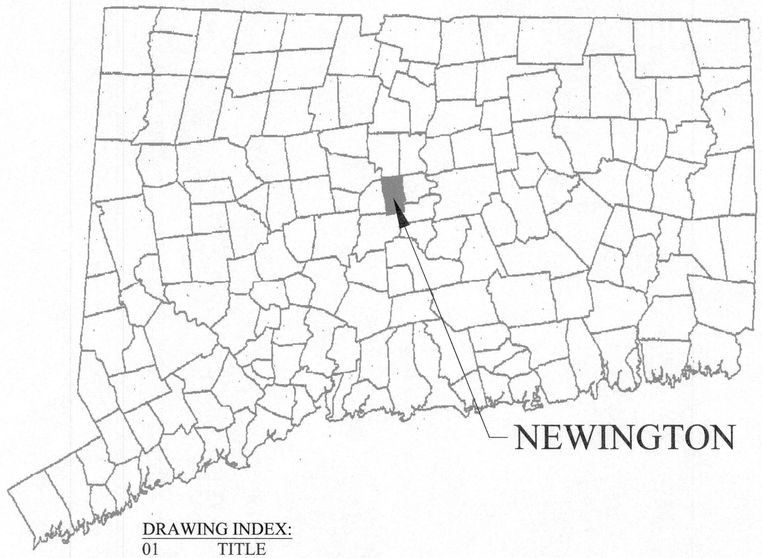
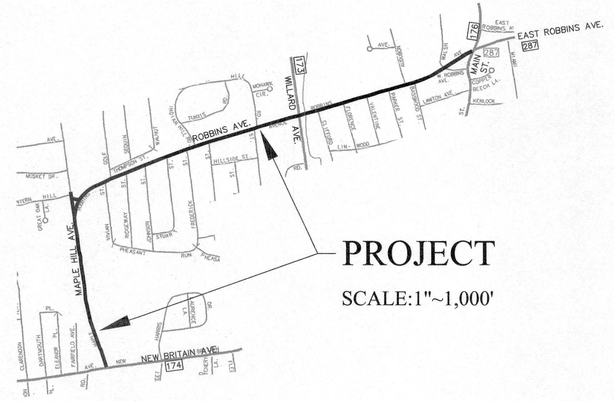
# MAPLE HILL AVENUE AND ROBBINS AVENUE
# COMPLETE STREETS PROJECT
## TOWN OF NEWINGTON, CONNECTICUT
## STATE PROJECT NO. L093-0001
## JULY 19, 2021




DRAWING INDEX:


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CONNDOT STANDARD DRAWINGS:

| | |
|---|---|
| HW-0286_01 | DRAINAGE TRENCH EXCAVATION |
| HW-0586_01 | CATCH BASIN AND DROP INLET TYPES "C" AND "C-L" |
| HW-0586_04 | PRECAST CATCH BASIN AND ROUND STRUCTURE |
| HW-0586_07 | CATCH BASIN TOPS TYPES "C" AND "C-L" |
| HW-0586_08 | CATCH BASIN FRAMES AND GRATES |
| HW-0586_10a | MANHOLE FRAME AND COVER |
| HW-0586_10c | REINFORCED PRECAST CONCRETE MANHOLE |
| HW-0811_01 | CONCRETE CURBING |
| HW-0813_02 | STONE CURBING |
| HW-0815_01 | BITUMINOUS CONCRETE CURBING |
| HW-0921_01 | DRIVEWAY RAMPS AND SIDEWALKS |
| TR-1000_01 | GENERAL CLAUSES (TEST PROCEDURES) |
| TR-1102_01 | PEDESTAL, PEDESTRIAN SIGNALS |
| TR-1105_01 | TRAFFIC SIGNALS AND CABLE ASSIGNMENTS |
| TR-1107_01 | PEDESTRIAN PUSH BUTTONS |
| TR-1208_01 | SIGN PLACEMENT AND RETROREFLECTIVE STRIP DETAILS |
| TR-1208_02 | METAL SIGN POSTS AND SIGN MOUNTING DETAILS |
| TR-1210_04 | PAVEMENT MARKINGS, LINES, AND SYMBOLS |
| TR-1210_08 | PAVEMENT MARKINGS ON NON-FREEWAYS |
| TR-1220_01 | SIGNS FOR CONSTRUCTION AND PERMIT OPERATION |
| TR-1220_02 | CONSTRUCTION SIGN SUPPORT AND CHANNELIZING DEVICES |

CALL 811 BEFORE YOU DIG — 811 — SAFE DIGGING PARTNER


vhb

100 GREAT MEADOW ROAD, SUITE 200
WETHERSFIELD, CT 06109
860-807-4300

BILL A. ANDERSON, PE - VHB
SENIOR PROJECT MANAGER

STATE OF CONNECTICUT — BILL A. ANDERSON — No. 25226 — LICENSED PROFESSIONAL ENGINEER

KEITH CHAPMAN, TOWN MANAGER
TOWN OF NEWINGTON


MAPLE HILL AVENUE AND ROBBINS AVENUE ARE MAINTAINED BY THE TOWN OF NEWINGTON. THE TRAFFIC SIGNAL AT ROBBINS AVENUE AND ROUTE 176 (MAIN STREET), ROBBINS AVENUE AND ROUTE 173 (WILLARD AVENUE), AND MAPLE HILL AVENUE AND ROUTE 174 (NEW BRITAIN AVENUE) ARE MAINTAINED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION. THE TRAFFIC SIGNAL AT THE INTERSECTION OF MAPLE HILL AVENUE AND ROBBINS AVENUE IS MAINTAINED BY THE TOWN OF NEWINGTON.

2020 CONNECTICUT DEPARTMENT OF TRANSPORTATION SPECIFICATIONS FORM 818 AND SUPPLEMENTALS - JANUARY 2021 GOVERN.

REVISIONS:

vhb

COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
200 GARFIELD STREET NEWINGTON, CT. 06111

| DATUMS: |
|---|
| HORIZONTAL NAD 83 |
| VERTICAL NAVD 88 |
| PROJECT 18007 |
| DATE 06 / 14/ 2021 |
| DRAWN EAN |
| CHECK BAA |
| SHEET 01 OF 44 |
| SCALE: AS NOTED |

| ITEM | | UNIT | MAPLE HILL AVENUE | ROBBINS AVENUE | VIVIAN STREET PAVED PATH | TOTAL |
|---|---|---|---|---|---|---|
| CLEARING AND GRUBBING | 0201001A | LS | | | 1 | 1 |
| EARTH EXCAVATION | 0202000 | CY | 0 | 1352 | 108 | 1,460 |
| CUT BITUMINOUS CONCRETE PAVEMENT | 0202529 | LF | 352 | 3192 | 0 | 3,544 |
| FORMATION OF SUBGRADE | 0203001 | SY | 0 | 900 | 0 | 900 |
| FLOWABLE FILL | 0210111A | CY | 0 | 3 | 0 | 3 |
| SEDIMENTATION CONTROL SYSTEM | 0219001 | LF | 0 | 800 | 960 | 1,760 |
| SEDIMENT CONTROL SYSTEM AT CATCH BASIN | 0219011A | EA | 24 | 72 | 0 | 96 |
| PROCESSED AGGREGATE BASE | 0304002 | CY | 4 | 622 | 210 | 836 |
| HOT MIX ASPHALT LEVELING/SHIM COURSE | 4061611A | TON | 0 | 75 | 0 | 75 |
| HMA S0.5 | 0401671 | TON | 4 | 465 | 0 | 469 |
| HMA S0.375 | 0401672 | TON | 1377 | 3723 | 80 | 5,180 |
| CLEANING AND SEALING CRACKS | 0402600A | LF | 2650 | 6100 | 0 | 8,750 |
| MATERIAL FOR TACK COAT | 0402676 | GAL | 841 | 2392 | 23 | 3,256 |
| MATERIAL TRANSFER VEHICLE | 0406600 | TON | 400 | 5721 | 0 | 6,121 |
| ASPHALT ADJUSTMENT COST | 0409999A | EST | 0 | 0 | 0 | 1 |
| FINE MILLING BITUMINOUS CONCRETE (0" TO 4") | 0409001 | SY | 11975 | 31684 | 0 | 43,659 |
| TYPE "C" CATCH BASIN - 0' - 10' DEEP | 0566001.10 | EA | 0 | 3 | 0 | 3 |
| SPECIAL ROUND TYPE 'C' CATCH BASIN - 0' - 10' DEEP | 0566025.10 | EA | 0 | 1 | 0 | 1 |
| MANHOLE - 0'-10' DEEP | 0566500.10 | EA | 0 | 1 | 0 | 1 |
| RESET TYPE "C" CATCH BASIN | 0566601 | EA | 20 | 60 | 0 | 80 |
| RESET TYPE "C" CATCH BASIN DOUBLE GRATE TYPE 1 | 0566603 | EA | 1 | 0 | 0 | 1 |
| RESET TYPE "C" CATCH BASIN DOUBLE GRATE TYPE 2 | 0566605 | EA | 2 | 0 | 0 | 2 |
| RESET TYPE "C-L" CATCH BASIN | 0566620 | EA | 1 | 3 | 0 | 4 |
| RESET MANHOLE (STORM) | 0566651 | EA | 4 | 5 | 0 | 9 |
| CONVERT CB TO MANHOLE | 0566703 | EA | 0 | 1 | 0 | 1 |
| TYPE "C" CATCH BASIN TOP | 0566750 | EA | 20 | 58 | 0 | 78 |

| ITEM | | UNIT | MAPLE HILL AVENUE | ROBBINS AVENUE | VIVIAN STREET PAVED PATH | TOTAL |
|---|---|---|---|---|---|---|
| TYPE "C" CATCH BASIN TOP DOUBLE GRATE TYPE I | 0586751 | EA | 1 | 0 | 0 | 1 |
| TYPE "C" CATCH BASIN TOP DOUBLE GRATE TYPE II | 0586752 | EA | 1 | 2 | 0 | 3 |
| TYPE "C-L" CATCH BASIN TOP | 0586760 | EA | 1 | 3 | 0 | 4 |
| REMOVE DRAINAGE STRUCTURE - 0' - 10' DEEP | 0586790.10 | EA | 0 | 1 | 0 | 1 |
| CLEAN EXISTING CATCH BASIN | 0653001 | EA | 24 | 74 | 0 | 98 |
| CLEAN EXISTING MANHOLE | 0653010 | EA | 4 | 12 | 0 | 16 |
| CLEAN EXISTING CULVERT 12" - 42" DIAMETER | 0653100 | LF | 1937 | 6655 | 0 | 8,592 |
| 18" X 36" R.C. PIPE ELLIPTICAL - 0'-10' DEEP | 0686051.50 | LF | 0 | 84 | 0 | 84 |
| 6" HIGH DENSITY POLYETHYLENE PIPE - 0' - 10' DEEP | 0686230.06 | LF | 0 | 22 | 120 | 142 |
| 12" HIGH DENSITY POLYETHYLENE PIPE - 0' - 10' DEEP | 0686230.12 | LF | 33 | 30 | 0 | 63 |
| 15" HIGH DENSITY POLYETHYLENE PIPE - 0' - 10' DEEP | 0686230.15 | LF | 0 | 1030 | 0 | 1,030 |
| 24" HIGH DENSITY POLYETHYLENE PIPE - 0' - 10' DEEP | 0686230.24 | LF | 0 | 324 | 0 | 324 |
| REMOVE EXISTING PIPE - 0' - 10' DEEP | 0686950.10 | LF | 0 | 60 | 0 | 60 |
| 3/4" CRUSHED STONE | 0728014 | CY | 0 | 0 | 82 | 82 |
| GEOTEXTILE (SEPARATION - HIGH SURVIVABILITY) | 0735014 | SY | 0 | 0 | 740 | 740 |
| CONCRETE CURBING CAST IN PLACE | 0811105 | LF | 0 | 1600 | 0 | 1,600 |
| 6" GRANITE STONE CURBING | 0813021 | LF | 0 | 164 | 0 | 164 |
| 6" GRANITE CURVED STONE CURBING | 0813031 | LF | 0 | 14 | 0 | 14 |
| BITUMINOUS CONCRETE LIP CURBING | 0815001 | LF | 0 | 10 | 0 | 10 |
| GRANITE SLOPE CURBING | 0816001 | LF | 0 | 93 | 0 | 93 |
| CURVED GRANITE SLOPE CURBING | 0816002 | LF | 0 | 15 | 0 | 15 |
| REMOVE METAL BEAM RAIL | 0912503 | LF | 0 | 158 | 0 | 158 |
| CONCRETE SIDEWALK | 0921001A | SF | 0 | 4404 | 449 | 4,853 |
| CONCRETE SIDEWALK - 8" | 0921002A | SF | 0 | 0 | 370 | 370 |

| ITEM | | UNIT | MAPLE HILL AVENUE | ROBBINS AVENUE | VIVIAN STREET PAVED PATH | TOTAL |
|---|---|---|---|---|---|---|
| CONCRETE SIDEWALK RAMP | 0921005A | SF | 639 | 0 | 2,394 | 2,394 |
| DETECTABLE WARNING STRIP | 0921039 | EA | 9 | 48 | 1 | 58 |
| BITUMINOUS CONCRETE DRIVEWAY | 0922501 | SY | 0 | 153 | 0 | 153 |
| FURNISHING AND PLACING TOPSOIL | 0944000 | SY | 14 | 1402 | 972 | 2,388 |
| BUS SHELTER - TYPE I | 0947303A | EA | 1 | 1 | 0 | 2 |
| ACER RUBRUM "RED SUNSET", RED SUNSET RED MAPLE 2"-2 1/2" CAL. B.B | 0949038 | EA | 0 | 2 | 0 | 2 |
| STYRAX JAPONICA, JAPANESE STORAX - 2"-2 1/2" CAL. B.B. | 0950000 | EA | 0 | 2 | 0 | 2 |
| TURF ESTABLISHMENT | 0950005 | SY | 14 | 1402 | 972 | 2,388 |
| TRAFFICPERSON (TOWN POLICE OFFICER) | 0970006 | EST | | | 1 | 1 |
| TRAFFICPERSON (UNIFORMED FLAGGER) | 0970007 | HR | 0 | 0 | 0 | 1,733 |
| MAINTENANCE AND PROTECTION OF TRAFFIC | 0971001A | LS | | | | 1 |
| MOBILIZATION AND PROJECT CLOSEOUT | 0975004 | LS | | | | 1 |
| CONSTRUCTION SURVEYING | 0980020 | LS | | | | 1 |
| TRENCHING AND BACKFILLING | 1001001A | LF | 0 | 75 | 0 | 75 |
| LIGHT STANDARD FOUNDATION - TYPE I | 1002101 | EA | 0 | 1 | 0 | 1 |
| TRAFFIC CONTROL FOUNDATION - PEDESTAL - TYPE I | 1002203 | EA | 0 | 2 | 0 | 2 |
| LIGHT STANDARD (15' BRACKET, 30' MOUNTING HEIGHT) ALUMINUM | 1002306 | EA | 0 | 1 | 0 | 1 |
| 2" RIGID METAL CONDUIT IN TRENCH | 1008115 | LF | 0 | 75 | 0 | 75 |
| CLEAN EXISTING CONDUIT | 1008908A | LF | 0 | 150 | 150 | 300 |
| CLEAN EXISTING CONCRETE HANDHOLE | 1010060A | EA | 0 | 2 | 1 | 3 |
| CONCRETE HANDHOLE - TYPE I | 1010011 | EA | 0 | 1 | 0 | 1 |
| 8' ALUMINUM PEDESTAL | 1102502 | EA | 0 | 2 | 0 | 2 |
| LED TRAFFIC SIGNAL LAMP UNIT BI-COLORED ARROW 12" | 1105518A | EA | 0 | 1 | 0 | 1 |
| 1 WAY PEDESTRIAN SIGNAL PEDESTAL MOUNTED | 1106003A | EA | 0 | 2 | 0 | 2 |
| ACCESSIBLE PEDESTRIAN SIGNAL AND DETECTOR (TYPE A) | 1107011A | EA | 0 | 2 | 0 | 2 |

