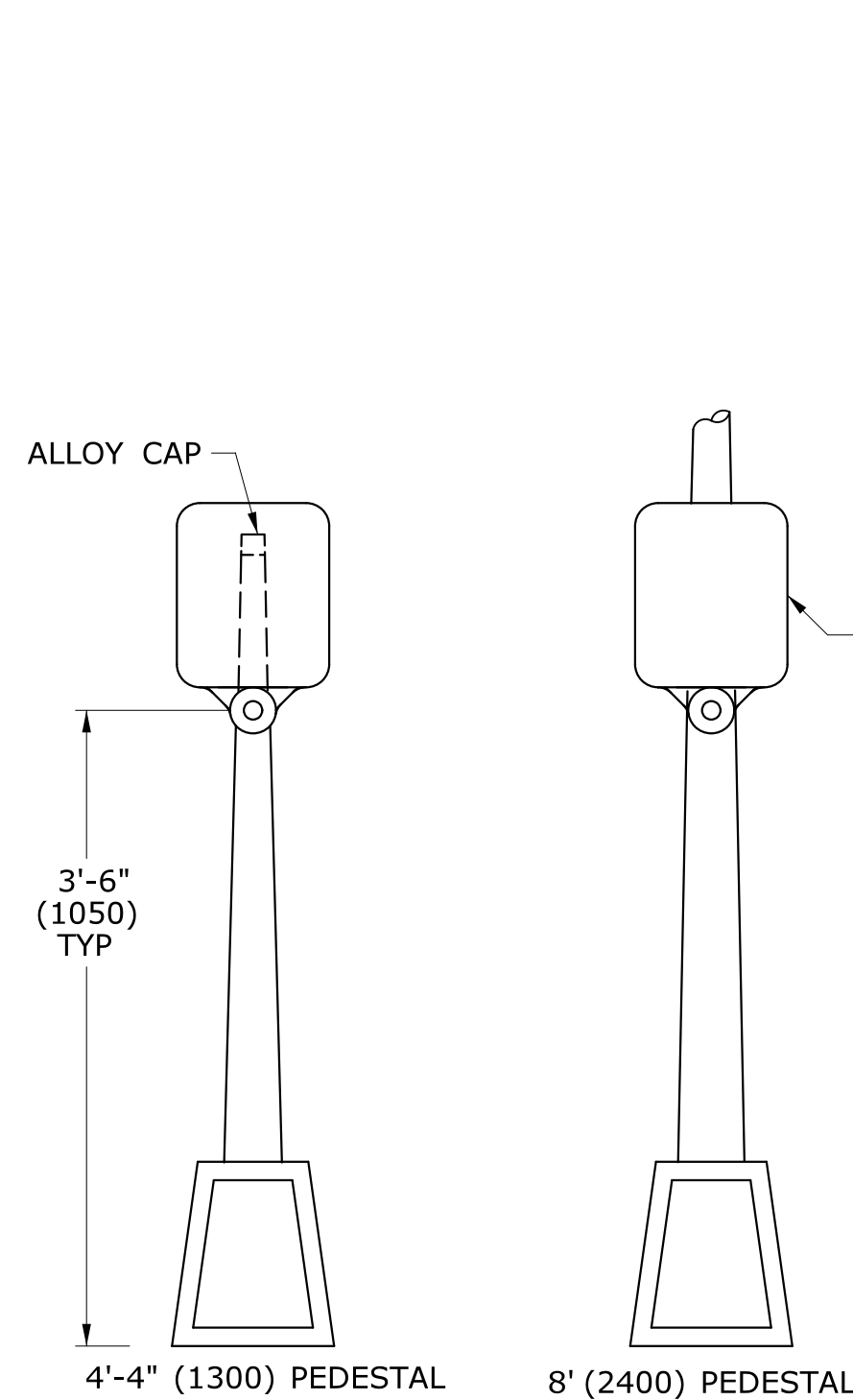
PEDESTALS, PEDESTRIAN SIGNALS

STANDARD SHEET NO.:

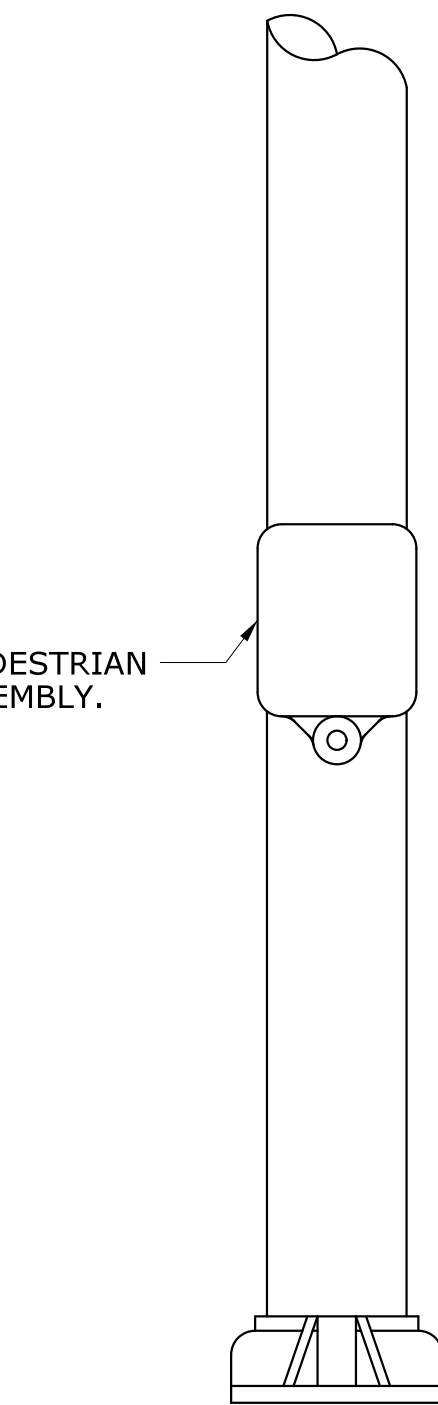
TR-1102_01



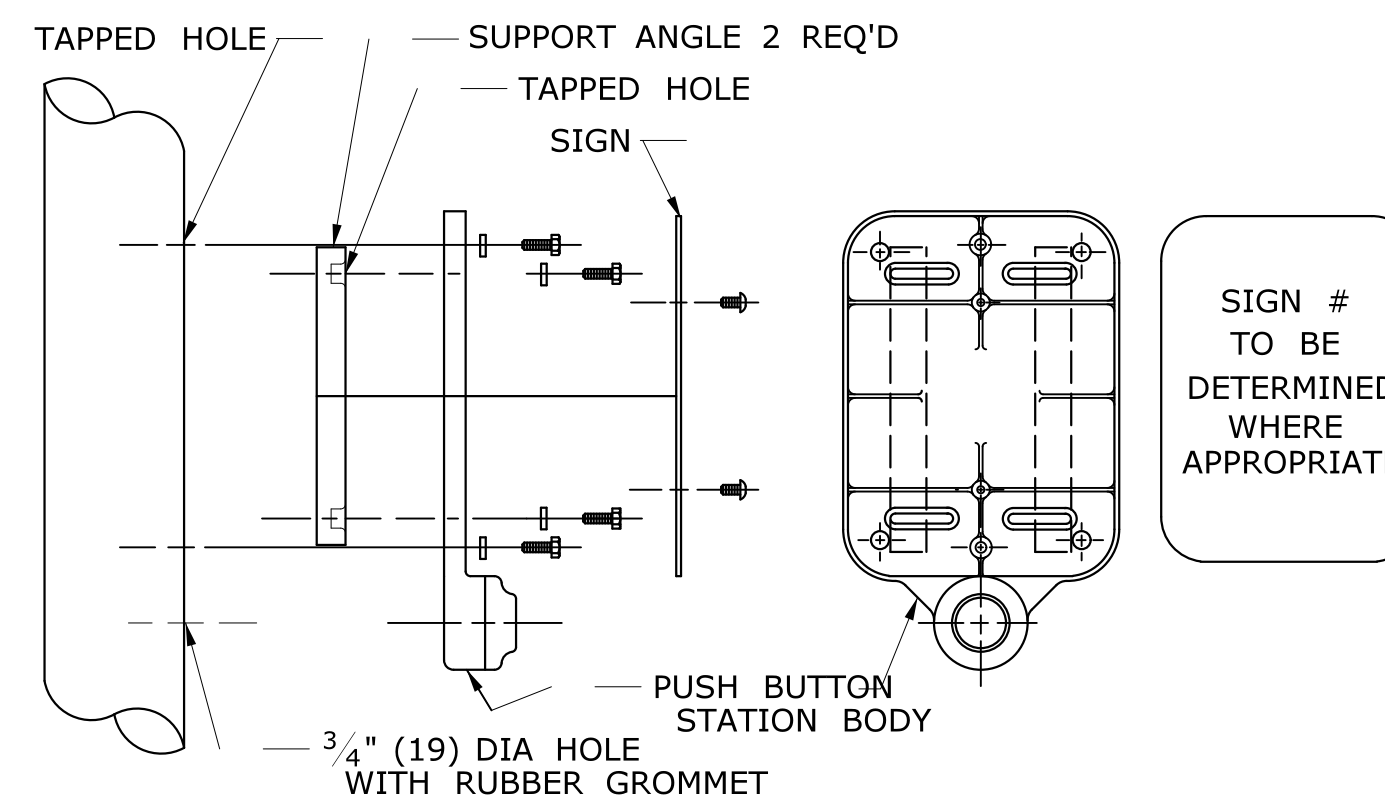
SURFACE MOUNTED



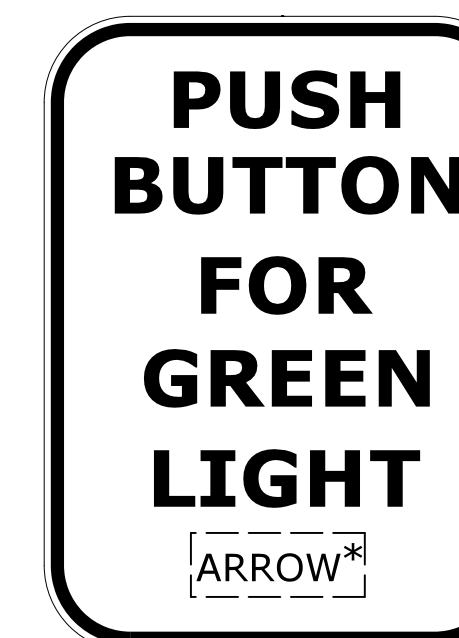
PEDESTAL MOUNTED



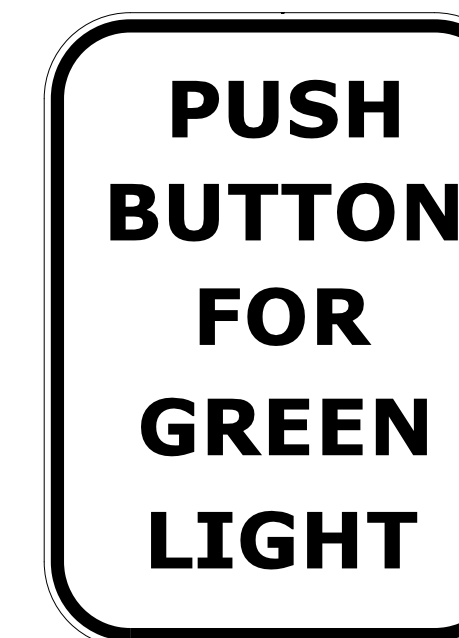
SPAN POLE/MAST ARM MOUNTED



DETAIL A



SIGN # 31-0833
* USE APPROPRIATE ARROW UNLESS OTHERWISE NOTED ON PLAN.

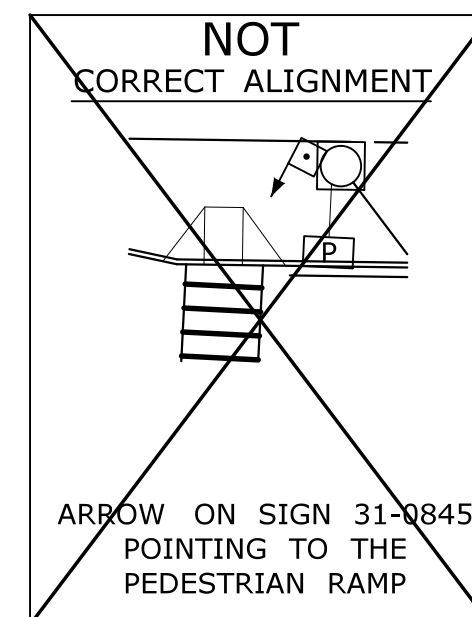
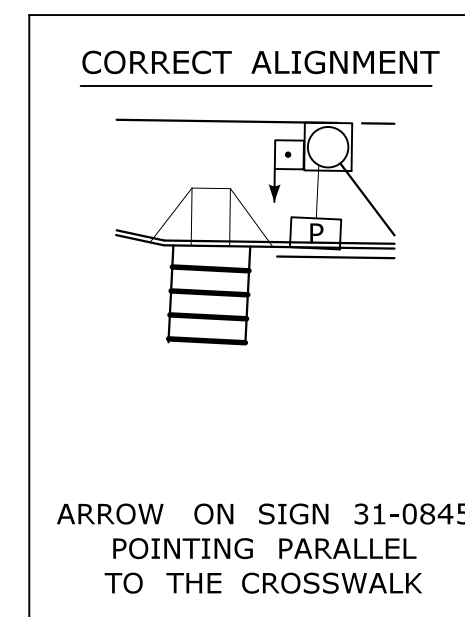


SIGN # 31-0835

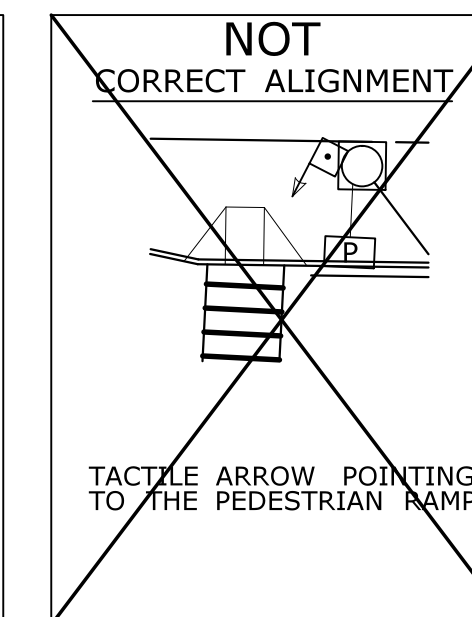
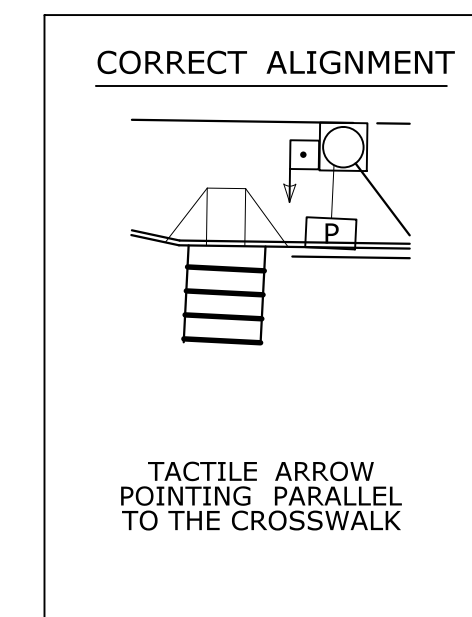
FOR CROSSING WITH SIDE STREET GREEN

GENERAL NOTES:

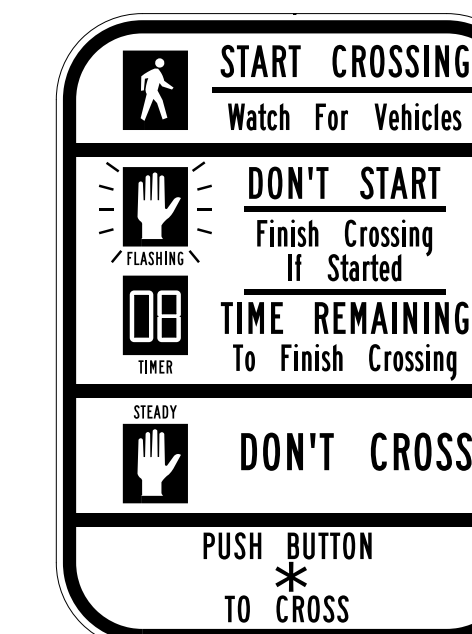
3'-6" (1050) FROM FINISHED GRADE SUCH AS SIDEWALK TO CENTER OF PUSH BUTTON.
 PUSH BUTTON INSTALLATIONS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS FOR ACCESSIBLE DESIGN, CURRENT EDITION GOVERNS.
 4'-4" (1300) PEDESTAL TO INCLUDE ALLOY CAP SECURED WITH STAINLESS STEEL SET SCREW.



PEDESTRIAN PUSH BUTTON ALIGNMENT



ACCESSIBLE PEDESTRIAN SIGNAL AND DETECTOR



SIGN # 31-0845
* USE APPROPRIATE ARROW UNLESS OTHERWISE NOTED ON PLAN.

EXAMPLE ALIGNMENTS FOR EXCLUSIVE PEDESTRIAN PHASE

LEGEND AS SHOWN ON TRAFFIC CONTROL SIGNAL PLAN:
 □ PEDESTRIAN PUSH BUTTON
 □ PEDESTRIAN PUSH BUTTON, PEDESTAL MOUNTED
 □ PEDESTRIAN PUSH BUTTON, POLE MOUNTED

REV.	DATE	REVISION DESCRIPTION
2	4-2014	ADDED PEDESTRIAN EXAMPLE ALIGNMENTS
1	4-2012	MINOR REVISIONS & UPDATED SIGN #31-0845.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.
 Plotted Date: 4/25/2014

DIMENSIONS ARE IN ENGLISH (") & METRIC UNITS (mm).
 METRIC DIMENSIONS ARE ROUNDED:
 - OVER 1" TO NEAREST 5 mm.
 - UNDER 1" TO NEAREST 1 mm.
 NOT TO SCALE

STATE OF CONNECTICUT
 DEPARTMENT OF TRANSPORTATION

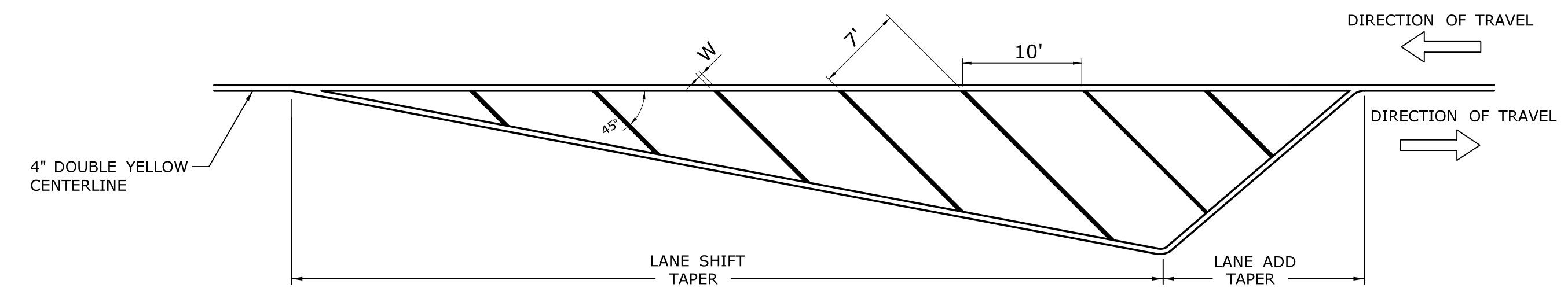
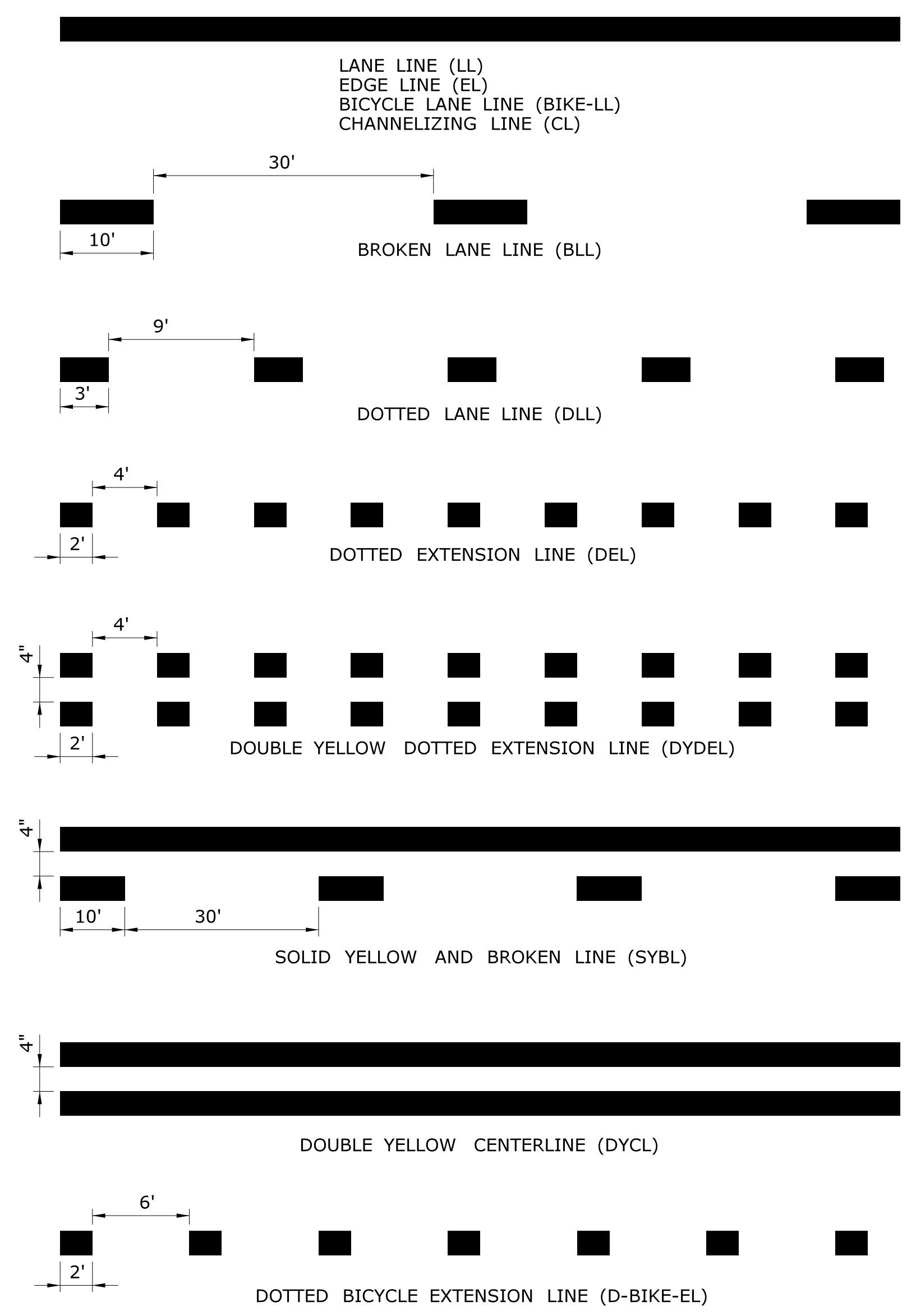
File name: CTDOT_TRAFFIC_STD.DGN Model: TR-1107_01