| ITEM | | UNIT | MAPLE HILL AVENUE | ROBBINS AVENUE | VIVIAN STREET PAVED PATH | TOTAL |
|---|---|---|---|---|---|---|
| MODIFY EXISTING CONTROLLER | 1108163A | EA | 2 | 1 | 0 | 4 |
| PHASE SELECTOR (MODIFIED) | 1108725A | EA | 1 | 0 | 0 | 3 |
| EXTENSION BRACKET | 1111600A | EA | 0 | 1 | 0 | 1 |
| VEHICLE DETECTION MONITOR | 1112284A | EA | 2 | 2 | 0 | 4 |
| THERMAL VIDEO DETECTOR ASSEMBLY | 1112285A | EA | 2 | 0 | 0 | 2 |
| 360 DEGREE CAMERA ASSEMBLY | 1112286A | EA | 2 | 1 | 0 | 3 |
| 360 DEGREE VIDEO DETECTION PROCESSOR | 1112287A | EA | 2 | 1 | 0 | 3 |
| DETECTOR (TYPE A) (MODIFIED) | 1112413A | EA | 3 | 8 | 0 | 11 |
| PRE-EMPTION SYSTEM CHASSIS (MODIFIED) | 1112471A | EA | 1 | 2 | 0 | 3 |
| 7 CONDUCTOR NO. 14 CABLE | 1113103 | LF | 0 | 280 | 0 | 280 |
| DETECTOR CABLE (OPTICAL) (MODIFIED) | 1113552A | LF | 280 | 965 | 0 | 1,245 |
| 23 ASWG 4 TWISTED PAIR CATEGORY 6 CABLE | 1113725A | LF | 0 | 475 | 0 | 475 |
| CAMERA CABLE | 1113901A | LF | 0 | 520 | 0 | 520 |
| AUXILIARY EQUIPMENT CABINET | 1114201A | EA | 1 | 2 | 0 | 3 |
| REMOVAL AND/OR RELOCATION OF TRAFFIC EQUIPMENT | 1118012A | LS | 0 | 0 | 0 | 1 |
| REMOVAL AND RELOCATION OF EXISTING SIGNS | 1206023A | LS | | | | 1 |
| SIGN FACE - SHEET ALUMINUM - (TYPE IX RETROREFLECTIVE SHEETING) | 1208931A | SF | 64 | 243 | 0 | 307 |
| PROJECT SIGN | 1208938A | EA | 1 | 1 | 0 | 2 |
| 4" WHITE EPOXY RESIN PAVEMENT MARKINGS | 1210101 | LF | 10560 | 21534 | 0 | 31,794 |
| 4" YELLOW EPOXY RESIN PAVEMENT MARKINGS | 1210102 | LF | 4631 | 10623 | 0 | 15,254 |
| EPOXY RESIN PAVEMENT MARKINGS, SYMBOLS AND LEGENDS | 1210105 | SF | 1097 | 4157 | 0 | 5,254 |
| ADJUST GATE BOX (WATER) | 1302606A | EA | 7 | 0 | 0 | 7 |
| RESET MANHOLE (SANITARY SEWER) | 1403601A | EA | 6 | 11 | 0 | 17 |

**DATUMS:**

HORIZONTAL: NAD 83

VERTICAL: NAVD88

PROJECT
18003

DATE
11/16/2021

DRAWN
EAN

CHECK
BAA

SHEET
02 OF 44

SCALE:
As Noted

# DETAILED ESTIM ATE SHEET
## COMPLETE STREETS PROJECT
## MAPLE HILL AVENUE & ROBBINS AVENUE

PREPARED FOR

TOWN OF NEWINGTON

131 CEDAR STREET NEWINGTON, CT. 06111

vhb

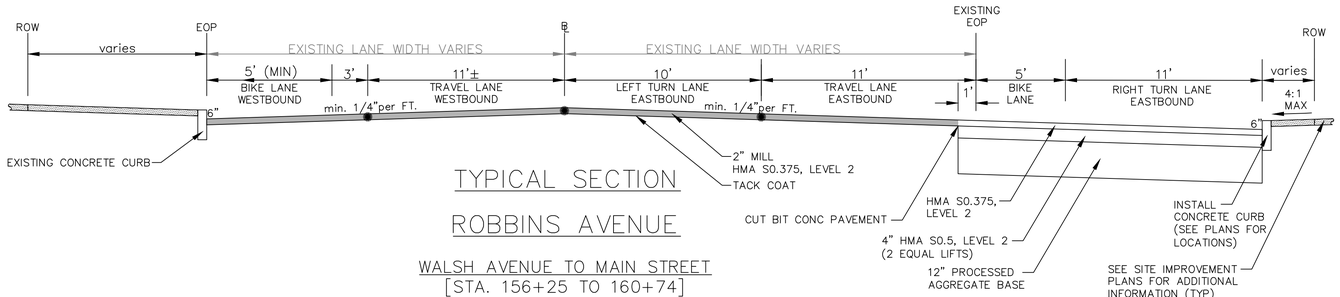
REVISIONS:

## ABBREVIATIONS LEGEND

| | |
|---|---|
| STA | STATION |
| GRAN | GRANITE |
| BIT | BITUMINOUS |
| CONC | CONCRETE |
| STC | STATE TRAFFIC CONTROL |
| CTL | CONTROL |
| ROW | RIGHT OF WAY |
| EOP | EDGE OF PAVEMENT |
| T.O.N. | TOWN OF NEWINGTON |
| MPT | MAINTENANCE AND PROTECTION OF TRAFFIC |
| ℄ | BASELINE |
| rcp | REINFORCED CONCRETE PIPE |
| cmp | CORREGATED METAL PIPE |
| ellip | ELLIPTICAL |
| RMC | RIGID METAL CONDUIT |

## LEGEND

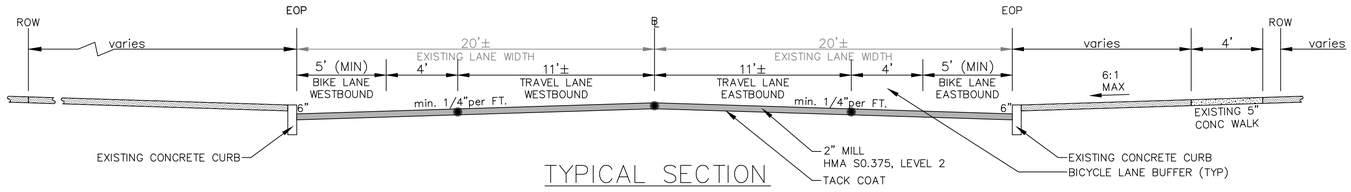
| EXISTING | | PROPOSED |
|---|---|---|
| | PROPERTY/BOUNDARY/RIGHT OF WAY LINE | |
| | CURB | |
| | DRIVEWAY | |
| 72 | INTERMEDIATE CONTOUR | [72] |
| 70 | INDEX CONTOUR | [70] |
| 72.9 + | SPOT ELEVATION | [72.9] + |
| DYCL | DOUBLE YELLOW CENTERLINE | DYCL |
| EL | EDGE LINE | EL |
| BLL | BROKEN LANE LINE | BLL |
| | BICYCLE LANE LINE | BIKE-LL |
| DLL | DOTTED LANE LINE | DLL |
| | DOUBLE YELLOW DOTTED EXTENSION LINE | DYDEL |
| GAS | GAS PIPE | |
| W | WATER PIPE | |
| | HYDRANT | |
| S | SANITARY PIPE | |
| Ⓢ | SANITARY MANHOLE | |
| D | STORM DRAIN PIPE | |
| | CLEAN STORM DRAIN PIPE | SIZE AND MATERIAL |
| | NEW DRAINAGE PIPE | |
| | ABANDON PIPE | AP |
| Ⓓ | STORM MANHOLE | |
| | CATCH BASIN | |
| | YARD DRAIN | |
| OF-2 | STORM DRAIN OUTFALL | |
| E | ELECTRIC WIRE | |
| Ⓣ | COMMUNICATION MANHOLE | |
| | UTILITY POLE (WITH GUY) | |
| | SIGN POST | |
| #17 | BUILDING AND BUILDING NUMBER | |
| | RETAINING WALL | |
| | TREE | |
| | LIMIT OF WORK | |
| | GUIDE RAIL | |
| | SUBSURFACE EXPLORATION | |
| | BIKE LANE SYMBOL | |
| | TRAFFIC ARROW | |
| | STOP BAR | |
| | CROSSWALK | |
| | MILL AND OVERLAY AREA | |
| CONC WALK | CONCRETE SIDEWALK/RAMP | |
| | TOPSOIL, SEED, MULCH | |
| D2 | VEHICLE DETECTOR-LOOP | |
| D2 | VEHICLE DETECTOR-VIDEO | D2 |
| | FULL DEPTH PAVEMENT | |
| | SAWCUT | |
| | CONSERVATION EASEMENT | |
| | WATER COURSE | |




## TYPICAL SECTION

## ROBBINS AVENUE

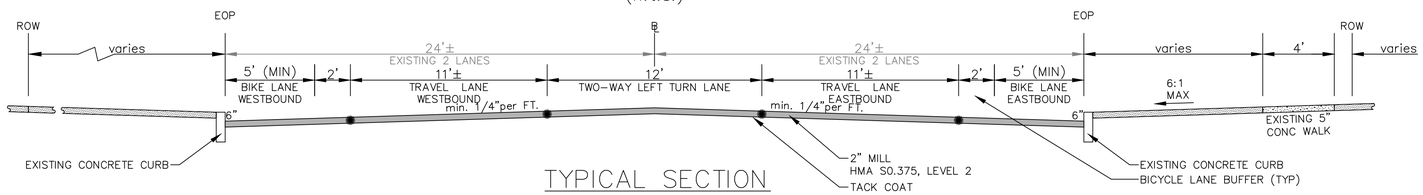
WALSH AVENUE TO MAIN STREET
[STA. 156+25 TO 160+74]
(n.t.s.)




## TYPICAL SECTION

## ROBBINS AVENUE

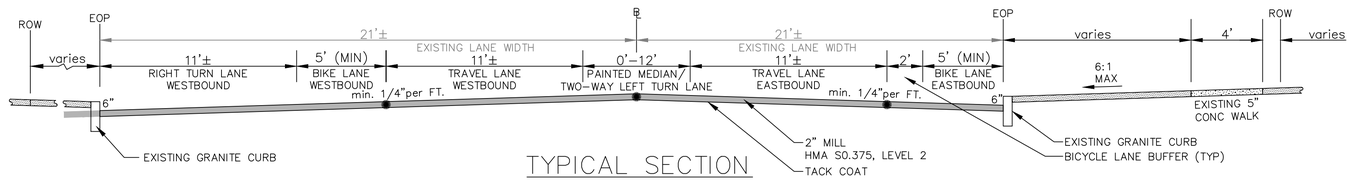
WILLARD AVENUE TO WALSH AVENUE
[STA. 135+93 TO 156+25]
(n.t.s.)




## TYPICAL SECTION

## ROBBINS AVENUE

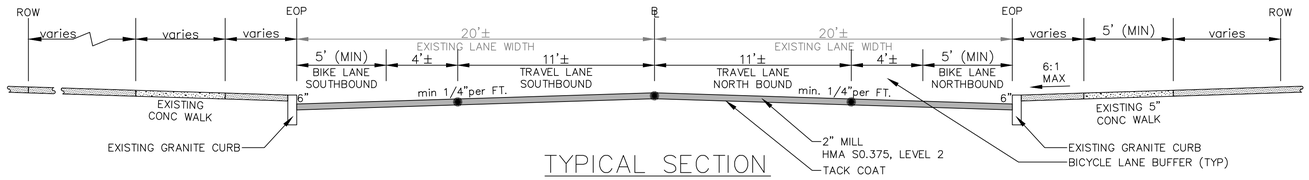
VIVIAN STREET TO WILLARD AVENUE
[STA. 106+00 TO 134+42]
(n.t.s.)




## TYPICAL SECTION

## ROBBINS AVENUE

MAPLE HILL AVENUE TO VIVIAN STREET
[STA. 100+25 TO 106+00]
(n.t.s.)




## TYPICAL SECTION

## MAPLE HILL AVENUE

NEW BRITAIN AVENUE TO ROBBINS AVENUE
[STA. 1+78 TO 27+51]
(n.t.s.)

SEQUENCE OF WORK:
1. NOTIFY 811 SYSTEM (FORMERLY CALL BEFORE YOU DIG) FOR UTILITY CLEARANCE.
2. COMPLETE SITE IMPROVEMENTS PRIOR TO MILLING.
3. COMPLETE TRAFFIC SIGNAL IMPROVEMENTS PRIOR TO MILLING (TO MAINTAIN USE OF EXISTING LOOP DETECTORS).
4. MILL AND OVERLAY MAPLE HILL AVENUE AND ROBBINS AVENUE.
5. RESTORE DISTURBED LANDSCAPED AREAS.
6. CLEAN CATCH BASIN SUMPS AFTER FINISHED COURSE OF BITUMINOUS PAVEMENT.

GENERAL NOTES:
1. ALL WORK WITHIN A STATE OF CONNECTICUT RIGHT OF WAY REQUIRES APPLICATION TO STATE FOR ENCROACHMENT PERMIT.
2. TOWN OF NEWINGTON TO MARK PROJECT LIMITS IN THE FIELD.
3. REFER TO TRAFFIC CONTROL SIGNAL PLANS FOR SUPPLEMENTAL LEGEND.
4. PROPOSED CONDITIONS SHOWN IN BLACK, EXCEPT PROPOSED MILL AND OVERLAY AREA SHOWN AS GREY SHADE.

SECTION NOTES:
- LONGITUDINAL SEAM
1. SECTION CONVENTION IS LOOKING UP STATION.
2. NO COLD LONGITUDINAL SEAMS.
3. LONGITUDINAL SEAMS: 1,000 FEET MAXIMUM LENGTH.
4. LATERAL SEAMS: 12 INCHES MINIMUM OVERLAP.