SUBMITTED BY: NAME/DATE/TIME:
 APPROVED BY: NAME/DATE/TIME:

CTDOT STANDARD SHEET
OFFICE OF ENGINEERING

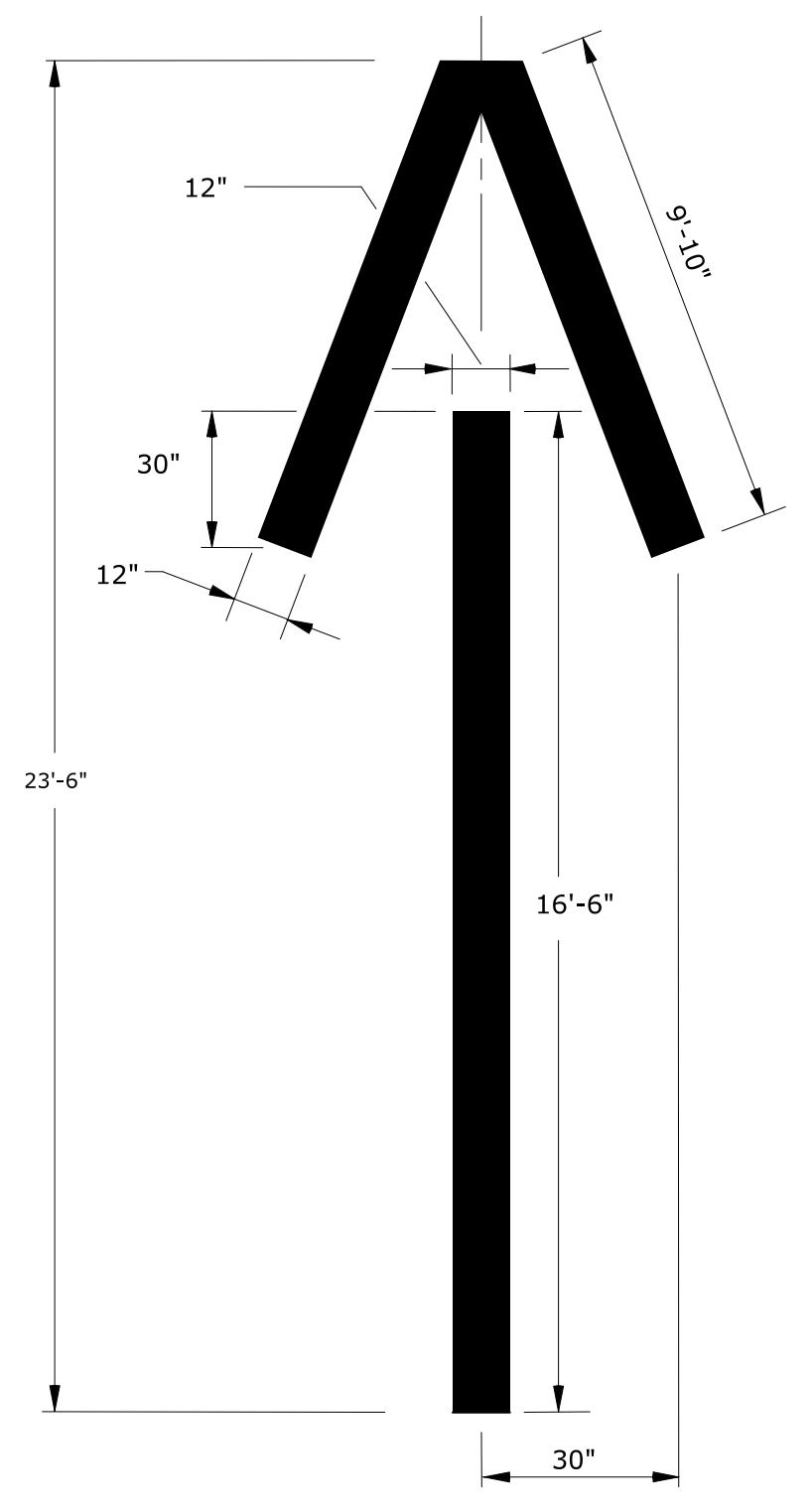
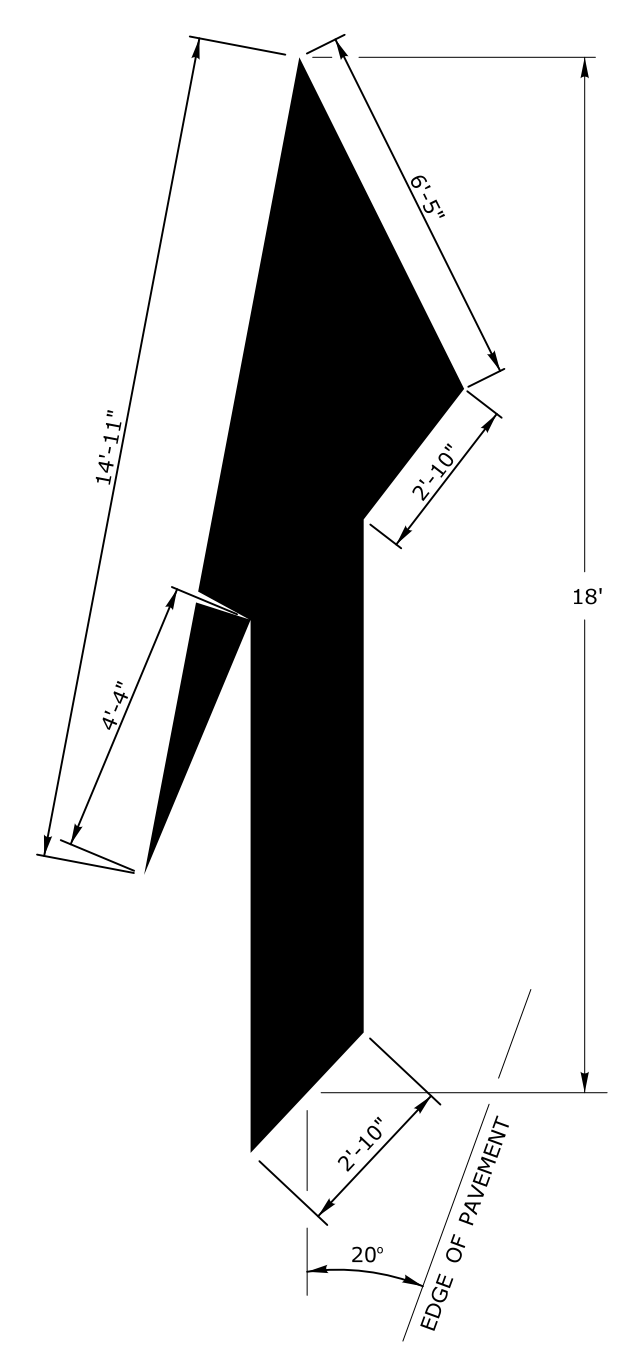
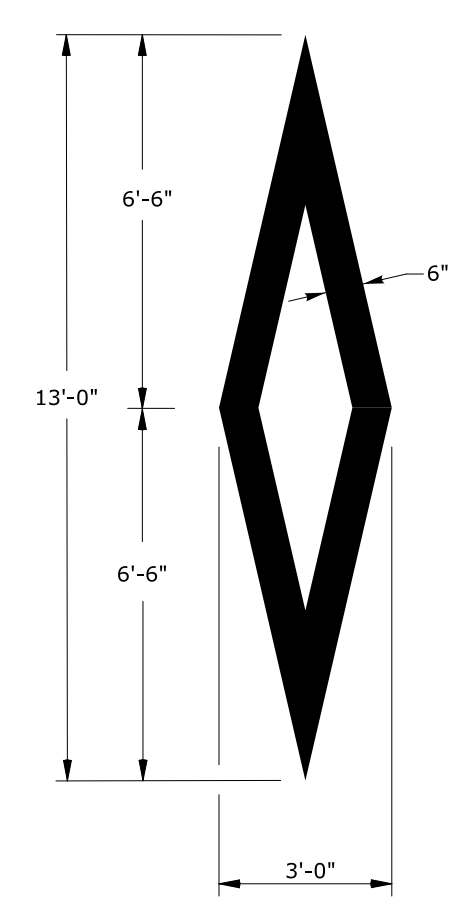
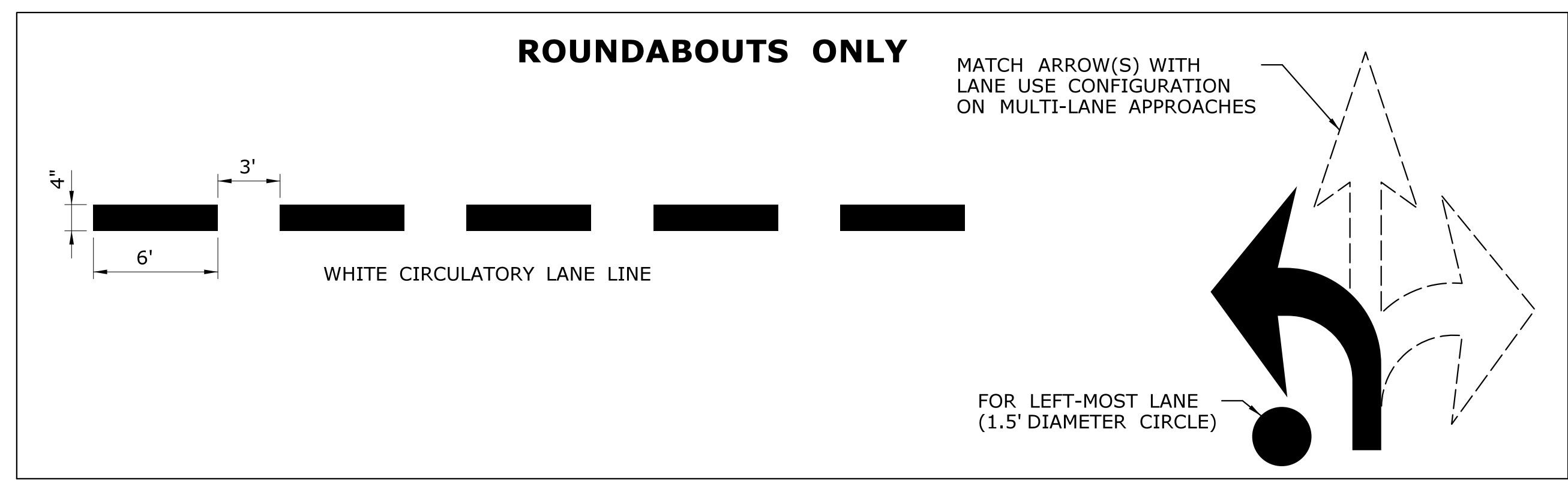
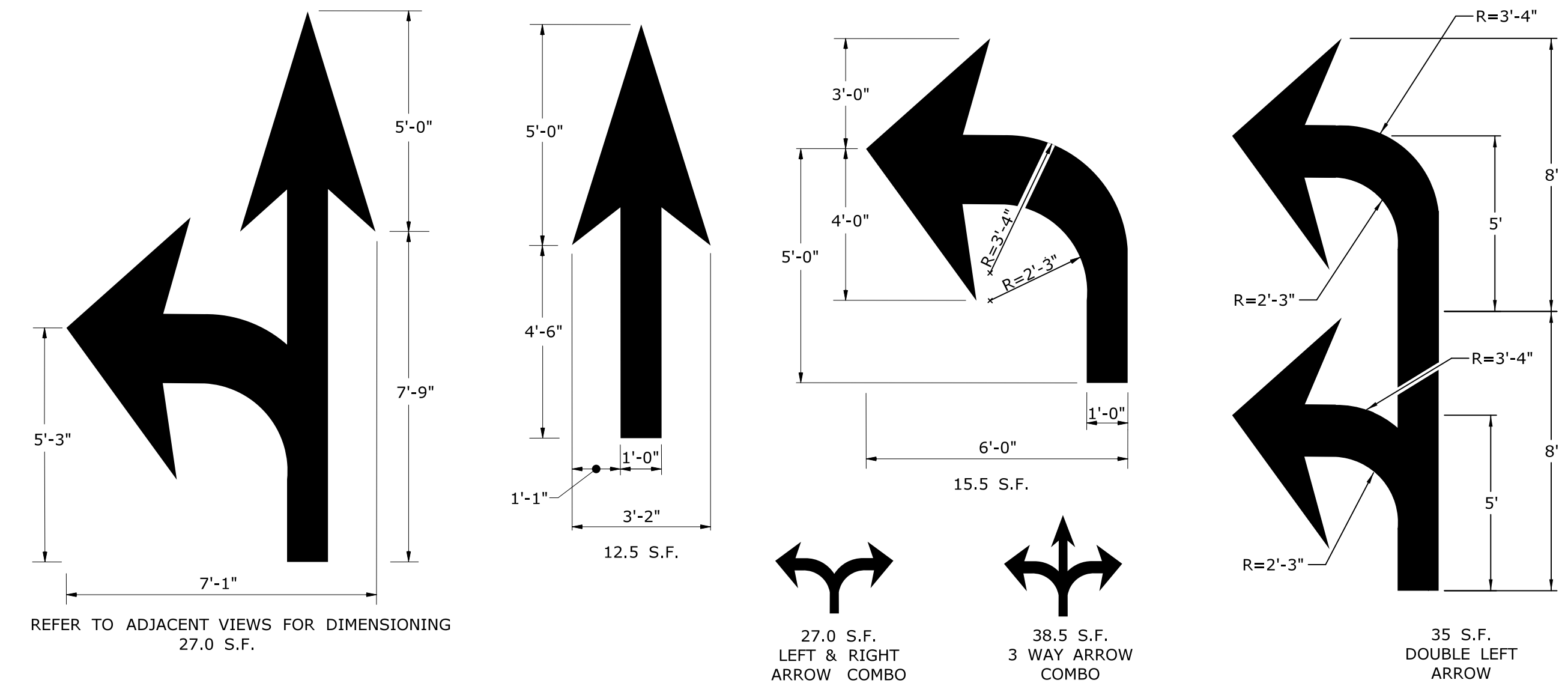
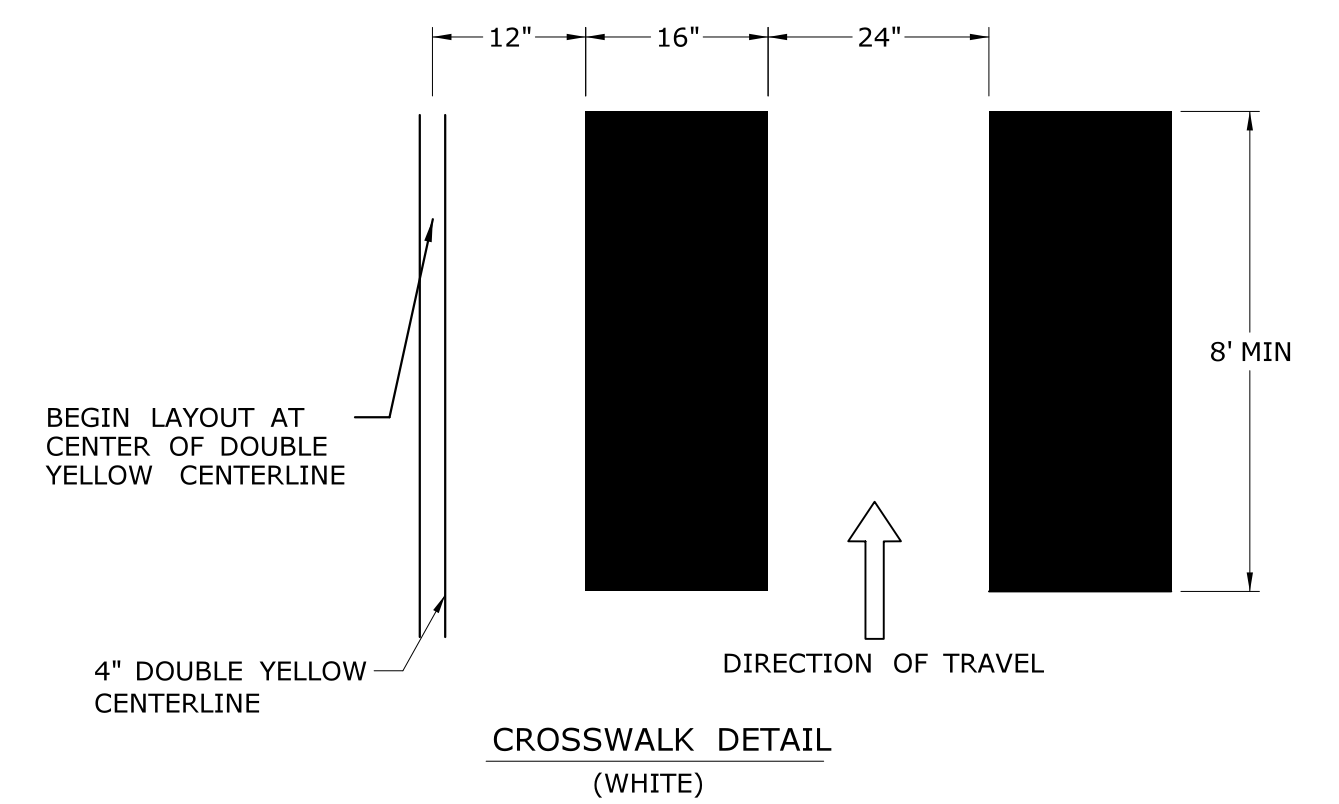
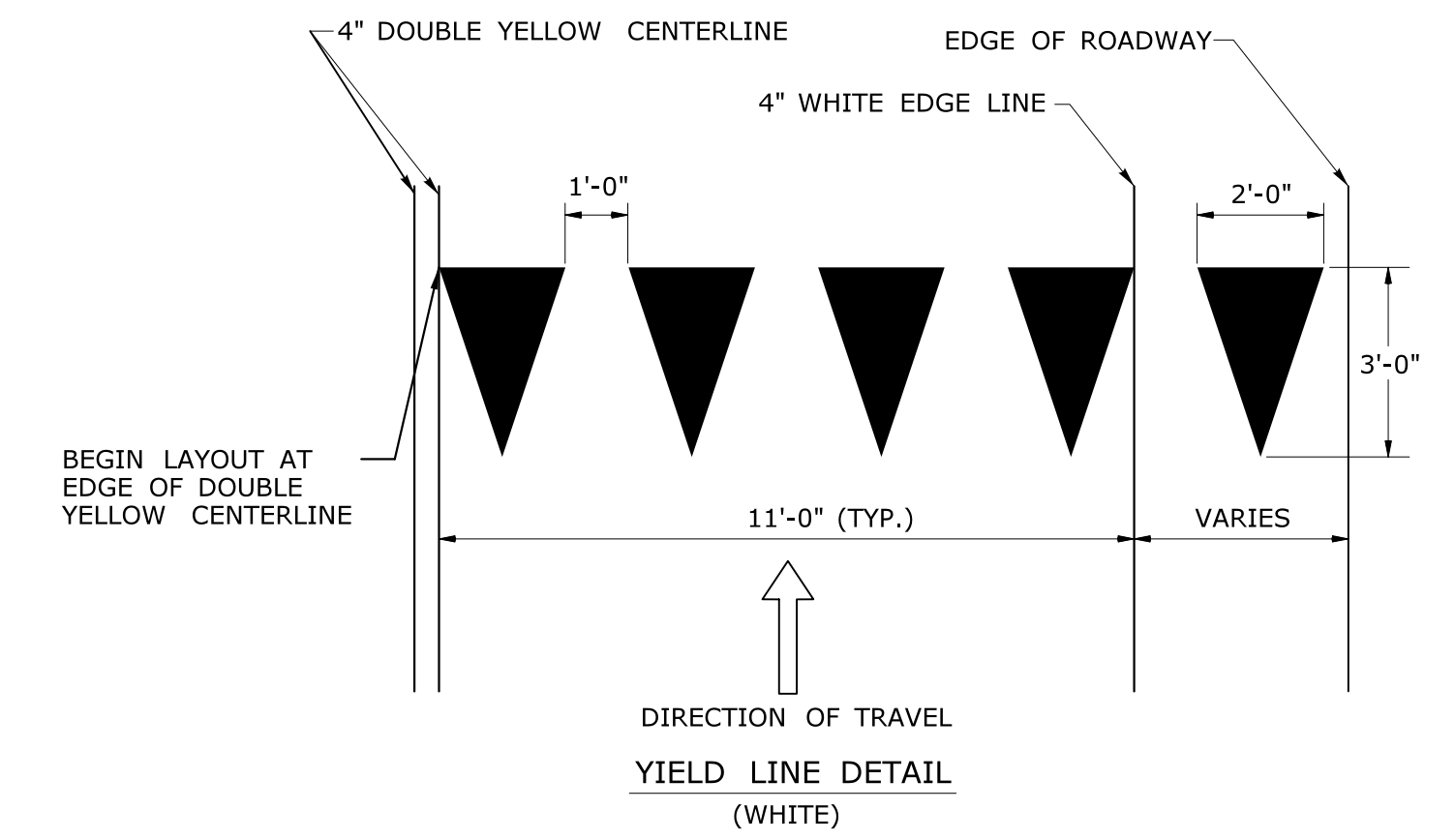
STANDARD SHEET TITLE:
PEDESTRIAN PUSH BUTTONS

STANDARD SHEET NO.:
TR-1107_01

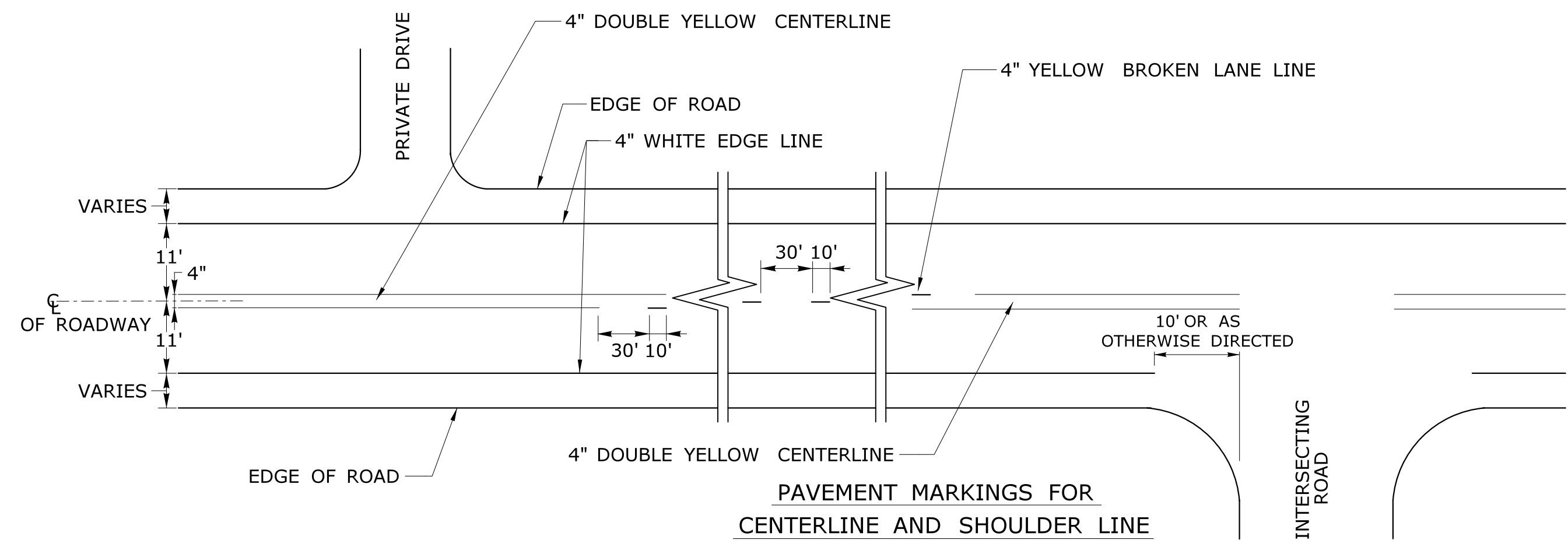


CROSS HATCHED ISLAND DETAIL
(YELLOW)