REVISIONS:

vhb

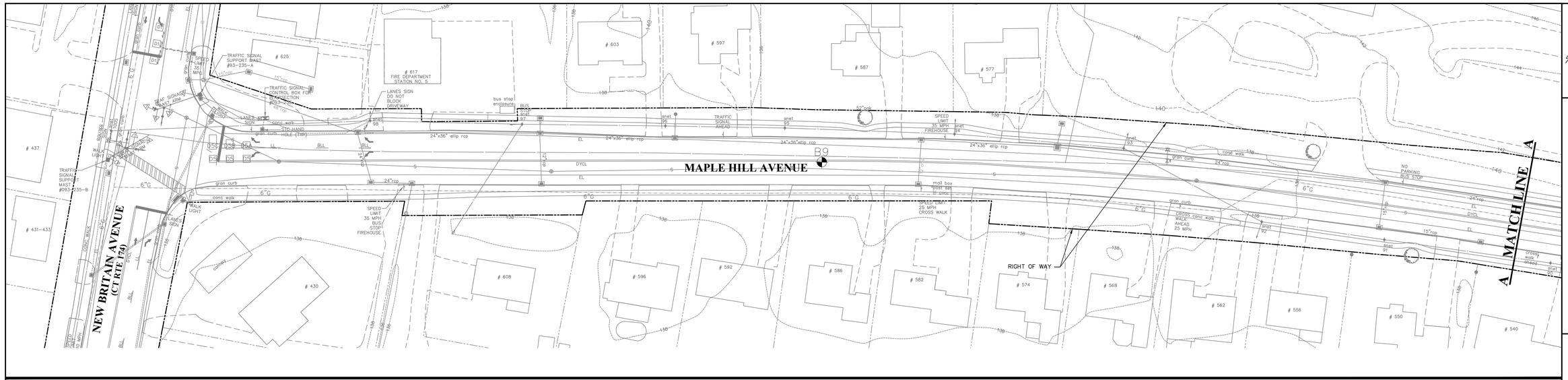
NOTES AND TYPICAL SECTIONS
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE

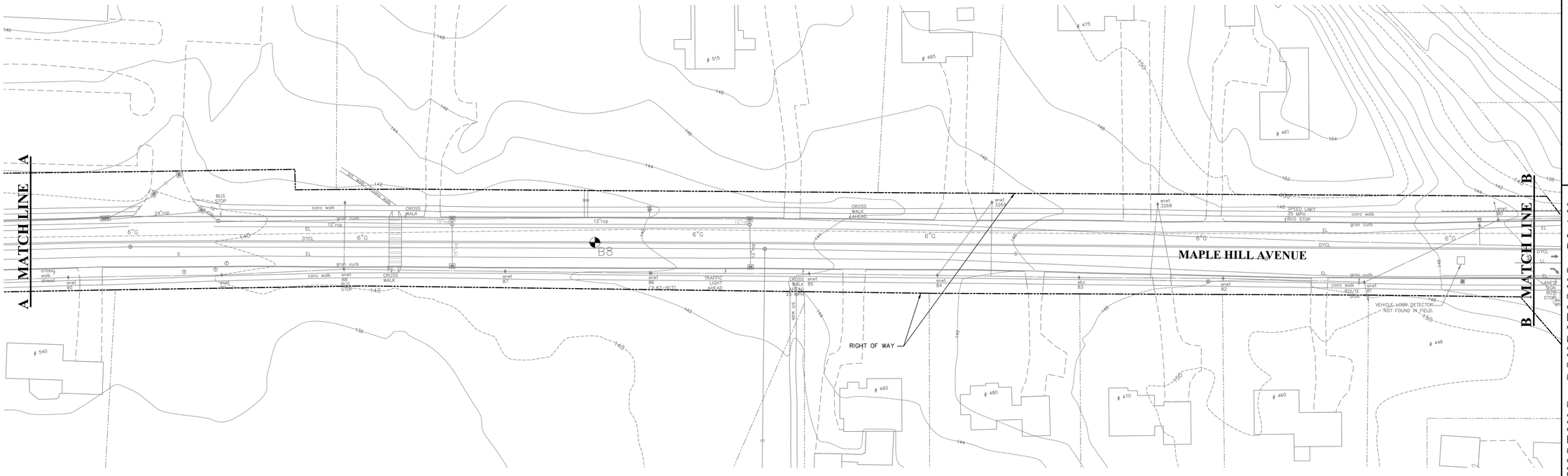
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

**DATUMS:**

HORIZONTAL: NAD 83
VERTICAL: NAVD88

| | |
|---|---|
| PROJECT | 18003 |
| DATE | 11 / 16/ 2021 |
| DRAWN | EAN |
| CHECK | BAA |
| SHEET | 03 OF 44 |
| SCALE: | As-Noted |




EXISTING CONDITIONS NOTES:

1. ROAD AND UTILITY LOCATIONS ON EXISTING CONDITIONS BASE MAP ARE APPROXIMATE AND COMPILED FROM RECORD RESEARCH AND MAPPING FROM TOWN OF NEWINGTON GIS, MDC DRAWINGS, CNG DRAWINGS AND FIELD SURVEY IN SEVERAL SPOT LOCATIONS (SEE SITE IMPROVEMENT PLANS FOR SURVEY LOCATIONS).
2. HORIZONTAL DATUM: NAD83; VERTICAL DATUM: NAVD88
3. COMMUNICATION, WATER AND GAS VALVES OR MANHOLES NOT SHOWN.
4. NOTIFY THE ENGINEER OF ANY DICREPANCY OBSERVED IN THE FIELD.

GRAPHIC SCALE

40 0 20 40 80 160

( IN FEET )
1 inch = 40 ft.

REVISIONS:

vhb

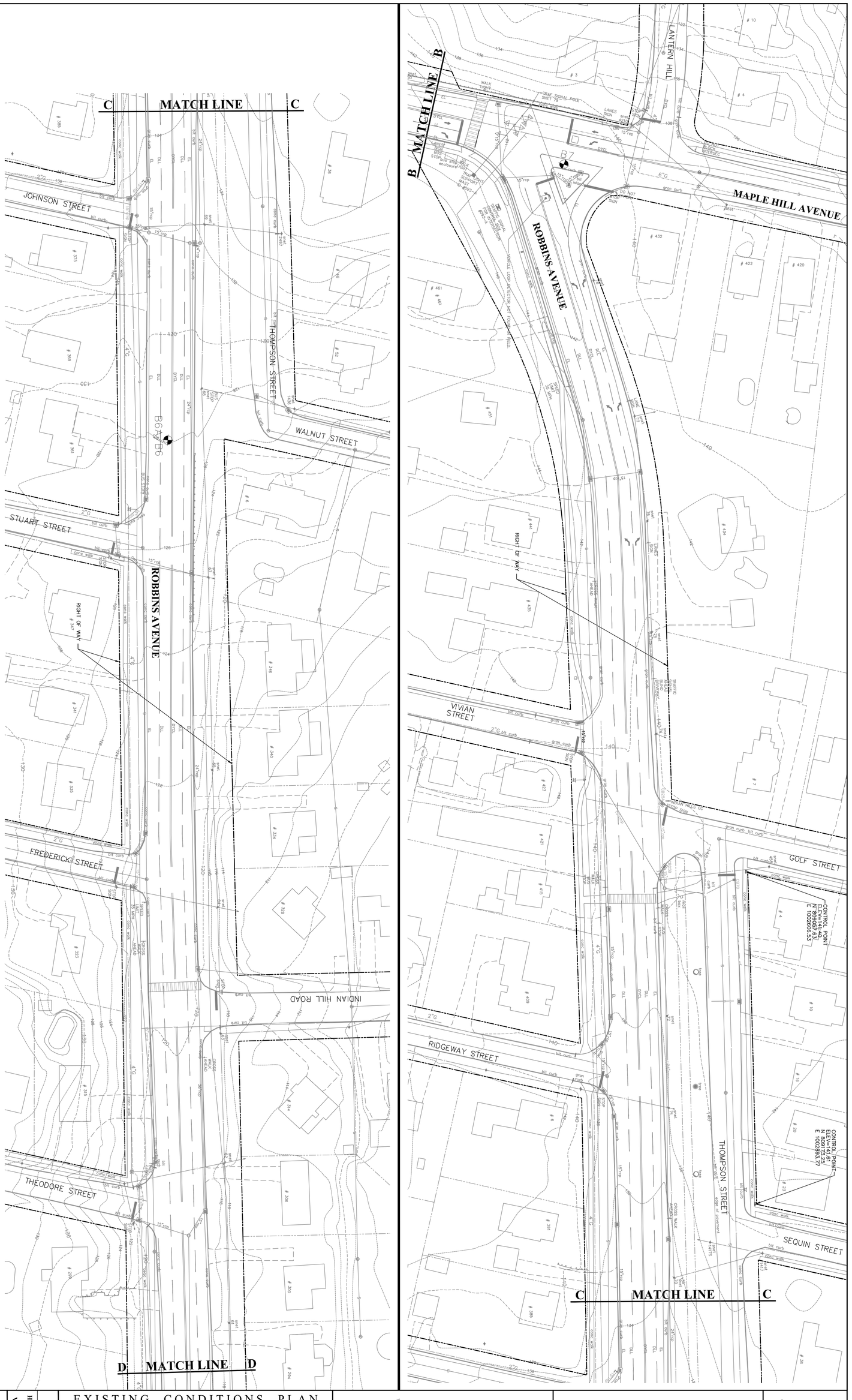
EXISTING CONDITIONS PLAN
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

**DATUMS:**

**HORIZONTAL: NAD 83**

**VERTICAL: NAVD88**

| | |
|---|---|
| PROJECT | 18003 |
| DATE | 11 / 16/ 2021 |
| DRAWN | EAN |
| CHECK | BAA |
| SHEET | 04 OF 44 |
| SCALE: | 1" = 40" |




GRAPHIC SCALE
( IN FEET )
1 inch = 40 ft.

**DATUMS:**
HORIZONTAL: NAD 83
VERTICAL: NAVD88

EXISTING CONDITIONS PLAN
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

vhb

REVISIONS:

PROJECT
18003
DATE
07 / 20 / 2021
DRAWN
EAN
CHECK
BAA
SHEET
05 OF 44
SCALE:
1" = 40'

D MATCH LINE D

ROBBINS AVENUE

INDIAN HILL ROAD

RIGHT OF WAY

E MATCH LINE E

E MATCH LINE E

WILLARD AVENUE (CT ROUTE 173)

ROBBINS AVENUE

RIGHT OF WAY

CONTROL POINT
ELEV=81.20
N: 809936.70
E: 1005609.34

CONTROL POINT
ELEV=87.98
N: 810156.16
E: 1006156.46

E MATCH LINE E

F MATCH LINE F

CLIFFORD STREET

FLORENCE STREET

VALENTINE STREET

GRAPHIC SCALE

40 0 20 40 80 160

( IN FEET )
1 inch = 40 ft.

REVISIONS:

# EXISTING CONDITIONS PLAN
# COMPLETE STREETS PROJECT
# MAPLE HILL AVENUE & ROBBINS AVENUE

PREPARED FOR

TOWN OF NEWINGTON

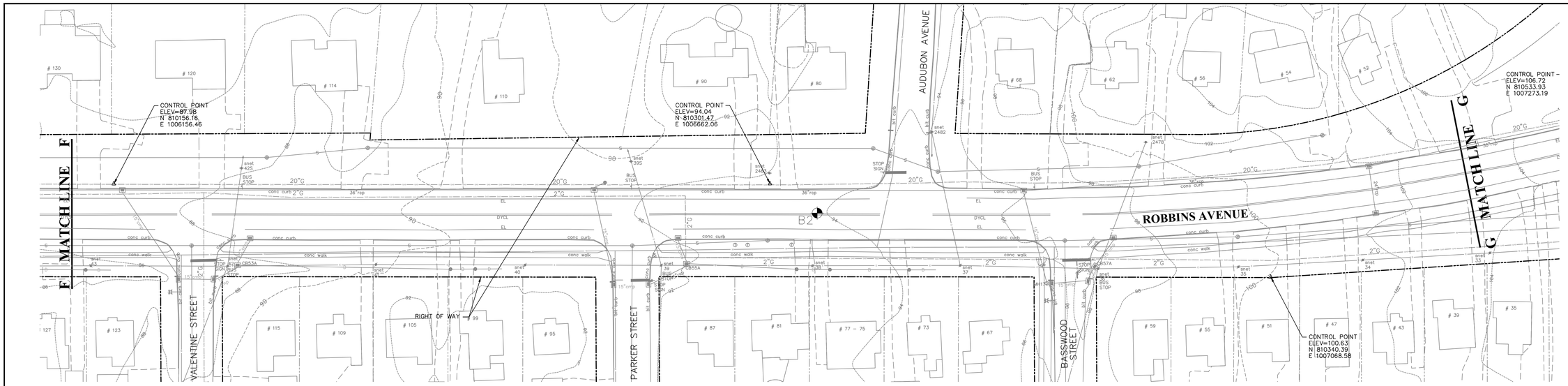
131 CEDAR STREET NEWINGTON, CT. 06111

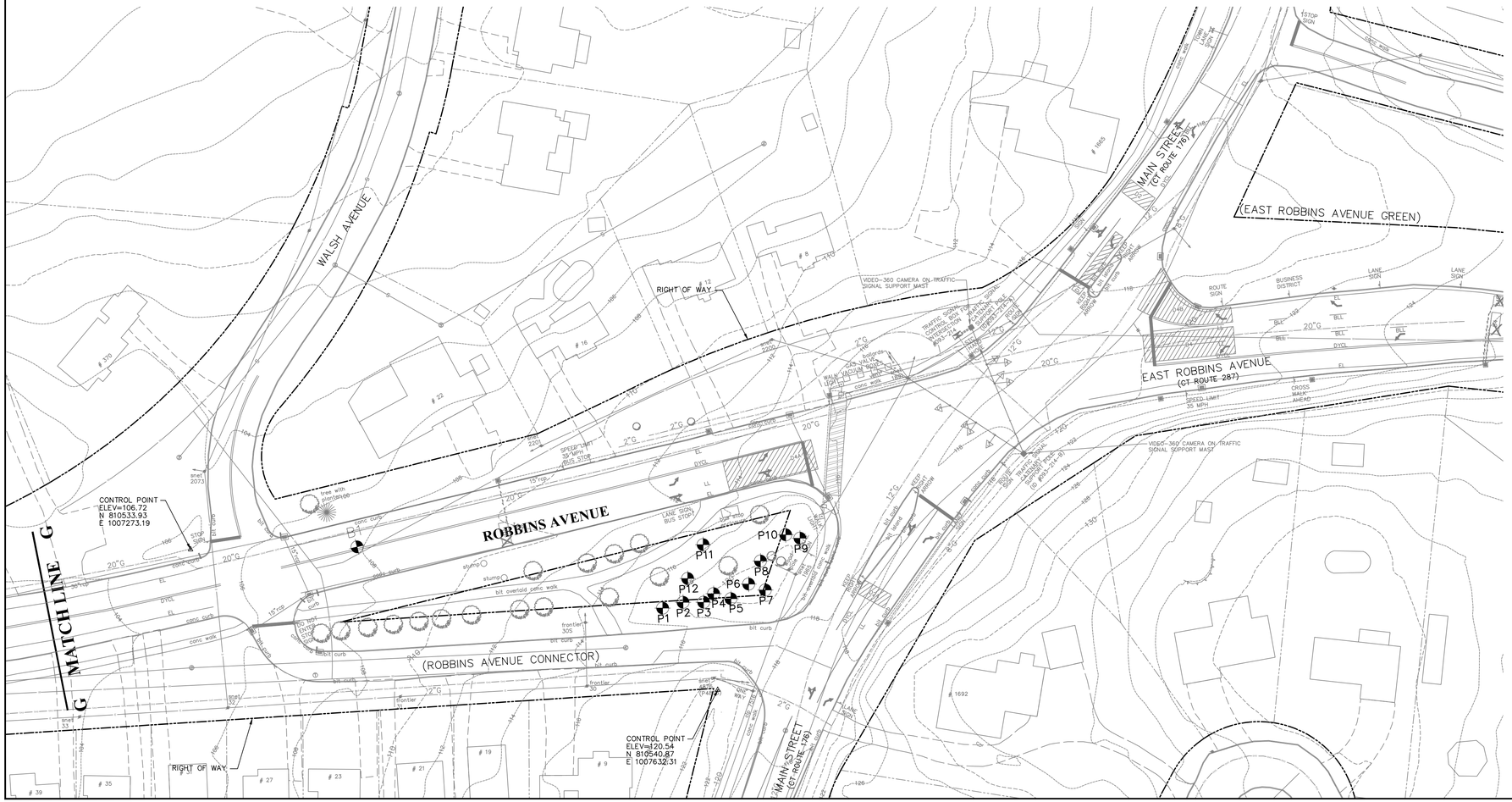
**DATUMS:**

**HORIZONTAL: NAD 83**

**VERTICAL: NAVD88**

| |
|---|
| PROJECT |
| 18003 |
| DATE |
| 11 / 16/ 2021 |
| DRAWN |
| EAN |
| CHECK |
| BAA |
| SHEET |
| 06 OF 44 |
| SCALE: |
| 1" = 40" |




| PROBE SUMMARY DATA | | | | |
|---|---|---|---|---|
| IDENTIFICATION | TYPE | GROUND ELEVATION | DEPTH | NOTES |
| P1 | PROBE | 118.82 | 6 FEET | PROBE REFUSAL NOT ENCOUNTERED |
| P2 | PROBE | 119.36 | 6 FEET | PROBE REFUSAL NOT ENCOUNTERED |
| P3 | PROBE | 119.96 | 6 FEET | PROBE REFUSAL NOT ENCOUNTERED |
| P4 | PROBE | 120.18 | 6 FEET | PROBE REFUSAL NOT ENCOUNTERED |
| P5 | PROBE | 120.77 | 6 FEET | PROBE REFUSAL NOT ENCOUNTERED |
| P6 | PROBE | 120.99 | 6 FEET | PROBE REFUSAL NOT ENCOUNTERED |
| P7 | PROBE | 121.09 | 6 FEET | PROBE REFUSAL NOT ENCOUNTERED |
| P8 | PROBE | 119.50 | 6 FEET | PROBE REFUSAL NOT ENCOUNTERED |
| P9 | PROBE | 119.41 | 6 FEET | PROBE REFUSAL NOT ENCOUNTERED |
| P10 | PROBE | 118.96 | 6 FEET | PROBE REFUSAL NOT ENCOUNTERED |
| P11 | PROBE | 116.67 | 6 FEET | PROBE REFUSAL NOT ENCOUNTERED |
| P12 | PROBE | 118.11 | 6 FEET | PROBE REFUSAL NOT ENCOUNTERED |

GRAPHIC SCALE

40 0 20 40 80 160

( IN FEET )
1 inch = 40 ft.