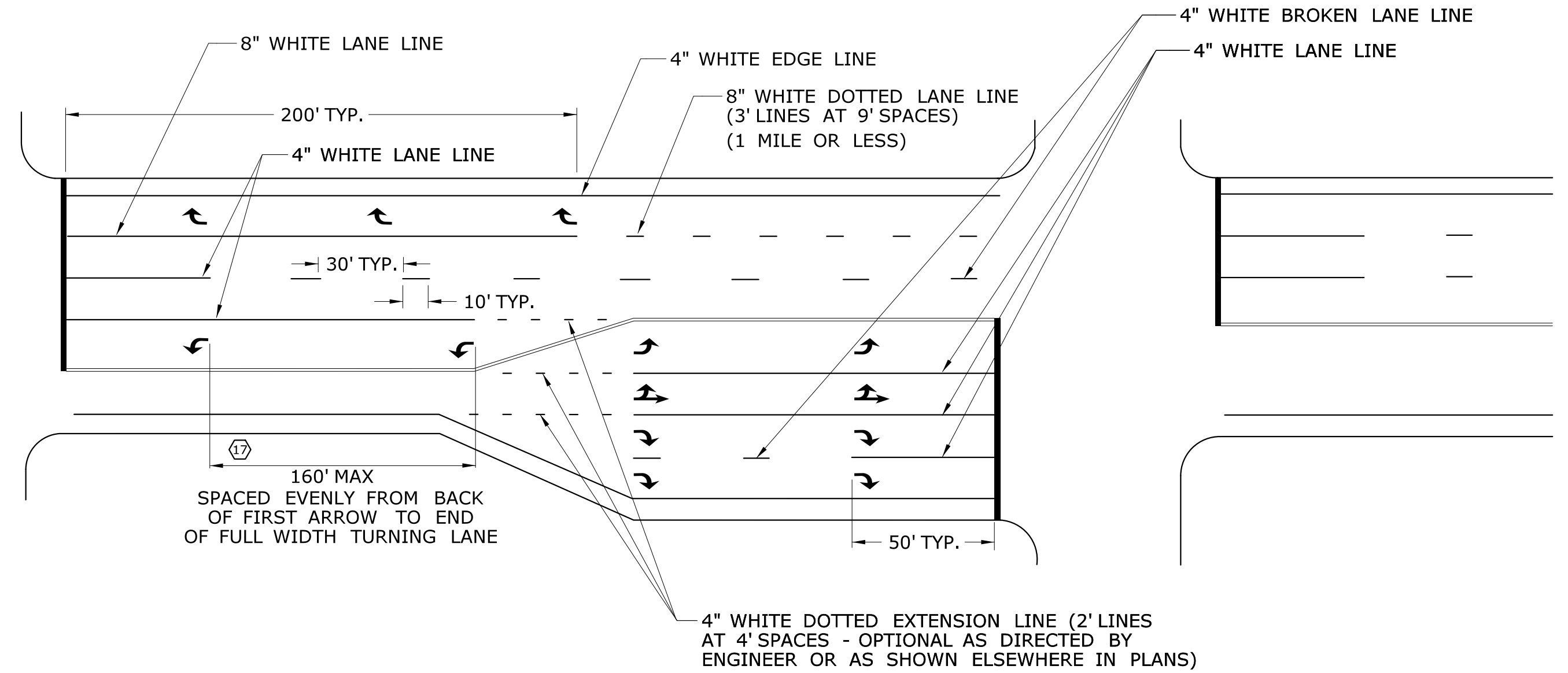
W IS TO BE 6" WHEN POSTED SPEED ≤ 45 MPH
W IS TO BE 12" WHEN POSTED SPEED > 45 MPH
CROSS HATCHED ISLANDS ARE TO BE INSTALLED WHERE CALLED FOR ON THE PLANS



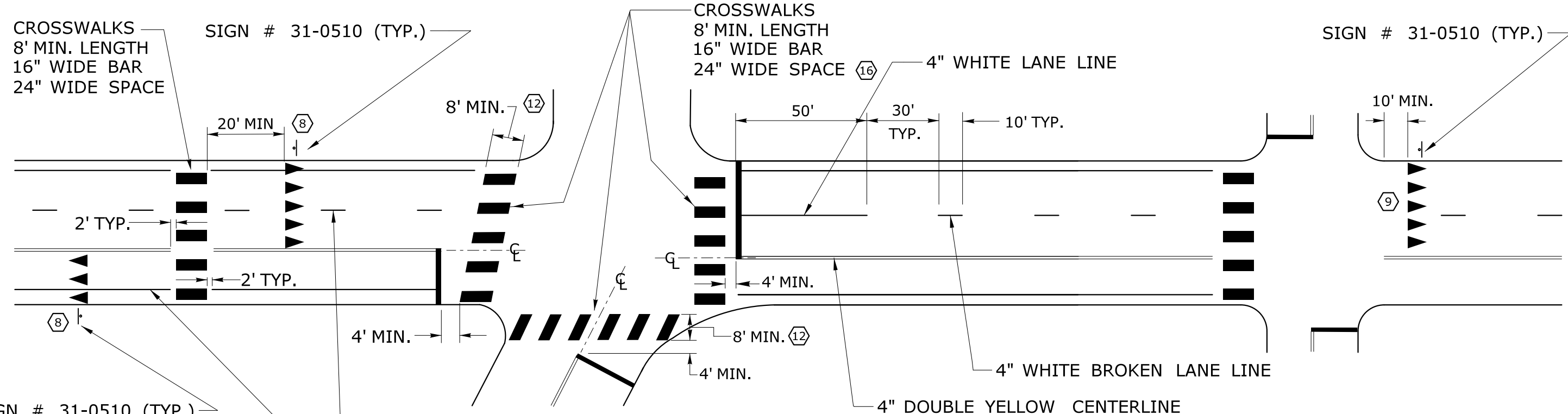
- NOTES :
1. AREA OF PAVEMENT MARKINGS AS INDICATED IS APPROXIMATE.
 2. RIGHT TURN PAVEMENT MARKING ARROWS ARE MIRROR IMAGE OF LEFT TURN PAVEMENT MARKING ARROWS.



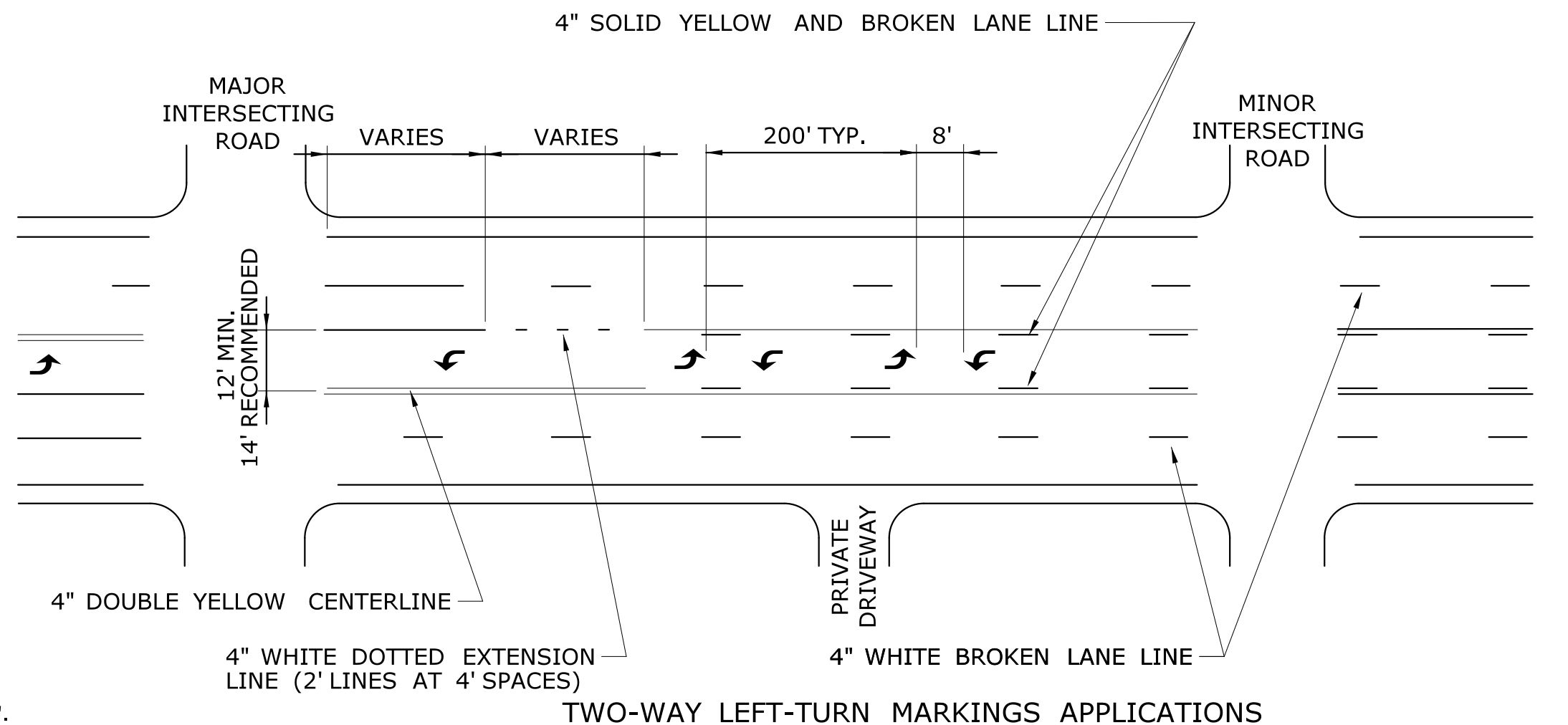
PAVEMENT MARKINGS FOR CENTERLINE AND SHOULDER LINE



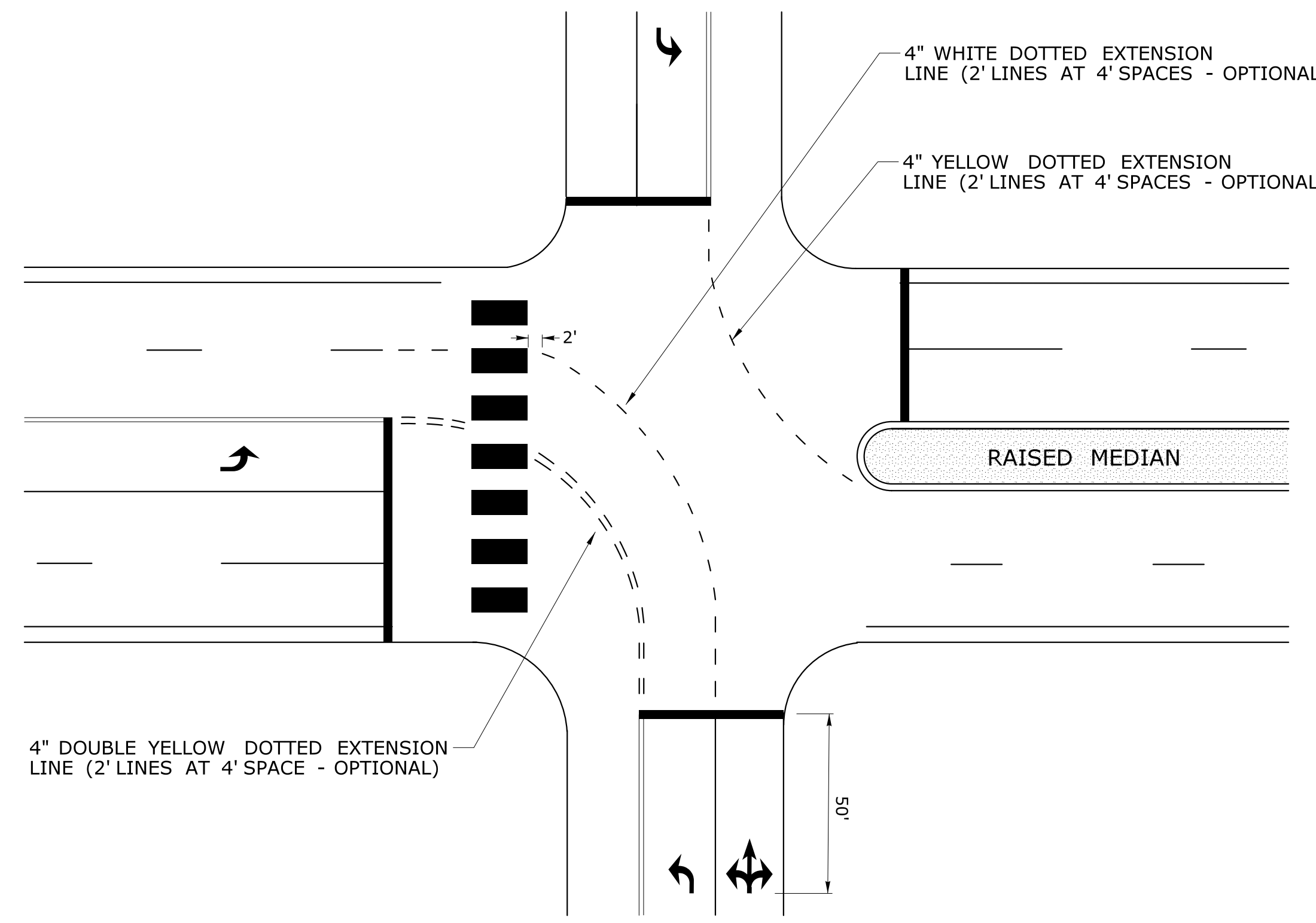
PAVEMENT MARKINGS FOR TURNING LANES AND ROAD LANE-DROP



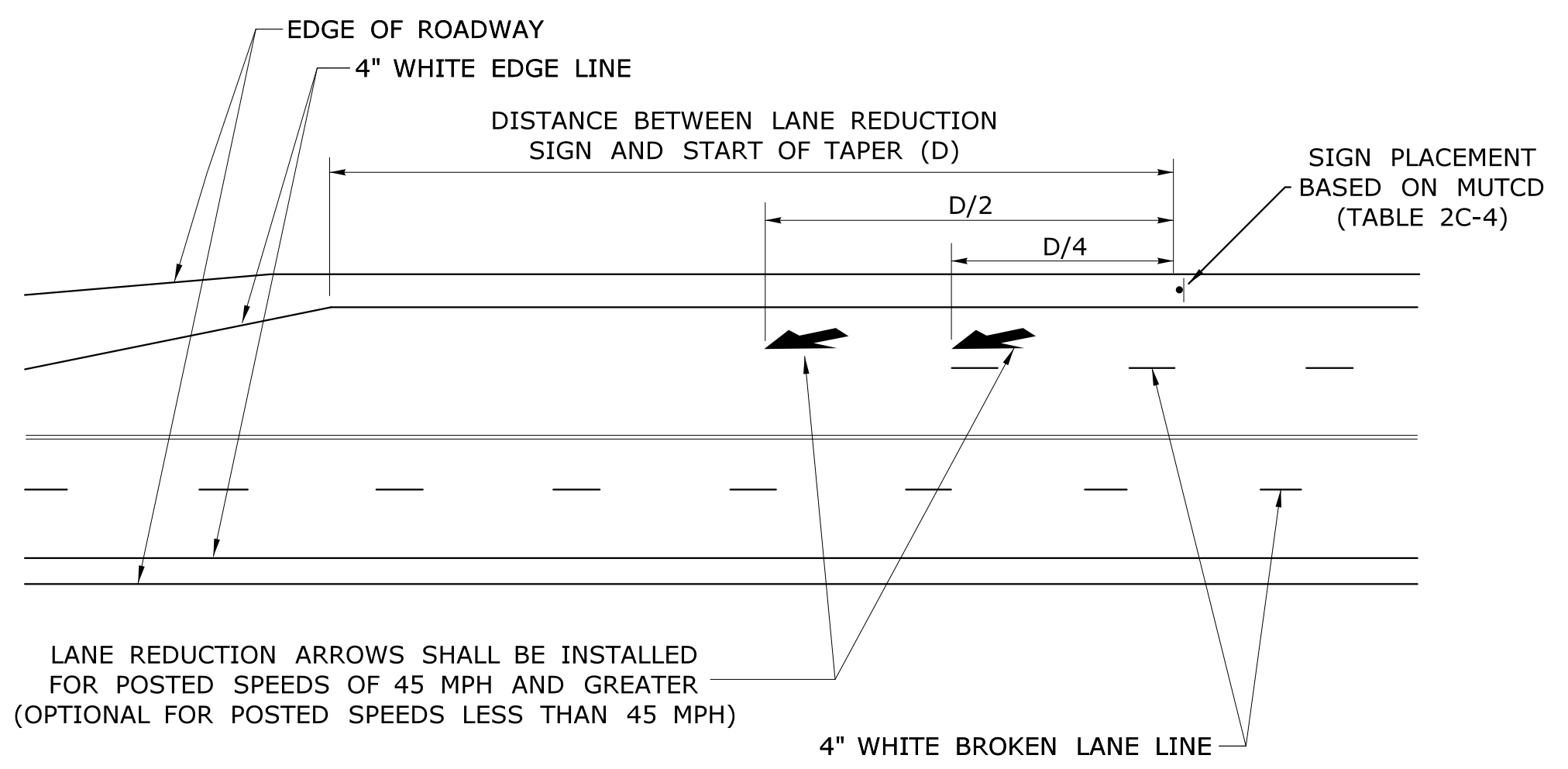
PAVEMENT MARKINGS FOR STOP BARS, YIELD LINES, AND CROSSWALKS



TWO-WAY LEFT-TURN MARKINGS APPLICATIONS



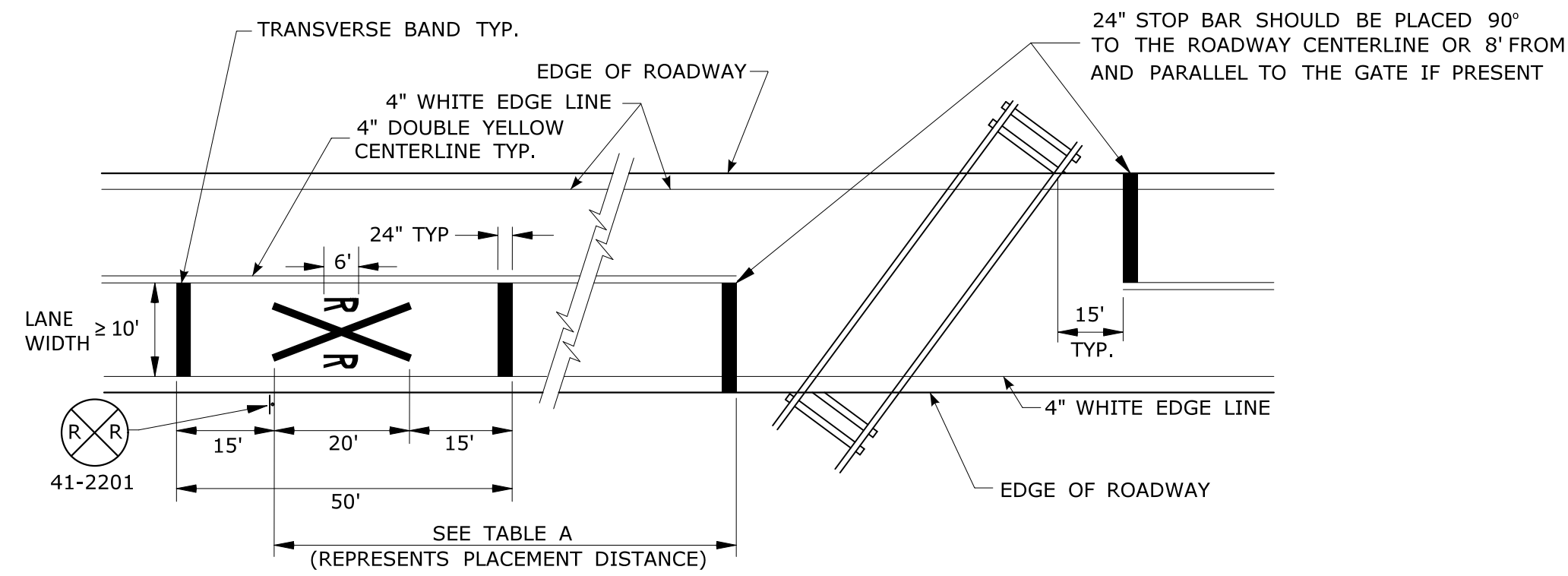
TURNING EXTENSIONS



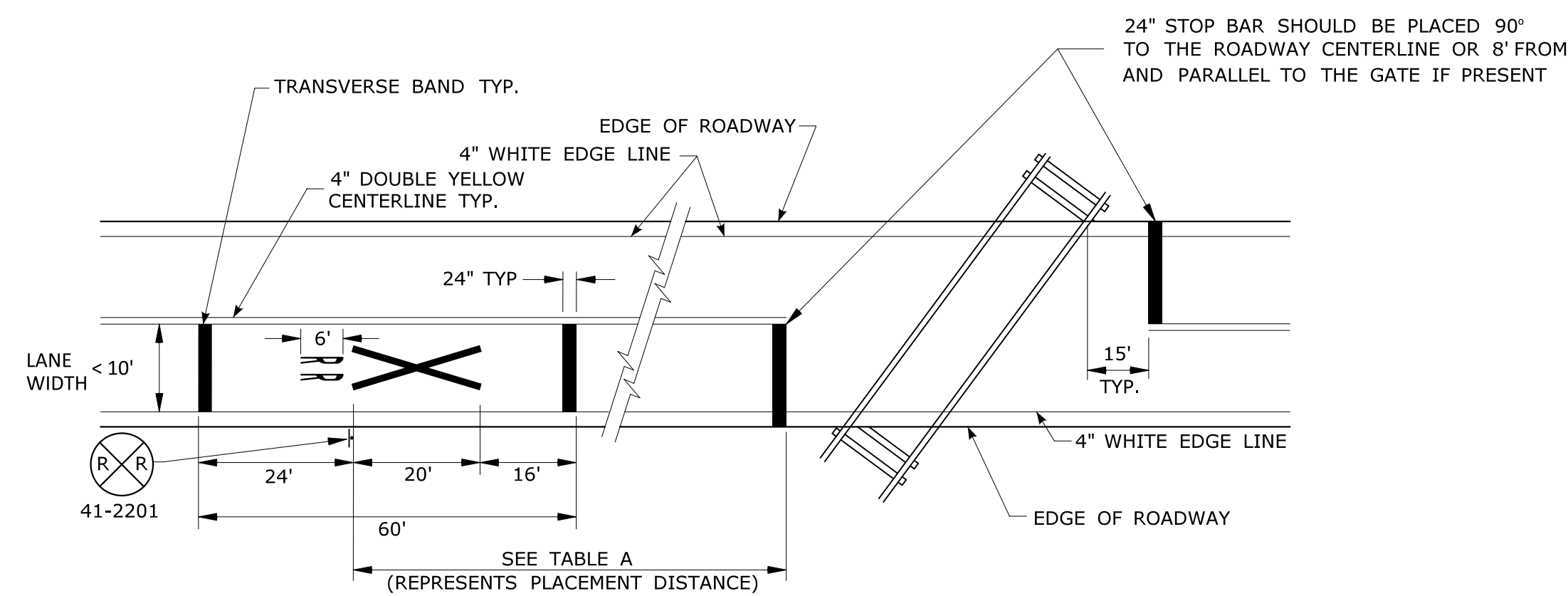
LANE REDUCTION TRANSITIONS

- NOTES:**
STOP BARS AND YIELD LINES
1. STOP BARS AND YIELD LINES SHALL BE WHITE.
 2. STOP BARS SHALL BE 12" MIN. UNLESS OTHERWISE NOTED ON PLANS.
 3. STOP BARS TO BE PLACED A MINIMUM OF 4' IN ADVANCE OF THE NEAREST EDGE OF CROSSWALK AND SHOULD BE PLACED 90° TO THE CENTERLINE OF THE ROADWAY.
 4. IN THE ABSENCE OF A MARKED CROSSWALK THE STOP BAR SHOULD BE PLACED 90° TO THE CENTERLINE OF THE ROADWAY, AT THE DESIRED STOPPING POINT AT LEAST 5' AND NO MORE THAN 30' FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY.
 5. THE STOP SIGN SHOULD BE PLACED IN LINE WITH THE STOP BAR. HOWEVER, IF THE STOP SIGN CANNOT BE LOCATED EXACTLY WHERE VEHICLES ARE EXPECTED TO STOP, THE STOP BAR SHOULD BE PLACED AT THE STOPPING POINT.
 6. FOR STOP BARS AT RAMP SEE DETAILS "R", "S", "T", & "U" AND NOTES ON TRAFFIC STANDARD SHEET TR-1210 07 "PAVEMENT MARKINGS FOR DIVIDED HIGHWAYS EXIT RAMP".
 7. FOR YIELD LINE INSTALLATIONS, ONLY FULL TRIANGLES ARE TO BE INSTALLED.
 8. MID-BLOCK CROSSWALKS ARE CROSSWALKS LOCATED MORE THAN 50 FEET FROM A SIGNALIZED OR UNSIGNALIZED INTERSECTION. YIELD LINES ASSOCIATED WITH MIDBLOCK CROSSWALKS SHOULD BE INSTALLED 20 TO 50 FEET IN ADVANCE OF THE NEAREST CROSSWALK LINE OR AS DIRECTED BY THE ENGINEER. SIGN # 31-0510 IS REQUIRED.
 9. FOR CROSSWALKS AT UNSIGNALIZED INTERSECTIONS WITH MINOR STREET STOP CONTROL, YIELD LINES SHALL BE INSTALLED ON MULTI-LANE APPROACHES, BUT NOT SINGLE LANE APPROACHES.