REVISIONS:

vhb

EXISTING CONDITIONS PLAN
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

**DATUMS:**

**HORIZONTAL: NAD 83**

**VERTICAL: NAVD88**

| |
|---|
| PROJECT 18006 |
| DATE 11 / 16/ 2021 |
| DRAWN EAN |
| CHECK BAA |
| SHEET 07 OF 44 |
| SCALE: 1" = 40' |

| | | | |
|---|---|---|---|
| Driller: Scott Marino (NEBCo) | **Connecticut DOT Boring Report** | | Hole No.: B1 |
| Inspector:Gary Fuerstenberg, PE | Town: Newington CT | | Stat./Offset: ROBBINS AVENUE; STA. ~157+09, 2'L OFFSET |
| Engineer: Gary Fuerstenberg, PE | Project No: NA | | Northing: NA |
| Start Date: 9 October 2018 | Route No.: NA | | Easting: NA |
| Finish Date: 9 October 2018 | Bridge No.: NA | | Surface Elevation: (pavement surface) |
| Project Description: LOTCIP - Complete Street Project | | | |
| Casing Size/Type: 4.5 inch solid stem | Sampler Type/Size: split-barrel | | Core Barrel Type: |
| Hammer Wt.: 140# Fall: 30 inches | Drill: Mobile B-53 | | |
| Groundwater Observations: not encountered | | | Sheet 1 of 1 |

| SAMPLES | | | | | | | |
|---|---|---|---|---|---|---|---|
| Depth (feet) From - To | Sample Type Number | Blows on Sampler per 6 inches | Pen (inches) | Rec (inches) | RQD % | General Strata Description | Material Description and Notes |
| | | | | | | | 4 inches Bituminous Concrete |
| | | | | | | | 6 inches Processed Aggregate Base Course |
| | | | | | | | 10 inches pavement structure |
| 1-3 | S1 | 17-48-60-22 | 24 | 20 | | SM-FILL | red-brown fine to coarse SAND, some Silt, some fine to coarse Gravel, moist |
| 3-5 | S2 | 16-19-35-32 | 24 | 16 | | SM-GT | red-brown fine to coarse SAND, some Silt, some fine to coarse Gravel, moist |
| | | | | | | | augered to 5 feet |
| 5-7 | S3 | 14-15-16-20 | 24 | 20 | | ML-GF | red-brown SILT, little fine Sand, moist |
| 7-9 | S4 | 26-20-28-24 | 24 | 20 | | ML-GF | red-brown SILT, little fine Sand, moist |
| 9-11 | S5 | 12-23-25-25 | 24 | 20 | | ML-GF | red-brown SILT, little fine Sand, moist |
| | | | | | | | END OF BORING: 11 FEET |

Sample Type: S=Split Spoon C=Core UP=Undisturbed Piston V=Vane Shear Test
Proporitons used: Trace = 1-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Total Penetration in
Earth: 11 feet Rock: 0 feet

NOTES:
SM = silty sand GT = Glacial Till
ML = low-plastic silt GF = Glacio Fluvial

| | | | |
|---|---|---|---|
| Driller: Scott Marino (NEBCo) | **Connecticut DOT Boring Report** | | Hole No.: B2 |
| Inspector:Gary Fuerstenberg, PE | Town: Newington CT | | Stat./Offset: ROBBINS AVENUE; STA. ~149+78, 1'L OFFSET |
| Engineer: Gary Fuerstenberg, PE | Project No: NA | | Northing: NA |
| Start Date: 9 October 2018 | Route No.: NA | | Easting: NA |
| Finish Date: 9 October 2018 | Bridge No.: NA | | Surface Elevation: (pavement surface) |
| Project Description: LOTCIP - Complete Street Project | | | |
| Casing Size/Type: 4.5 inch solid stem | Sampler Type/Size: split-barrel | | Core Barrel Type: |
| Hammer Wt.: 140# Fall: 30 inches | Drill: Mobile B-53 | | |
| Groundwater Observations: not encountered | | | Sheet 1 of 1 |

| SAMPLES | | | | | | | |
|---|---|---|---|---|---|---|---|
| Depth (feet) From - To | Sample Type Number | Blows on Sampler per 6 inches | Pen (inches) | Rec (inches) | RQD % | General Strata Description | Material Description and Notes |
| | | | | | | | 5 inches Bituminous Concrete |
| | | | | | | | 6 inches Processed Aggregate Base Course |
| | | | | | | | 11 inches pavement structure |
| 1-3 | S1 | 28-60-40-30 | 24 | 18 | | SM-FILL | red-brown fine to coarse SAND, some Silt, some fine to coarse Gravel, moist |
| 3-5 | S2 | 40-32-30-27 | 24 | 16 | | SM-FILL | red-brown fine to coarse SAND, some Silt, some fine to coarse Gravel, moist |
| | | | | | | | (black stained, cresote odor) |
| | | | | | | | augered to 5 feet |
| 5-7 | S3 | 5-14-16-17 | 24 | 22 | | CL (top 11") | red-brown low-plastic CLAY, trace fine Sand, moist |
| | | | | | | SM (bot 11") | red-brown fine to coarse SAND, some Silt, some fine to coarse Gravel, moist |
| 7-9 | S4 | 16-18-17-22 | 24 | 22 | | ML-GF | red-brown SILT, little fine Sand, moist |
| 9-11 | S5 | 9-19-17-21 | 24 | 14 | | ML-GF | red-brown SILT, little fine Sand, moist |
| | | | | | | | END OF BORING: 11 FEET |

Sample Type: S=Split Spoon C=Core UP=Undisturbed Piston V=Vane Shear Test
Proporitons used: Trace = 1-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Total Penetration in
Earth: 11 feet Rock: 0 feet

NOTES:
SM = silty sand CL = low-plastic GT = Glacial Till
ML = low-plastic silt GF = Glacio Fluvial

| | | | |
|---|---|---|---|
| Driller: Scott Marino (NEBCo) | **Connecticut DOT Boring Report** | | Hole No.: B3 |
| Inspector:Gary Fuerstenberg, PE | Town: Newington CT | | Stat./Offset: ROBBINS AVENUE; STA. ~142+17, 1'L OFFSET |
| Engineer: Gary Fuerstenberg, PE | Project No: NA | | Northing: NA |
| Start Date: 9 October 2018 | Route No.: NA | | Easting: NA |
| Finish Date: 9 October 2018 | Bridge No.: NA | | Surface Elevation: (pavement surface) |
| Project Description: LOTCIP - Complete Street Project | | | |
| Casing Size/Type: 4.5 inch solid stem | Sampler Type/Size: split-barrel | | Core Barrel Type: |
| Hammer Wt.: 140# Fall: 30 inches | Drill: Mobile B-53 | | |
| Groundwater Observations: not encountered | | | Sheet 1 of 1 |

| SAMPLES | | | | | | | |
|---|---|---|---|---|---|---|---|
| Depth (feet) From - To | Sample Type Number | Blows on Sampler per 6 inches | Pen (inches) | Rec (inches) | RQD % | General Strata Description | Material Description and Notes |
| | | | | | | | 6 inches Bituminous Concrete |
| | | | | | | | 6 inches Processed Aggregate Base Course |
| | | | | | | | 12 inches pavement structure |
| 1-3 | S1 | 35-40-26-33 | 24 | 20 | | SM-FILL | red-brown fine to coarse SAND, some Silt, some fine to coarse Gravel, moist |
| 3-5 | S2 | 36-33-35-36 | 24 | 14 | | SM-FILL | red-brown fine to coarse SAND, some Silt, some fine to coarse Gravel, moist |
| | | | | | | | augered to 5 feet |
| 5-7 | S3 | 4-8-20-16 | 24 | 20 | | ML-GF | red-brown SILT, little fine Sand, moist |
| 7-9 | S4 | 20-15-18-20 | 24 | 22 | | ML-GF | red-brown SILT, little fine Sand, moist |
| 9-11 | S5 | 8-9-8-12 | 24 | 16 | | ML-GF | red-brown SILT, little fine Sand, wet |
| | | | | | | | END OF BORING: 11 FEET |

Sample Type: S=Split Spoon C=Core UP=Undisturbed Piston V=Vane Shear Test
Proporitons used: Trace = 1-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Total Penetration in
Earth: 11 feet Rock: 0 feet

NOTES:
SM = silty sand GT = Glacial Till
ML = low-plastic silt GF = Glacio Fluvial

| | | | |
|---|---|---|---|
| Driller: Scott Marino (NEBCo) | **Connecticut DOT Boring Report** | | Hole No.: B4 |
| Inspector:Gary Fuerstenberg, PE | Town: Newington CT | | Stat./Offset: ROBBINS AVENUE; STA. ~136+15, 3'R OFFSET |
| Engineer: Gary Fuerstenberg, PE | Project No: NA | | Northing: NA |
| Start Date: 9 October 2018 | Route No.: NA | | Easting: NA |
| Finish Date: 9 October 2018 | Bridge No.: NA | | Surface Elevation: (pavement surface) |
| Project Description: LOTCIP - Complete Street Project | | | |
| Casing Size/Type: 4.5 inch solid stem | Sampler Type/Size: split-barrel | | Core Barrel Type: |
| Hammer Wt.: 140# Fall: 30 inches | Drill: Mobile B-53 | | |
| Groundwater Observations: not encountered | | | Sheet 1 of 1 |

| SAMPLES | | | | | | | |
|---|---|---|---|---|---|---|---|
| Depth (feet) From - To | Sample Type Number | Blows on Sampler per 6 inches | Pen (inches) | Rec (inches) | RQD % | General Strata Description | Material Description and Notes |
| | | | | | | | 6 inches Bituminous Concrete |
| | | | | | | | 6 inches Processed Aggregate Base Course |
| | | | | | | | 12 inches pavement structure |
| 1-3 | S1 | 43-67-23-10 | 24 | 16 | | SM-FILL | red-brown fine to coarse SAND, some fine to coarse gravel, little silt, moist |
| | | | | | | | (black stained, cresote odor) |
| 3-5 | S2 | 10-20-24-13 | 24 | 16 | | ML-GF | red-brown SILT, little fine Sand, moist |
| | | | | | | | augered to 5 feet |
| 5-7 | S3 | 9-12-13-12 | 24 | 24 | | ML-GF | red-brown SILT, little fine Sand, moist |
| 7-9 | S4 | 16-16-13-13 | 24 | 20 | | ML-GF | red-brown SILT, little fine Sand, moist |
| 9-11 | S5 | 18-5-8-15 | 24 | 16 | | ML-GF | red-brown SILT, little fine Sand, moist |
| | | | | | | | END OF BORING: 11 FEET |

Sample Type: S=Split Spoon C=Core UP=Undisturbed Piston V=Vane Shear Test
Proporitons used: Trace = 1-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Total Penetration in
Earth: 11 feet Rock: 0 feet

NOTES:
SM = silty sand GT = Glacial Till
ML = low-plastic silt GF = Glacio Fluvial

| | | | |
|---|---|---|---|
| Driller: Scott Marino (NEBCo) | **Connecticut DOT Boring Report** | | Hole No.: B5 |
| Inspector:Gary Fuerstenberg, PE | Town: Newington CT | | Stat./Offset: ROBBINS AVENUE; STA. ~129+06, 0' OFFSET |
| Engineer: Gary Fuerstenberg, PE | Project No: NA | | Northing: NA |
| Start Date: 9 October 2018 | Route No.: NA | | Easting: NA |
| Finish Date: 9 October 2018 | Bridge No.: NA | | Surface Elevation: (pavement surface) |
| Project Description: LOTCIP - Complete Street Project | | | |
| Casing Size/Type: 4.5 inch solid stem | Sampler Type/Size: split-barrel | | Core Barrel Type: |
| Hammer Wt.: 140# Fall: 30 inches | Drill: Mobile B-53 | | |
| Groundwater Observations: not encountered | | | Sheet 1 of 1 |

| SAMPLES | | | | | | | |
|---|---|---|---|---|---|---|---|
| Depth (feet) From - To | Sample Type Number | Blows on Sampler per 6 inches | Pen (inches) | Rec (inches) | RQD % | General Strata Description | Material Description and Notes |
| | | | | | | | 4 inches Bituminous Concrete |
| | | | | | | | 6 inches Processed Aggregate Base Course |
| | | | | | | | 10 inches pavement structure |
| 1-3 | S1 | 16-14-9-9 | 24 | 18 | | SM-GT | red-brown fine to coarse SAND, some fine to coarse Gravel, little Silt, moist |
| 3-5 | S2 | 9-14-22-24 | 24 | 18 | | SM-GT | red-brown fine to coarse SAND, some fine to coarse Gravel, little Silt, moist |
| | | | | | | | augered to 5 feet |
| 5-7 | S3 | 19-21-21-27 | 24 | 18 | | SM-GT | red-brown fine to coarse SAND, some fine to coarse Gravel, little Silt, moist |
| 7-9 | S4 | 44-33-33-31 | 24 | 20 | | SM-GT | red-brown fine to coarse SAND, some fine to coarse Gravel, little Silt, moist |
| 9-11 | S5 | 10-11-24-26 | 24 | 8 | | SM-GT | red-brown fine to coarse SAND, some fine to coarse Gravel, little Silt, moist |
| | | | | | | | END OF BORING: 11 FEET |

Sample Type: S=Split Spoon C=Core UP=Undisturbed Piston V=Vane Shear Test
Proporitons used: Trace = 1-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Total Penetration in
Earth: 11 feet Rock: 0 feet

NOTES:
SM = silty sand GT = Glacial Till
ML = low-plastic silt GF = Glacio Fluvial

| | | | |
|---|---|---|---|
| Driller: Scott Marino (NEBCo) | **Connecticut DOT Boring Report** | | Hole No.: B6 |
| Inspector:Gary Fuerstenberg, PE | Town: Newington CT | | Stat./Offset: ROBBINS AVENUE; STA. ~114+06, 2'R OFFSET |
| Engineer: Gary Fuerstenberg, PE | Project No: NA | | Northing: NA |
| Start Date: 9 October 2018 | Route No.: NA | | Easting: NA |
| Finish Date: 9 October 2018 | Bridge No.: NA | | Surface Elevation: (pavement surface) |
| Project Description: LOTCIP - Complete Street Project | | | |
| Casing Size/Type: 4.5 inch solid stem | Sampler Type/Size: split-barrel | | Core Barrel Type: |
| Hammer Wt.: 140# Fall: 30 inches | Drill: Mobile B-53 | | |
| Groundwater Observations: not encountered | | | Sheet 1 of 1 |

| SAMPLES | | | | | | | |
|---|---|---|---|---|---|---|---|
| Depth (feet) From - To | Sample Type Number | Blows on Sampler per 6 inches | Pen (inches) | Rec (inches) | RQD % | General Strata Description | Material Description and Notes |
| | | | | | | | 7 inches Bituminous Concrete |
| | | | | | | | 4 inches Processed Aggregate Base Course |
| | | | | | | | 11 inches pavement structure |
| 1-3 | S1 | 45-30-16-8 | 24 | 0 | | SM-FILL | no sample recovered (probably pushed stone) |
| 3-5 | S2 | 20-16-16-15 | 24 | 0 | | SM-GT | no sample recovered (probably pushed stone) |
| | | | | | | | augered to 5 feet |
| 5-7 | S3 | 10-10-16-27 | 24 | 18 | | SM-GT | red-brown fine to coarse SAND, some fine to coarse Gravel, little Silt, moist |
| 7-9 | S4 | 50-36-40-45 | 24 | 18 | | SM-GT | red-brown fine to coarse SAND, some fine to coarse Gravel, little Silt, moist |
| 9-11 | S5 | 57-30-33-45 | 24 | 18 | | SM-GT | red-brown fine to coarse SAND, some fine to coarse Gravel, little Silt, moist |
| | | | | | | | END OF BORING: 11 FEET |

Sample Type: S=Split Spoon C=Core UP=Undisturbed Piston V=Vane Shear Test
Proporitons used: Trace = 1-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Total Penetration in
Earth: 11 feet Rock: 0 feet

NOTES:
SM = silty sand GT = Glacial Till
ML = low-plastic silt GF = Glacio Fluvial

REVISIONS:

vhb

SUBSURFACE EXPLORATIONS LOGS
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

**DATUMS:**

**HORIZONTAL: NAD 83**

**VERTICAL: NAVD88**

PROJECT
18003

DATE
11 / 16/ 2021

DRAWN
EAN

CHECK
BAA

SHEET
08 OF 44

SCALE:
NTS

| Driller: Scott Marino (NEBCo) | **Connecticut DOT Boring Report** | Hole No.: B6A |
|---|---|---|
| Inspector:Gary Fuerstenberg, PE | Town: Newington CT | Stat./Offset: ROBBINS AVENUE: STA. ~114+04, 2'R OFFSET |
| Engineer: Gary Fuerstenberg, PE | Project No: NA | Northing: NA |
| Start Date: 9 October 2018 | Route No.: NA | Easting: NA |
| Finish Date: 9 October 2018 | Bridge No.: NA | Surface Elevation: (pavement surface) |
| Project Description: LOTCIP - Complete Street Project | | |
| Casing Size/Type: 4.5 inch solid stem | Sampler Type/Size: split-barrel | Core Barrel Type: |
| Hammer Wt.: 140# Fall: 30 inches | Drill: Mobile B-53 | |
| Groundwater Observations: not encountered | | Sheet 1 of 1 |

| Depth (feet) From - To | SAMPLES: Sample Type Number | SAMPLES: Blows on Sampler per 6 inches | SAMPLES: Pen (inches) | SAMPLES: Rec (inches) | SAMPLES: RQD % | General Strata Description | Material Description and Notes |
|---|---|---|---|---|---|---|---|
| | | | | | | | 7 inches Bituminous Concrete |
| | | | | | | | 4 inches Processed Aggregate Base Course |
| | | | | | | | 11 inches pavement structure |
| 1-3 | S1 | 16-15-9-7 | 24 | 16 | | SM-GT | red-brown fine to coarse SAND, some fine to coarse Gravel, little Silt, moist |
| 3-5 | S2 | 10-10-7-10 | 24 | 16 | | SM-GT | red-brown fine to coarse SAND, some fine to coarse Gravel, little Silt, moist |
| | | | | | | | END OF BORING: 5 FEET |

Sample Type: S=Split Spoon C=Core UP=Undisturbed Piston V=Vane Shear Test
Proporitons used: Trace = 1-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Total Penetration in
Earth: 5 feet Rock: 0 feet

NOTES:
SM = silty sand GT = Glacial Till
ML = low-plastic silt GF = Glacio Fluvial

| Driller: Scott Marino (NEBCo) | **Connecticut DOT Boring Report** | Hole No.: B7 |
|---|---|---|
| Inspector:Gary Fuerstenberg, PE | Town: Newington CT | Stat./Offset: MAPLE HILL AVENUE: STA. ~26+31, 19'R OFFSET |
| Engineer: Gary Fuerstenberg, PE | Project No: NA | Northing: NA |
| Start Date: 9 October 2018 | Route No.: NA | Easting: NA |
| Finish Date: 9 October 2018 | Bridge No.: NA | Surface Elevation: (pavement surface) |
| Project Description: LOTCIP - Complete Street Project | | |
| Casing Size/Type: 4.5 inch solid stem | Sampler Type/Size: split-barrel | Core Barrel Type: |
| Hammer Wt.: 140# Fall: 30 inches | Drill: Mobile B-53 | |
| Groundwater Observations: not encountered | | Sheet 1 of 1 |

| Depth (feet) From - To | SAMPLES: Sample Type Number | SAMPLES: Blows on Sampler per 6 inches | SAMPLES: Pen (inches) | SAMPLES: Rec (inches) | SAMPLES: RQD % | General Strata Description | Material Description and Notes |
|---|---|---|---|---|---|---|---|
| | | | | | | | 6 inches Bituminous Concrete |
| | | | | | | | 4 inches Processed Aggregate Base Course |
| | | | | | | | 10 inches pavement structure |
| 1-3 | S1 | 12-9-25-11 | 24 | 20 | | SM-FILL | red-brown fine to coarse SAND, some fine to coarse Gravel, little Silt, moist |
| | | | | | | | (black burnt material) |
| 3-5 | S2 | 12-6-6-5 | 24 | 16 | | ML-GF | red-brown SILT, little fine Sand, moist |
| | | | | | | | augered to 5 feet |
| 5-7 | S3 | 6-8-14-14 | 24 | 20 | | ML-GF | red-brown SILT, little fine Sand, moist |
| 7-9 | S4 | 70-55-35-30 | 24 | 20 | | SM-GT | red-brown fine to coarse SAND, some Silt, some fine to coarse Gravel, moist |
| 9-11 | S5 | 9-11-31-30 | 24 | 20 | | SM-GT | red-brown fine to coarse SAND, some Silt, some fine to coarse Gravel, moist |
| | | | | | | | END OF BORING: 11 FEET |

Sample Type: S=Split Spoon C=Core UP=Undisturbed Piston V=Vane Shear Test
Proporitons used: Trace = 1-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Total Penetration in
Earth: 11 feet Rock: 0 feet

NOTES:
SM = silty sand GT = Glacial Till
ML = low-plastic silt GF = Glacio Fluvial

| Driller: Scott Marino (NEBCo) | **Connecticut DOT Boring Report** | Hole No.: B8 |
|---|---|---|
| Inspector:Gary Fuerstenberg, PE | Town: Newington CT | Stat./Offset: MAPLE HILL AVENUE: STA. ~17+50, 0' OFFSET |
| Engineer: Gary Fuerstenberg, PE | Project No: NA | Northing: NA |
| Start Date: 9 October 2018 | Route No.: NA | Easting: NA |
| Finish Date: 9 October 2018 | Bridge No.: NA | Surface Elevation: (pavement surface) |
| Project Description: LOTCIP - Complete Street Project | | |
| Casing Size/Type: 4.5 inch solid stem | Sampler Type/Size: split-barrel | Core Barrel Type: |
| Hammer Wt.: 140# Fall: 30 inches | Drill: Mobile B-53 | |
| Groundwater Observations: not encountered | | Sheet 1 of 1 |

| Depth (feet) From - To | SAMPLES: Sample Type Number | SAMPLES: Blows on Sampler per 6 inches | SAMPLES: Pen (inches) | SAMPLES: Rec (inches) | SAMPLES: RQD % | General Strata Description | Material Description and Notes |
|---|---|---|---|---|---|---|---|
| | | | | | | | 7 inches Bituminous Concrete |
| | | | | | | | 4 inches Processed Aggregate Base Course |
| | | | | | | | 11 inches pavement structure |
| 1-3 | S1 | 27-19-18-19 | 24 | 20 | | SM-GT | red-brown fine to coarse SAND, some fine to coarse Gravel, little Silt, moist |
| 3-5 | S2 | 41-22-33-33 | 24 | 22 | | SM-GT | red-brown fine to coarse SAND, some fine to coarse Gravel, little Silt, moist |
| | | | | | | | augered to 5 feet |
| 5-7 | S3 | 25-27-22-23 | 24 | 16 | | SM-GT | red-brown fine to coarse SAND, some fine to coarse Gravel, little Silt, moist |
| 7-8'5" | S4 | 36-70-100/5" | 17 | 12 | | SM-GT (top 6") | red-brown fine to coarse SAND, some fine to coarse Gravel, little Silt, wet |
| | | | | | | ROCK (bot 6") | weathered Shale bedrock (SPT refusal) |
| | | | | | | | END OF BORING: 8 FEET 5 INCHES |

Sample Type: S=Split Spoon C=Core UP=Undisturbed Piston V=Vane Shear Test
Proporitons used: Trace = 1-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Total Penetration in
Earth: 8 feet 5 inches Rock: 0 feet

NOTES:
SM = silty sand GT = Glacial Till
ML = low-plastic silt GF = Glacio Fluvial

| Driller: Scott Marino (NEBCo) | **Connecticut DOT Boring Report** | Hole No.: B9 |
|---|---|---|
| Inspector:Gary Fuerstenberg, PE | Town: Newington CT | Stat./Offset: MAPLE HILL AVENUE: ~STA. 7+17, 1'R OFFSET |
| Engineer: Gary Fuerstenberg, PE | Project No: NA | Northing: NA |
| Start Date: 9 October 2018 | Route No.: NA | Easting: NA |
| Finish Date: 9 October 2018 | Bridge No.: NA | Surface Elevation: (pavement surface) |
| Project Description: LOTCIP - Complete Street Project | | |
| Casing Size/Type: 4.5 inch solid stem | Sampler Type/Size: split-barrel | Core Barrel Type: |
| Hammer Wt.: 140# Fall: 30 inches | Drill: Mobile B-53 | |
| Groundwater Observations: not encountered | | Sheet 1 of 1 |

| Depth (feet) From - To | SAMPLES: Sample Type Number | SAMPLES: Blows on Sampler per 6 inches | SAMPLES: Pen (inches) | SAMPLES: Rec (inches) | SAMPLES: RQD % | General Strata Description | Material Description and Notes |
|---|---|---|---|---|---|---|---|
| | | | | | | | 8 inches Bituminous Concrete |
| | | | | | | | 2 inches Processed Aggregate Base Course |
| | | | | | | | 10 inches pavement structure |
| 1-3 | S1 | 23-20-10-16 | 24 | 20 | | SM-GT | red-brown fine to coarse SAND, some fine to coarse gravel, some Silt, moist |
| 3-5 | S2 | 13-20-23-31 | 24 | 18 | | SM-GT | red-brown fine to coarse SAND, some Silt, moist |
| | | | | | | | augered to 5 feet |
| 5-7 | S3 | 10-7-7-7 | 24 | 22 | | ML-GF | red-brown SILT, trace fine Sand, moist |
| 7-9 | S4 | 13-10-11-10 | 24 | 20 | | ML-GF | red-brown SILT, trace fine Sand, wet |
| 9-11 | S5 | 6-6-10-11 | 24 | 16 | | ML-GF | red-brown SILT, trace fine Sand, wet |
| | | | | | | | END OF BORING: 11 FEET |

Sample Type: S=Split Spoon C=Core UP=Undisturbed Piston V=Vane Shear Test
Proporitons used: Trace = 1-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Total Penetration in
Earth: 11 feet Rock: 0 feet

NOTES:
SM = silty sand GT = Glacial Till
ML = low-plastic silt GF = Glacio Fluvial

REVISIONS:

vhb

SUBSURFACE EXPLORATIONS LOGS
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

**DATUMS:**

**HORIZONTAL: NAD 83**

**VERTICAL: NAVD88**

PROJECT
18003

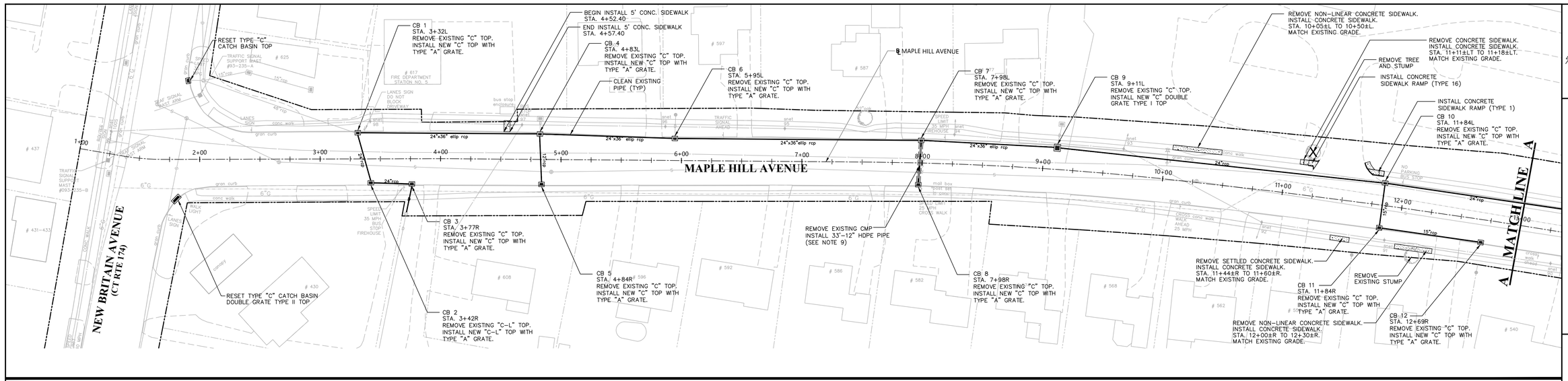
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11 / 16/ 2021

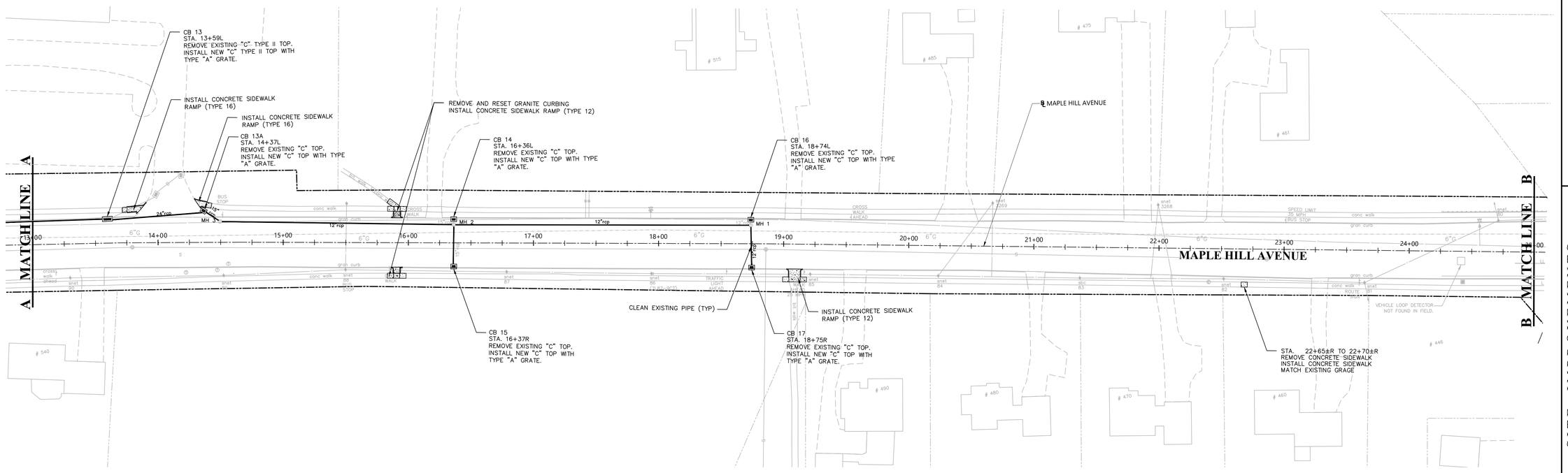
DRAWN
EAN

CHECK
BAA

SHEET
09 OF 44

SCALE:
NTS




CLEARING AND GRUBBING NOTES:

1. TOWN OF NEWINGTON TREE WARDEN WILL POST TREES TO BE REMOVED 11 DAYS PRIOR TO REMOVAL. COORDINATE TREE REMOVAL SCHEDULE WITH THE TOWN OF NEWINGTON TREE WARDEN A MINIMUM OF 2 WEEKS, BUT NOT GREATER THAN 4 WEEKS PRIOR TO REMOVING TREES.
2. REMOVE TREES AND STUMPS PRIOR TO PERFORMING CONCRETE WORK.
3. RESTORE LANDSCAPE AREAS (INSTALL TOPSOIL, TURF ESTABLISHMENT) AFTER REMOVAL OF STUMPS.