 10. THE YIELD SIGN SHOULD BE PLACED IN LINE WITH A YIELD LINE. HOWEVER, IF THE YIELD SIGN CANNOT BE LOCATED EXACTLY WHERE VEHICLES ARE EXPECTED TO YIELD, THE YIELD LINE SHOULD BE PLACED AT THE YIELDING POINT.
- CROSSWALKS**
11. CROSSWALK MARKINGS SHALL BE WHITE.
 12. AT LOCATIONS WHERE THE CROSSWALK IS SKEWED, BARS TO BE PARALLEL TO ϵ AND ENDS OF BARS TO BE PARALLEL. THE LENGTH OF THE BARS WILL VARY DEPENDING ON THE ANGLE OF SKEW.
 13. BARS SHOULD BE NO CLOSER THAN 1' FROM EDGE OF ROAD.
 14. ONLY FULL LENGTH BARS ARE TO BE INSTALLED.
 15. DECORATIVE CROSSWALKS SHALL BE BANDED FROM CURB TO CURB WITH A MINIMUM 12" WIDE WHITE TRANSVERSE LINE ALONG EACH EDGE.
 16. 24" WIDE SPACE TO BE CENTERED ON YELLOW CENTERLINE.
- PAVEMENT MARKINGS FOR TURNING LANES**
17. INSTALL AT LEAST TWO ARROWS PER LANE WHERE STORAGE LENGTH IS GREATER THAN 150 FEET.

TYPICAL RAILROAD GRADE CROSSING DETAIL (LANE WIDTH ≥ 10')



TYPICAL RAILROAD GRADE CROSSING DETAIL (LANE WIDTH < 10')



NOTES:

GENERAL:

- AREA OF PAVEMENT MARKING SYMBOLS AS INDICATED IS APPROXIMATE.
- REFER TO STANDARD SHEET TR-1210_04 FOR PAVEMENT MARKING LINE DETAILS.

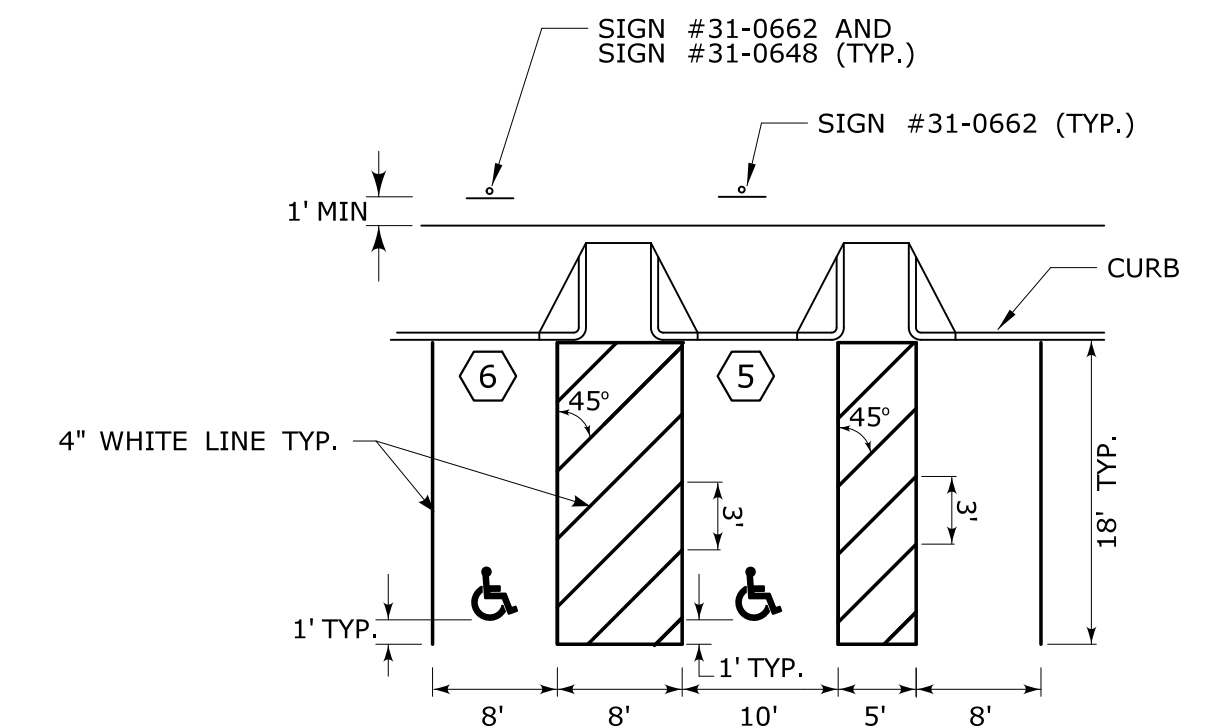
RAILROAD GRADE CROSSINGS:

- RAILROAD MARKINGS SHALL BE WHITE.
- ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS THE APPROACH LANES AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE.

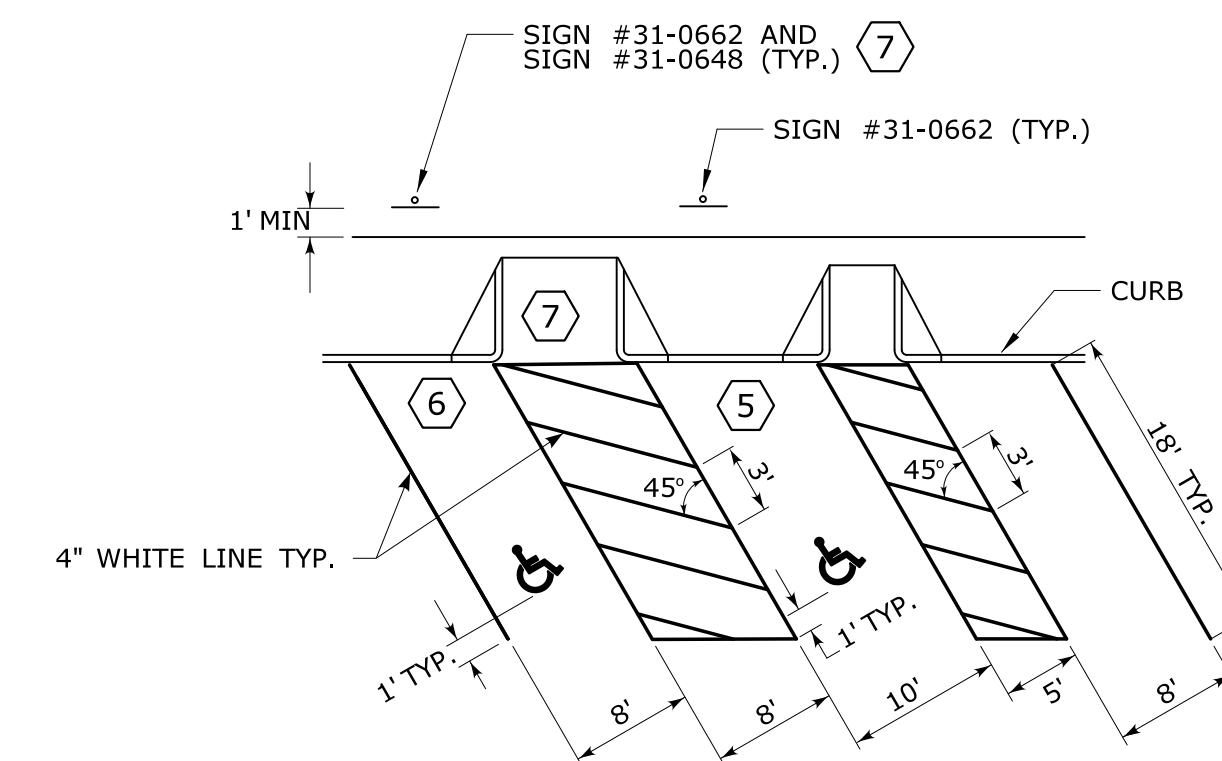
PARKING STALLS:

- AUTOMOBILE ACCESSIBLE PARKING SPACES SHALL BE 15' WIDE INCLUDING 5' OF CROSSHATCH.
- VAN ACCESSIBLE PARKING SPACES SHALL BE 16' WIDE INCLUDING 8' OF CROSSHATCH.
- ACCESS AISLES FOR ANGLED VAN PARKING SPACES SHALL BE LOCATED ON THE PASSENGER SIDE OF THE PARKING SPACE.
- CROSS HATCHED ACCESS AISLES SHALL NOT BE SHARED BETWEEN PARKING SPACES.