SITE IMPROVEMENT NOTES:

1. INSTALL SILTSACK® AT ALL CATCH BASINS PRIOR TO THE START OF WORK.
2. SAWCUT AND REMOVE ROAD PAVEMENT MINIMUM 1 FOOT FROM NEW CURB OR EXISTING CURB (WHICHEVER IS CLOSER TO ROADWAY CENTERLINE) TO FACILITATE COMPACTING BASE COURSE ADJACENT TO NEW CURB.
3. COMPACT BASE AND REPAVE ADJACENT TO NEW CONCRETE CURB AFTER CONCRETE HAS SUFFICIENTLY CURED.
4. RESTORE DISTURBED LANDSCAPED AREAS AND APPLY A MINIMUM OF 4 INCHES TOPSOIL, TURF ESTABLISHMENT.
5. CLEAN ALL CATCH BASIN SUMPS AFTER FINISHED COURSE OF BITUMINOUS PAVEMENT.
6. CLEAN STORM PIPES AS NOTED.
7. ENGINEER TO CONFIRM LAYOUT AND GRADE OF ALL SIDEWALK RAMPS BEFORE POURING CONCRETE.
8. BASELINE IS NOT TO BE USED FOR STAKE OUT, EXCEPT IN THE FOLLOWING LOCATIONS: STA. 100+00 TO 110+00, 135+00 TO 138+50, 156+50 TO 160+50 AND 200+00 TO 201+50 WHERE ACTUAL ON THE GROUND SURVEY WAS PERFORMED BY THE TOWN.
9. WORK REQUIRED FOR CONNECTING NEW PIPES TO EXISTING CATCH BASINS IS INCIDENTAL TO THE COST OF INSTALLING THE PIPE. THE INVERTS FOR THE NEW PIPE SHALL MATCH EXISTING, UNLESS OTHERWISE DIRECTED.
10. REMOVE ABANDONED TROLLEY TRACK AND BED IN EXCAVATIONS IN ROBBINS AVENUE CORRIDOR IS INCLUDED IN CLEARING AND GRUBBING.

GRAPHIC SCALE

40 0 20 40 80 160

( IN FEET )
1 inch = 40 ft.

REVISIONS:

vhb

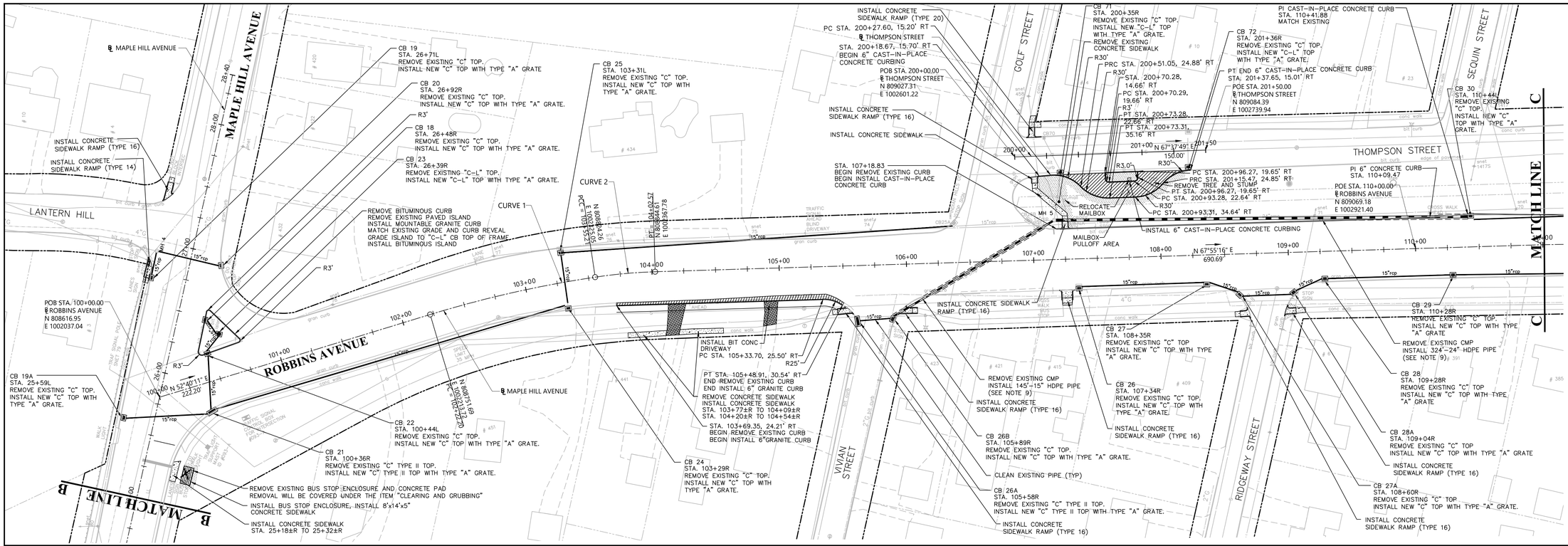
SITE IMPROVEMENTS
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

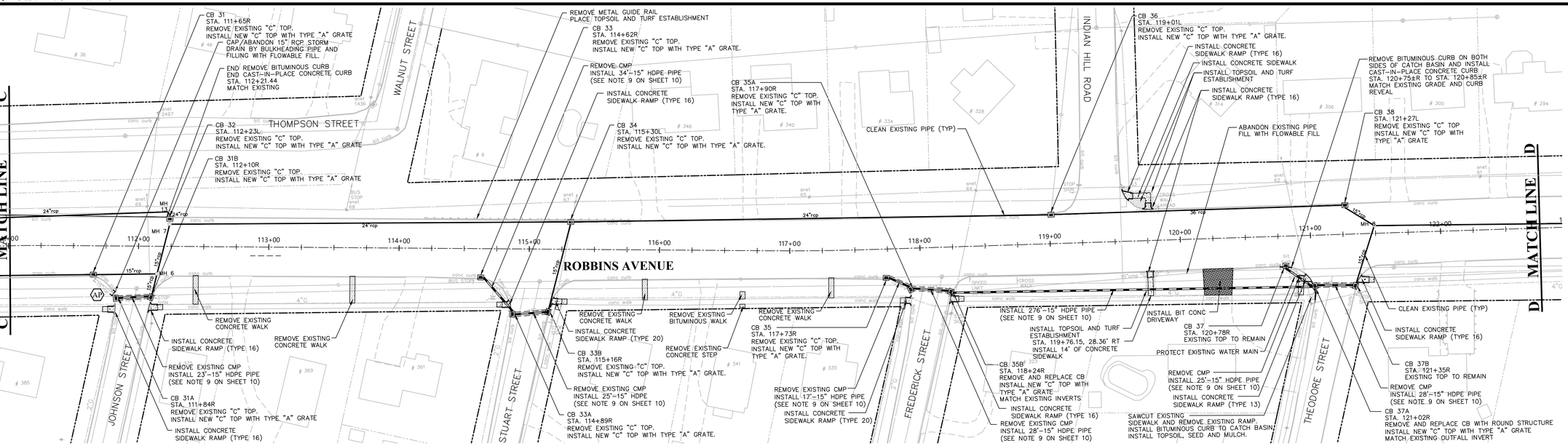
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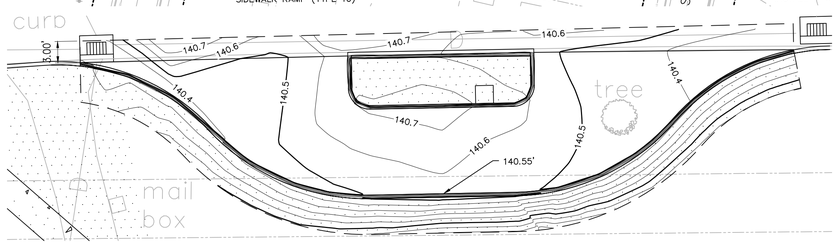
HORIZONTAL: NAD 83

VERTICAL: NAVD88

| | |
|---|---|
| PROJECT | 18003 |
| DATE | 11 / 16/ 2021 |
| DRAWN | EAN |
| CHECK | BAA |
| SHEET | 10 OF 44 |
| SCALE: | 1" = 40' |




Mailbox Pull Off Grading
Scale 1'=10'

| BASELINE CURVE TABLE | | | | | | |
|---|---|---|---|---|---|---|
| CURVE | RADIUS | LENGTH | TANGENT | DELTA | PI: NORTHING | PI: EASTING |
| CURVE 1 | 900.00 | 133.02' | 66.63 | 008° 28' 05" | 808792.10 | 1002266.70 |
| CURVE 2 | 400.00 | 47.36' | 23.71 | 006° 47' 00" | 808835.70 | 1002345.81 |

GRAPHIC SCALE

40 0 20 40 80 160

( IN FEET )
1 inch = 40 ft.

REVISIONS:

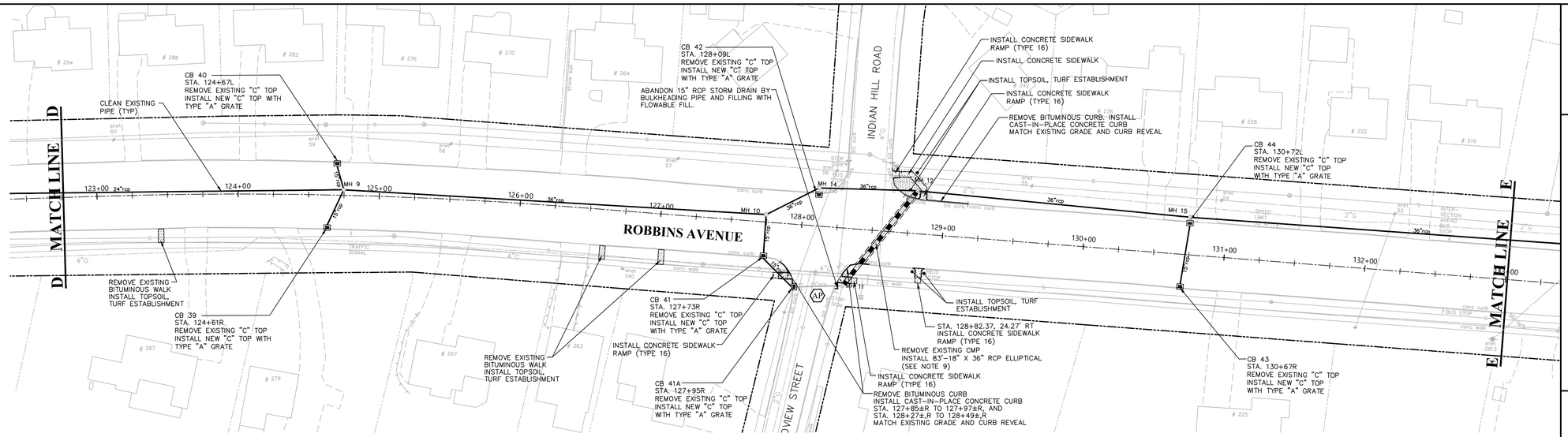
SITE IMPROVEMENTS
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

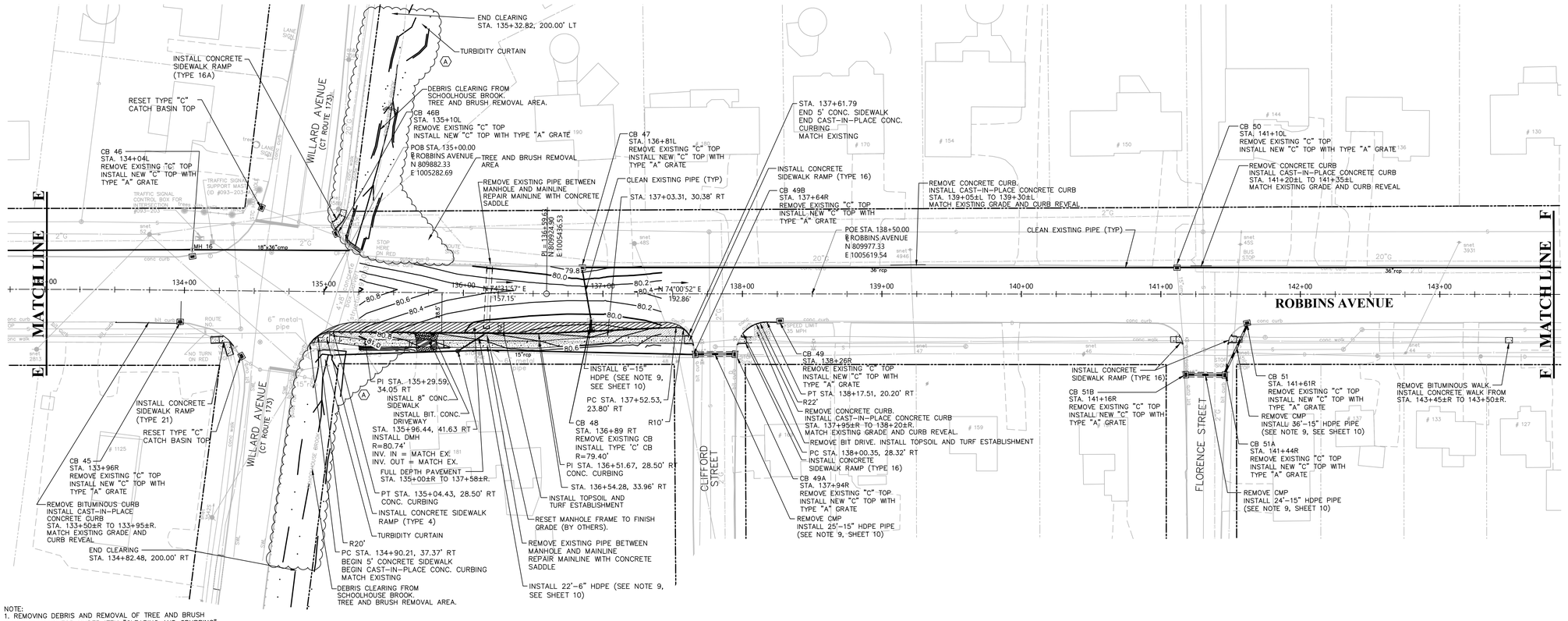
**DATUMS:**

HORIZONTAL: NAD 83

VERTICAL: NAVD88

| | |
|---|---|
| PROJECT | 18003 |
| DATE | 11 / 16/ 2021 |
| DRAWN | EAN |
| CHECK | BAA |
| SHEET | 11 OF 44 |
| SCALE: | 1" = 40' |




NOTE:
1. REMOVING DEBRIS AND REMOVAL OF TREE AND BRUSH SHALL BE PAID FOR UNDER ITEM "CLEARING AND GRUBBING"

2. THE COST TO INSTALL THE CONCRETE SADDLE SHALL BE INCIDENTAL TO THE COST OF REMOVING EXISTING PIPES

(A) RIGHT ACQUIRED BY THE TOWN

GRAPHIC SCALE

40 0 20 40 80 160

( IN FEET )
1 inch = 40 ft.

REVISIONS:

SITE IMPROVEMENTS
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

**DATUMS:**

HORIZONTAL: NAD 83

VERTICAL: NAVD88

| | |
|---|---|
| PROJECT | 18003 |
| DATE | 11 / 16/ 2021 |
| DRAWN | EAN |
| CHECK | BAA |
| SHEET | 12 OF 44 |
| SCALE: | 1" = 40' |

CB 52
STA. 144+21L
REMOVE EXISTING "C" TOP
INSTALL NEW "C" TOP WITH
TYPE "A" GRATE

REMOVE CMP
INSTALL 81'-15" HDPE PIPE
(SEE NOTE 9, SHEET 10)

INSTALL CONCRETE
SIDEWALK RAMP (TYPE 16)

REMOVE DEPRESSED CONCRETE CURB.
INSTALL CAST-IN-PLACE CONCRETE CURB
STA. 147+40±L TO 147+55±L.
MATCH EXISTING GRADE AND CURB REVEAL.

CB 54
STA. 147+99L
REMOVE EXISTING "C" TOP.
INSTALL NEW "C" TOP WITH
TYPE "A" GRATE.

REMOVE CMP
INSTALL 74'-15" HDPE PIPE
(SEE NOTE 9, SHEET 10)

AUDUBON AVENUE

INSTALL CONCRETE SIDEWALK
RAMP (TYPE 16)
STA. 150+69.68, 37.71' LT

INSTALL CONCRETE SIDEWALK

INSTALL TOPSOIL,
SEED AND MULCH.

INSTALL CONCRETE SIDEWALK
RAMP (TYPE 16)
STA. 150+87.08, 20.77' LT

CB 56
STA. 151+44L
REMOVE EXISTING "C" TOP.
INSTALL NEW "C" TOP WITH
TYPE "A" GRATE

REMOVE CMP
INSTALL 73'-15" HDPE PIPE
(SEE NOTE 9, SHEET 10)

CB 59
STA. 154+24L
REMOVE EXISTING "C" TOP.
INSTALL NEW "C" TOP WITH
TYPE "A" GRATE.

CLEAN EXISTING PIPE (TYP)

MATCHLINE F

MATCHLINE G

ROBBINS AVENUE

144+00 145+00 146+00 147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00 155+00

CB 53C
STA. 144+65R
REMOVE EXISTING "C" TOP
INSTALL NEW "C" TOP
WITH TYPE "A" GRATE

REMOVE CMP
INSTALL 25'-15"
HDPE PIPE.
(SEE NOTE 9)

VALENTINE STREET

CB 53
STA. 145+23R
REMOVE EXISTING "C" TOP
INSTALL NEW "C" TOP WITH TYPE "A" GRATE

REMOVE CMP
INSTALL 20'-15" HDPE PIPE (SEE NOTE 9, SHEET 10)

INSTALL CONCRETE SIDEWALK RAMP (TYPE 16)

REMOVE CMP
INSTALL 20'-15" HDPE PIPE
(SEE NOTE 9, SHEET 10)

CB 53B
STA. 144+95R
REMOVE EXISTING "C" TOP
INSTALL NEW "C" TOP WITH TYPE "A" GRATE

INSTALL CONCRETE SIDEWALK RAMP (TYPE 16)

CB 55C
STA. 148+14R
REMOVE EXISTING "C" TOP.
INSTALL NEW "C" TOP WITH
TYPE "A" GRATE.

REMOVE CMP
INSTALL 24'-15" HDPE PIPE
(SEE NOTE 9, SHEET 10)

PARKER STREET

CB 55B
STA. 148+43R
REMOVE EXISTING "C" TOP.
INSTALL NEW "C" TOP WITH
TYPE "A" GRATE.

CB 55
STA. 148+67R
REMOVE EXISTING "C" TOP.
INSTALL NEW "C" TOP WITH
TYPE "A" GRATE.

REMOVE CMP
INSTALL 18'-15" HDPE PIPE
(SEE NOTE 9, SHEET 10)

REPLACE CONCRETE SIDEWALK FROM
STA. 150+11±R TO 150+16±R

INSTALL CONCRETE SIDEWALK
RAMP (TYPE 16)
STA. 150+87.38, 20.01' RT

INSTALL TOPSOIL,
SEED, AND MULCH.

INSTALL CONCRETE
SIDEWALK RAMP (TYPE 20)

CB 57C
STA. 151+64R
REMOVE EXISTING
"C" TOP.
INSTALL NEW "C"
TOP WITH TYPE "A"
GRATE.

REMOVE CMP
INSTALL 28'-15" HDPE PIPE
(SEE NOTE 9, SHEET 10)

BASSWOOD
STREET

CB 57
STA. 152+15R
REMOVE EXISTING "C" TOP.
INSTALL NEW "C" TOP WITH
TYPE "A" GRATE.

REMOVE CMP
INSTALL 24'-15" HDPE PIPE
(SEE NOTE 9, SHEET 10)

INSTALL CONCRETE
SIDEWALK RAMP (TYPE 16)

REMOVE CMP
INSTALL 8'-15" HDPE PIPE
(SEE NOTE 9, SHEET 10)

CB 57B
STA. 151+95R
REMOVE EXISTING "C" TOP.
INSTALL NEW "C" TOP WITH
TYPE "A" GRATE.

CB 58
STA. 154+24R
REMOVE EXISTING "C" TOP.
INSTALL NEW "C" TOP WITH
TYPE "A" GRATE.

INSTALL CONC. SIDEWALK
STA. 156+81 TO 160+37
MATCH EXISTING

CB 62
STA. 160+07L
REMOVE EXISTING "C" TOP.
INSTALL NEW "C" TOP WITH
TYPE "A" GRATE.

INSTALL 8" CONCRETE SIDEWALK (TYP)

REMOVE BITUMINOUS CONCRETE DRIVEWAY APRON (TYP).
INSTALL BITUMINOUS CONCRETE DRIVEWAY APRON (TYP).

MAIN STREET
(CT ROUTE 176)

(EAST ROBBINS AVENUE GREEN)

INSTALL CONCRETE
SIDEWALK

INSTALL CONCRETE
SIDEWALK RAMP
(TYPE 16)

WALSH AVENUE

CB 60
STA. 156+64L
REMOVE EXISTING "C" TOP.
INSTALL NEW "C" TOP WITH
TYPE "A" GRATE.

INSTALL CONCRETE
SIDEWALK RAMP
(TYPE 13)

REMOVE CONCRETE RAMP.
INSTALL TOPSOIL, SEED AND MULCH.

INSTALL TOPSOIL, TURF ESTABLISHMENT

REMOVE BITUMINOUS CONCRETE CURB.
INSTALL CAST-IN-PLACE CONCRETE CURB
STA. 156+55±L TO 156+62±L.
MATCH EXISTING GRADE AND CURB REVEAL.

PT STA. 159+69.21,
37.43' RT

POE STA. 160+50.00
℄ ROBBINS AVENUE
N 810730.60
E 1007674.94

TRIM TREE BRANCHES OVERHANGING ROAD.
COORDINATE WITH TREE WARDEN.

CLEAN EXISTING PIPE
(TYP)

PC STA. 157+39.27, 19.50' RT
R100'
PT STA. 157+53.32, 20.48' RT

INSTALL CONCRETE
SIDEWALK RAMP
(TYPE 16)

REMOVE EXISTING
TREE

EAST ROBBINS AVENUE
(CT ROUTE 287)

160+00 161+00 162+00 162+50

R34'

N 60°30'15" E
400.00'

R65'

POB STA. 156+50.00
℄ ROBBINS AVENUE
N 810533.66
E 1007326.78

ROBBINS AVENUE

156+00 157+00 158+00 159+00

MATCHLINE G

CONVERT CB TO DMH
R=MATCH EXISTING

INSTALL 30' - 12" HDPE PIPE @ 1% SLOPE
MATCH OUTFALL INVERT AT EXISTING CATCH BASIN

INSTALL FULL DEPTH
PAVEMENT

STA. 159+88R
INSTALL TYPE "C" CB
R=114.53

PT STA. 159+95.44,
77.47' RT

PC STA. 159+91.52,
96.70' RT

R15'

STA. 159+79.88, 108.40' RT

PC STA. 159+55.67, 36.00' RT

STA. 159+75.37, 109.18' RT
END CAST-IN-PLACE CONCRETE CURBING

PT STA. 158+69.73,
36.00' RT
R100'

PC STA. 158+55.67,
35.01' RT

(ROBBINS AVENUE CONNECTOR)

INSTALL CONC.
SIDEWALK RAMP
(TYPE 16)

CB 61A
STA. 156+26R
REMOVE EXISTING "C" TOP.
INSTALL NEW "C" TOP WITH
TYPE "A" GRATE.

CB 61
STA. 156+71R
EXISTING CB TOP TO REMAIN

STA. 156+57.67, 36.88' RT
BEGIN CAST-IN-PLACE CONCRETE CURBING

CLEAN EXISTING PIPE (TYP)

MAIN STREET
(CT ROUTE 176)

REVISIONS:

SITE IMPROVEMENTS
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE

PREPARED FOR

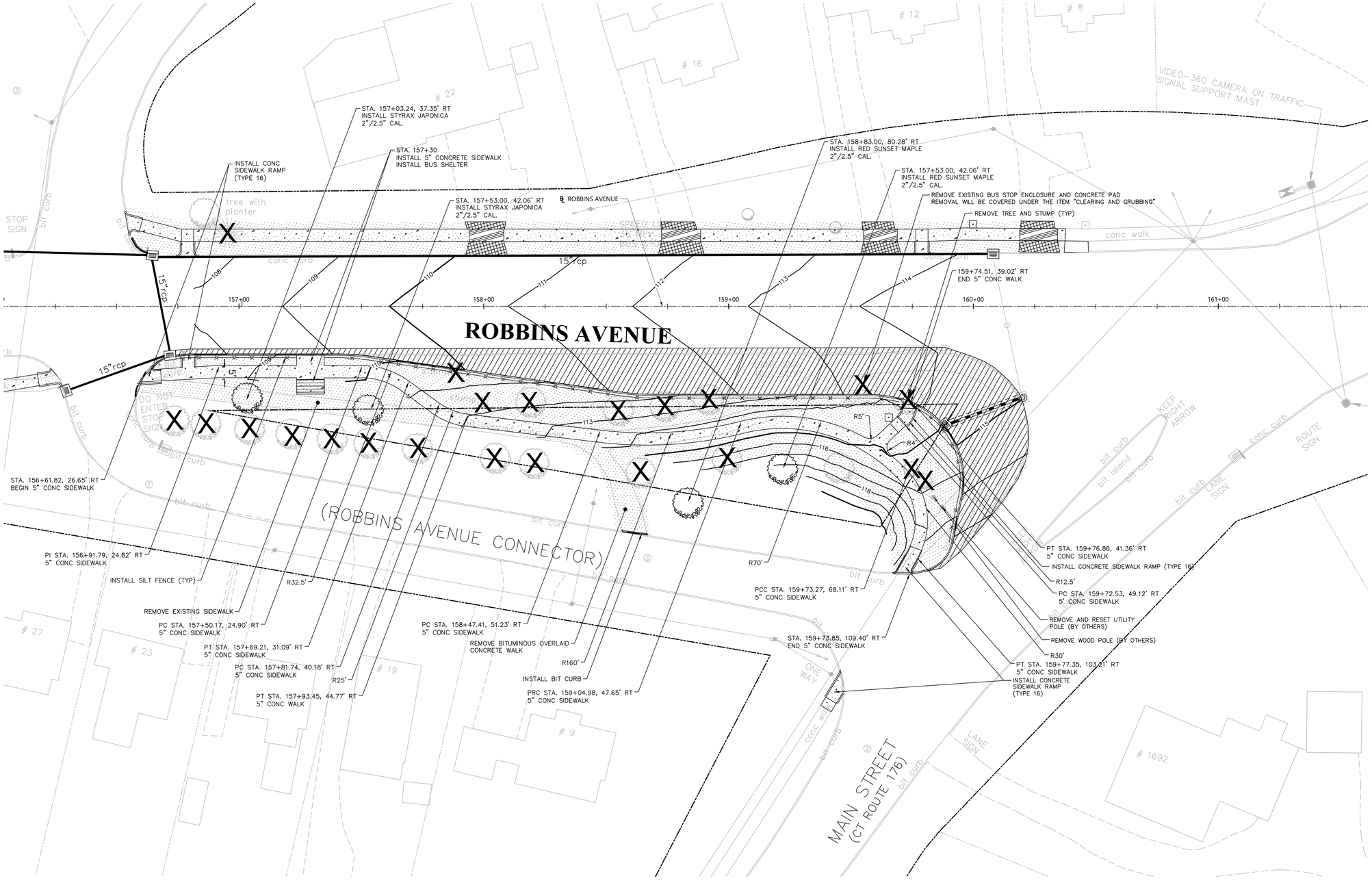
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

**DATUMS:**

HORIZONTAL: NAD 83

VERTICAL: NAVD88

| | |
|---|---|
| PROJECT | 18006 |
| DATE | 11 / 16/ 2021 |
| DRAWN | EAN |
| CHECK | BAA |
| SHEET | 13 OF 44 |
| SCALE: | AS-NOTED |




ROBBINS AVENUE GREEN PLAN

GRAPHIC SCALE

20 0 10 20 40 80

( IN FEET )
1 inch = 20 ft.

REVISIONS:

SITE IMPROVEMENTS
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE

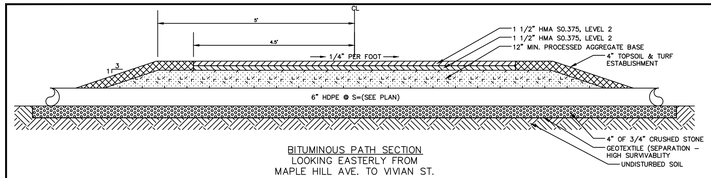
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

**DATUMS:**

**HORIZONTAL: NAD 83**

**VERTICAL: NAVD88**

| | |
|---|---|
| PROJECT | 18006 |
| DATE | 11 / 16/ 2021 |
| DRAWN | EAN |
| CHECK | BAA |
| SHEET | 14 OF 44 |
| SCALE: | AS-NOTED |



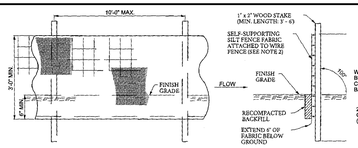

BITUMINOUS PATH SECTION
LOOKING EASTERLY FROM
MAPLE HILL AVE. TO VIVIAN ST.
n.t.s.