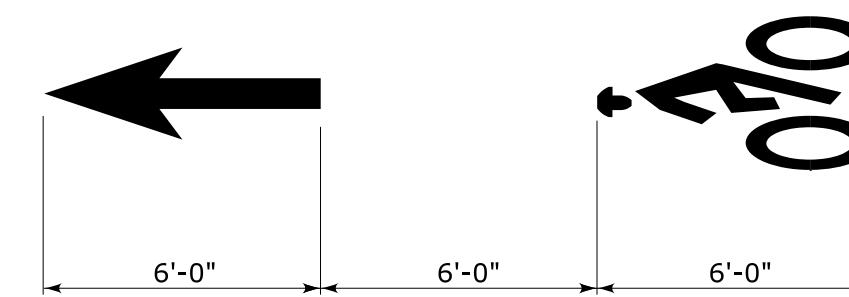
TYPICAL PERPENDICULAR PARKING STALLS DETAIL



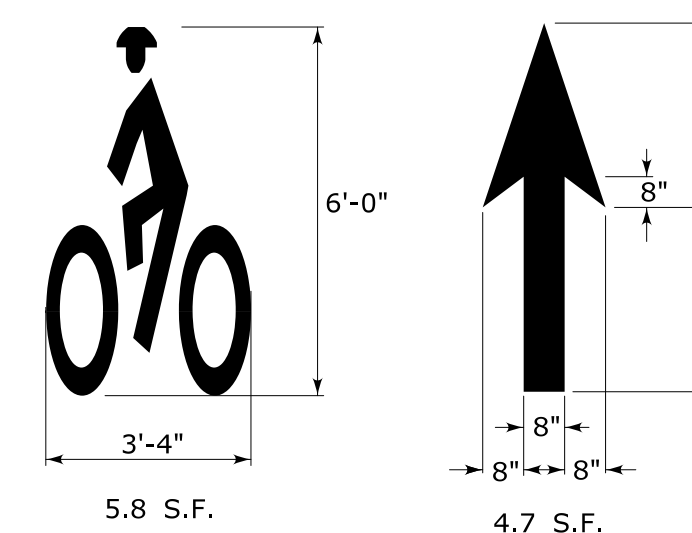
TYPICAL ANGLE PARKING STALLS DETAIL



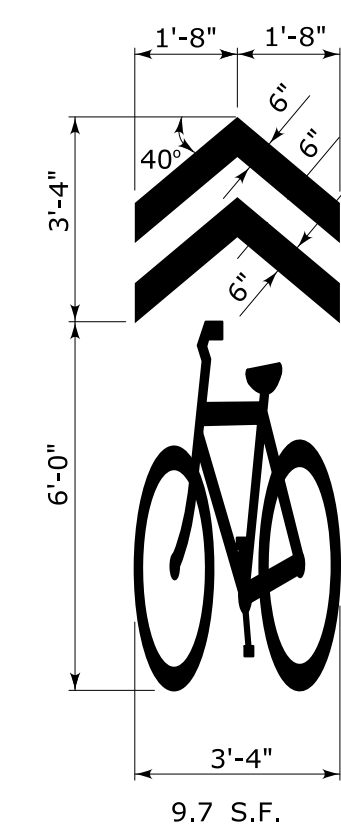
TYPICAL LONGITUDINAL SPACING



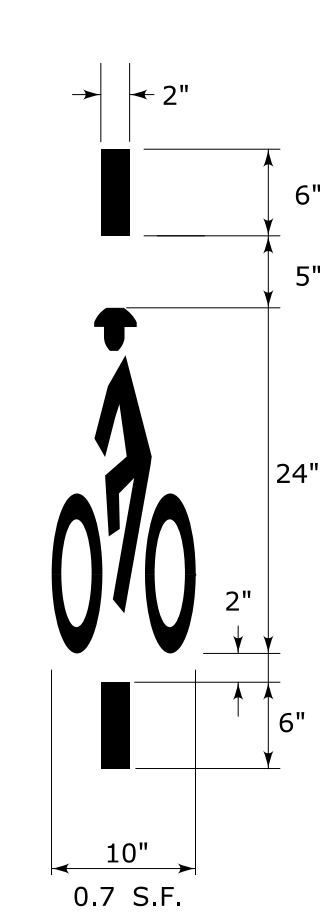
BICYCLE LANE SYMBOL MARKINGS



SHARED LANE SYMBOL MARKING



BICYCLE DETECTOR SYMBOL MARKING



ACCESSIBLE PARKING SPACE SYMBOL

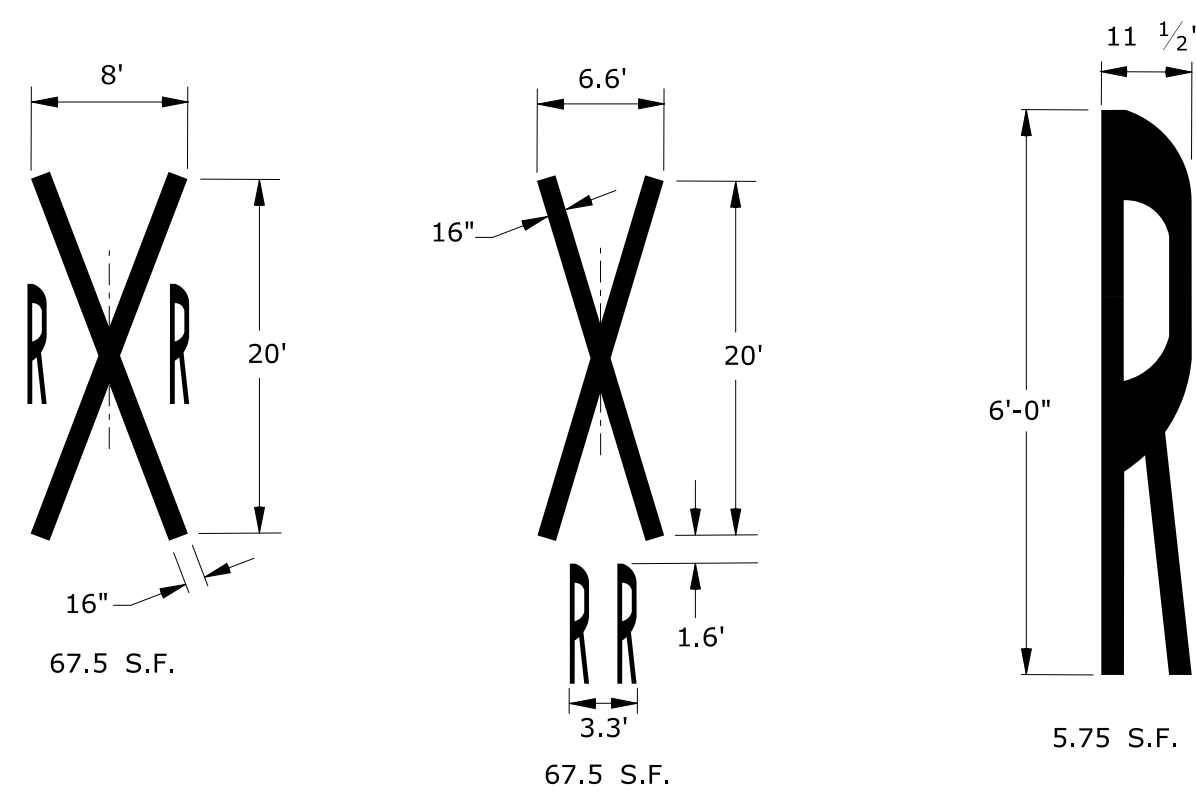
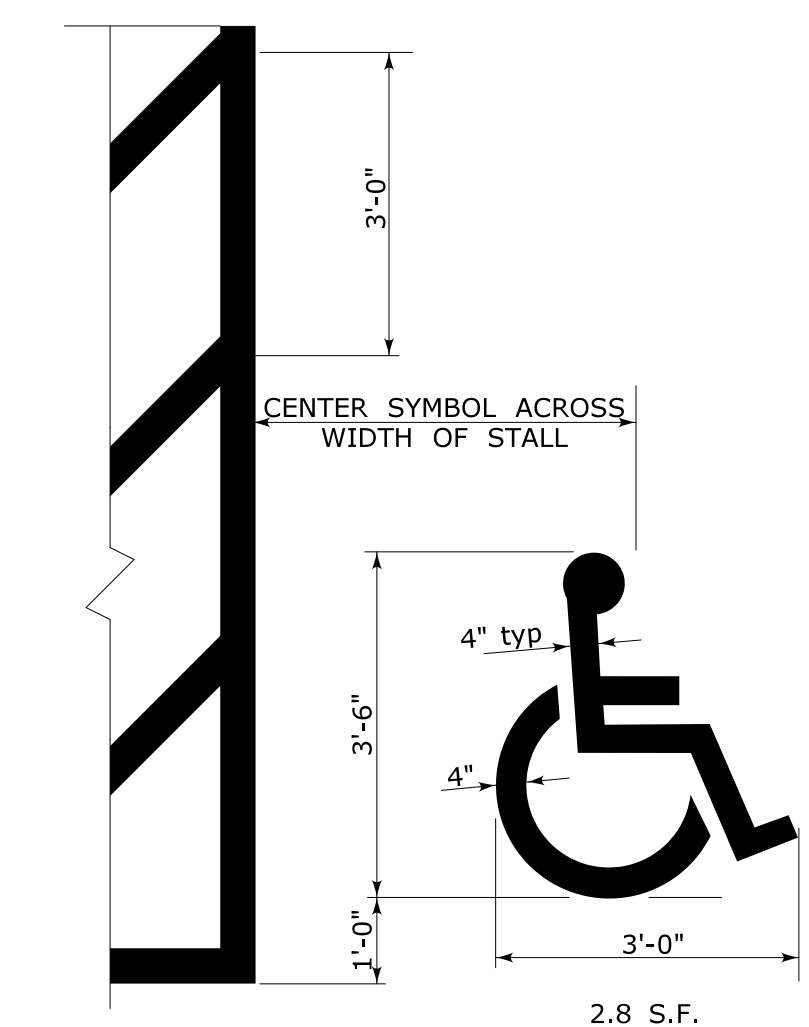


TABLE A	
POSTED OR 85 PERCENTILE SPEED M.P.H.	MINIMUM DISTANCE FT.
20	100
25	100
30	100
35	100
40	125
45	175
50	250
55	325
60	400
65	475