SEQUENCE OF WORK:

1. CALL CBYD (811).
2. T.O.N. WILL OBTAIN GRADING EASEMENT FROM 490 MAPLE HILL AVENUE OWNER.
3. REMOVE TREES (AND STUMPS) DESIGNATED BY THE TREE WARDEN.
4. REMOVE EXISTING BITUMINOUS SIDEWALK.
5. INSTALL GEOTEXTILE FABRIC.
6. FILL TO SUBGRADE.
7. INSTALL NEW CONCRETE RAMP WITH TACTILE WARNING STRIP AT VIVIAN STREET AND MAPLE HILL AVENUE.
8. INSTALL NEW 463±FT. BITUMINOUS WALK.
9. RESTORE SITE (SEED AND MULCH).

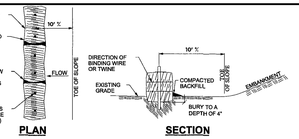
LEGEND:

(A) EASEMENT ACQUIRED

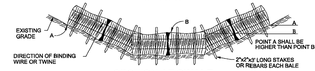


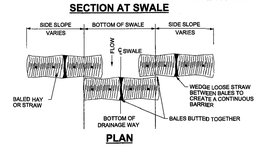

NOTES:
1. INSTALL SILT FENCE & WOOD STAKES AS RECOMMENDED BY MANUFACTURER.
2. SILT FENCE SUBJECT TO HEAVY LOADS SHALL BE REINFORCED WITH FARM FENCING & STEEL POSTS (6.5 # STEEL,L.F.). THE MINIMUM POST LENGTH SHALL BE 5'-0".
3. SILT FENCE FABRIC SHALL BE A PERVIOUS SHEET OF WOVEN PROPYLENE, NYLON, POLYESTER OR POLYETHYLENE FILAMENTS AND SHALL BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER.

**SILT FENCE**
NOT TO SCALE




**HAY BALES AT TOE OF SLOPE**
NOT TO SCALE



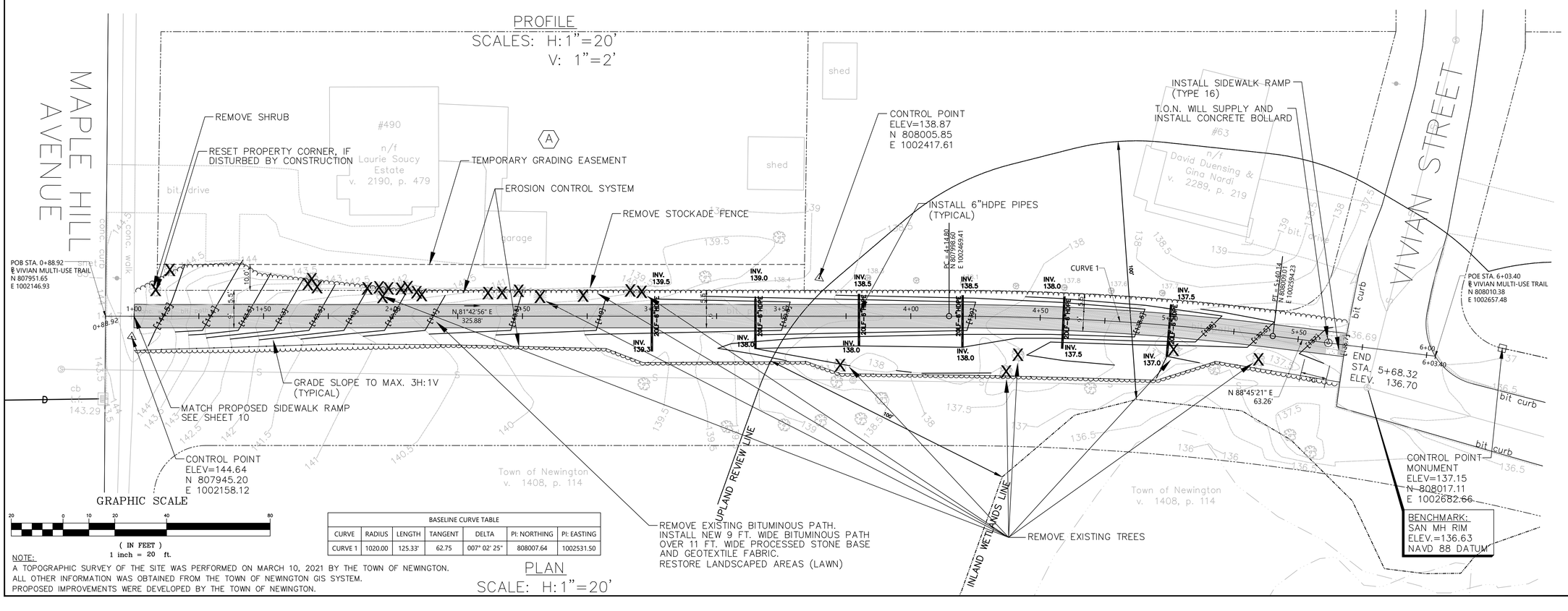

**HAY BALES AT SWALE**
NOT TO SCALE

LEGEND

| EXISTING | | PROPOSED |
|---|---|---|
| | PROPERTY LINE | |
| | EDGE OF PAVEMENT | |
| | CONTOUR (INTERVAL=0.5 FT.) | [+40] |
| 72.9 + | SPOT ELEVATION | |
| | WATERCOURSE | |
| | INLAND WETLAND | |
| | UPLAND REVIEW | |
| | STORM DRAIN | |
| | SANITARY SEWER | |
| | CATCH BASIN | |
| | SANITARY MANHOLE | |
| | UTILITY POLE | |
| | HYDRANT | |
| #17 | HOUSE NUMBER | |
| | DECIDUOUS TREE | |
| | CONIFEROUS TREE | |
| | STOCKADE FENCE | |
| | SILTFENCE | |
| | LIMIT OF GRADING | |
| | REMOVAL | X |
| | BITUMINOUS PATH | |




PROFILE
SCALES: H:1"=20'
V: 1"=2'




GRAPHIC SCALE
20 0 10 20 40 80
( IN FEET )
1 inch = 20 ft.

| BASELINE CURVE TABLE | | | | | | |
|---|---|---|---|---|---|---|
| CURVE | RADIUS | LENGTH | TANGENT | DELTA | PI: NORTHING | PI: EASTING |
| CURVE 1 | 1020.00 | 125.33' | 62.75 | 007° 02' 25" | 808007.64 | 1002531.50 |

NOTE:
A TOPOGRAPHIC SURVEY OF THE SITE WAS PERFORMED ON MARCH 10, 2021 BY THE TOWN OF NEWINGTON.
ALL OTHER INFORMATION WAS OBTAINED FROM THE TOWN OF NEWINGTON GIS SYSTEM.
PROPOSED IMPROVEMENTS WERE DEVELOPED BY THE TOWN OF NEWINGTON.

PLAN
SCALE: H:1"=20'

REVISIONS:

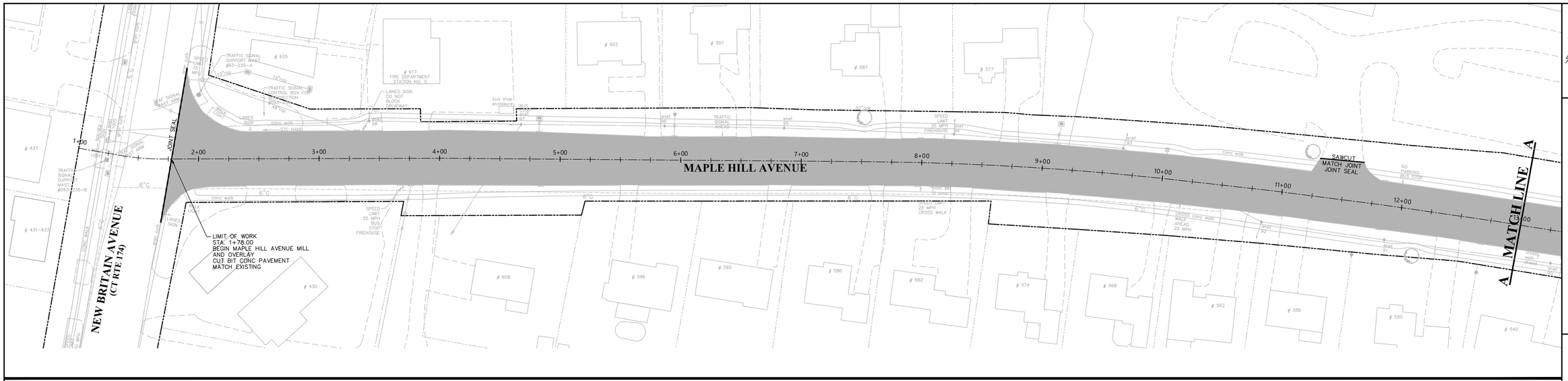
TOWN OF NEWINGTON
ENGINEERING DEPARTMENT

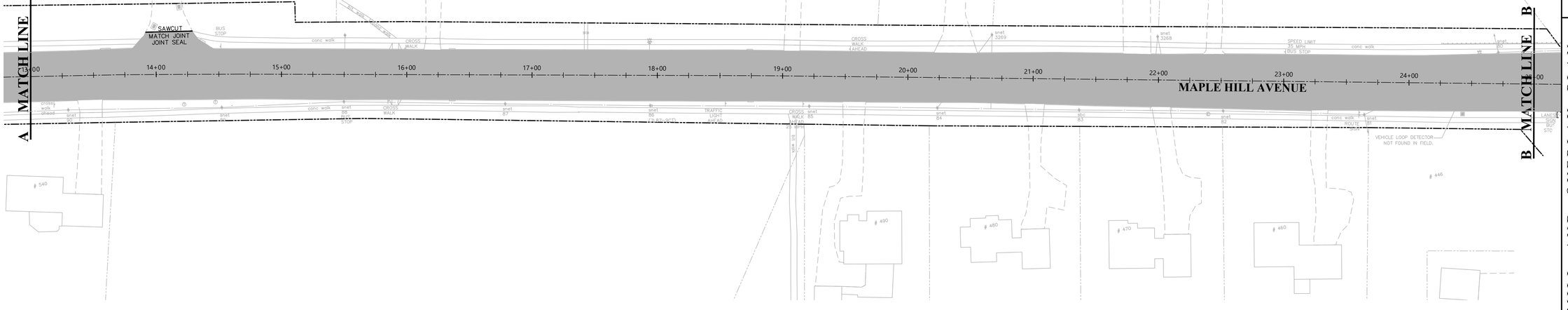
BITUMINOUS PATH BETWEEN
MAPLE HILL AVENUE AND VIVIAN STREET
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

**DATUMS:**

HORIZONTAL: NAD 83
VERTICAL: NAVD88

| | |
|---|---|
| PROJECT | 20010 |
| DATE | 11 / 16/2021 |
| DRAWN | JHD |
| CHECK | GJF |
| SHEET | 15 OF 44 |
| SCALE: | AS-NOTED |




MILL AND OVERLAY NOTES:

1. COMPLETE TRAFFIC SIGNAL IMPROVEMENTS PRIOR TO MILLING.
2. COMPLETE SITE IMPROVEMENTS PRIOR TO MILLING INCLUDING FULL DEPTH PAVEMENT UP TO BINDER COURSE.
3. ABANDON VEHICLE DETECTOR LOOPS ON MAPLE HILL AVENUE AND ROBBINS AVENUE VIA MILLING.
4. MILL MAXIMUM OF 2 INCHES TO ESTABLISH CROWN PER ROAD SECTIONS.
5. MILL UP TO AN ADDITIONAL 1" AS NECESSARY WHERE UNEVEN PAVEMENT IS ENCOUNTERED.
6. CLEAN AND SEAL EXISTING CRACKS ON MILLED SURFACE AS DIRECTED BY THE ENGINEER.
7. AFTER MILLING AND PRIOR TO PAVING, INSTALL TEMPORARY BITUMINOUS RAMP AT: DRIVEWAYS, START AND END, UNCONTROLLED INTERSECTIONS, AND SIDEWALK RAMPS.
8. RE-ESTABLISH CROWN PER ROAD SECTIONS FOR PROPER DRAINAGE.
9. SWEEP ROAD SURFACE MAXIMUM 24 HOURS PRIOR TO OVERLAY.
10. INSTALL SHIM COURSE, AS DIRECTED BY THE ENGINEER.
11. OVERLAY MINIMUM 2 INCHES (MAXIMUM 2 1/4 INCHES) TO SURFACE ROAD.
12. LONGITUDINAL JOINT LENGTH: 1,000 FEET MAXIMUM.
13. ADJUST VALVES AND MANHOLES TO GRADE PRIOR TO INSTALLATION OF FINISHED COURSE OF PAVEMENT OVERLAY.
14. INSTALL WEARING COURSE.
15. WEARING COURSE LONGITUDINAL SEAMS: MINIMUM 12 INCHES HORIZONTAL OFFSET FROM BINDER COURSE LONGITUDINAL SEAMS.
16. INSTALL LONGITUDINAL SEAMS PER ROAD TYPICAL SECTIONS AND SECTION 4.06.
17. HOT JOINT SEAL ALL JOINTS.
18. INSTALL TEMPORARY PAVEMENT MARKINGS IMMEDIATELY AFTER MILLING TO ESTABLISH TRAVEL LANES AND CENTERLINE.
19. COMPLETE PAVING WITHIN 7 DAYS AFTER MILLING.

GRAPHIC SCALE

40 0 20 40 80 160

( IN FEET )
1 inch = 40 ft.

10/10/2018 - BORINGS LOCATED

REVISIONS:

vhb

MILL AND OVERLAY PLAN
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

**DATUMS:**

**HORIZONTAL: NAD 83**

**VERTICAL: NAVD88**

| | |
|---|---|
| PROJECT | 18003 |
| DATE | 11 / 16/ 2021 |
| DRAWN | EAN |
| CHECK | BAA |
| SHEET | 16 OF 44 |
| SCALE: | 1" = 40' |

LIMIT OF WORK
END MAPLE HILL AVENUE MILL AND OVERLAY
CUT BIT CONC PAVAMENT
MATCH EXISTING
STA. 27+51.00

MAPLE HILL AVENUE

LANTERN HILL

SAWCUT JOINT SEAL

MATCH JOINT SAWCUT JOINT SEAL

ROBBINS AVENUE

MILL WESTBOUND LANES TO REMOVE PAVEMENT RUTTING
MAPLE HILL AVENUE TO STA. 102+00

LIMIT OF WORK
END MAPLE HILL AVENUE MILL AND OVERLAY
BEGIN ROBBINS AVENUE MILL AND OVERLAY
STA. 25+99.00 21.83' RT MAPLE HILL AVENUE
STA. 100+25.00 ROBBINS AVENUE

MATCH LINE B

GOLF STREET

SEQUIN STREET

THOMPSON STREET

MATCH JOINT SAWCUT JOINT SEAL

MATCH LINE C

VIVIAN STREET

RIDGEWAY STREET

JOINT SEAL MATCH JOINT SAWCUT

WALNUT STREET

INDIAN HILL ROAD

MATCH LINE D

JOHNSON STREET

STUART STREET

FREDERICK STREET

THEODORE STREET

GRAPHIC SCALE

40 0 20 40 80 160

( IN FEET )
1 inch = 40 ft.

10/10/2018 - BORINGS LOCATED

REVISIONS:

MILL AND OVERLAY PLAN
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE

PREPARED FOR

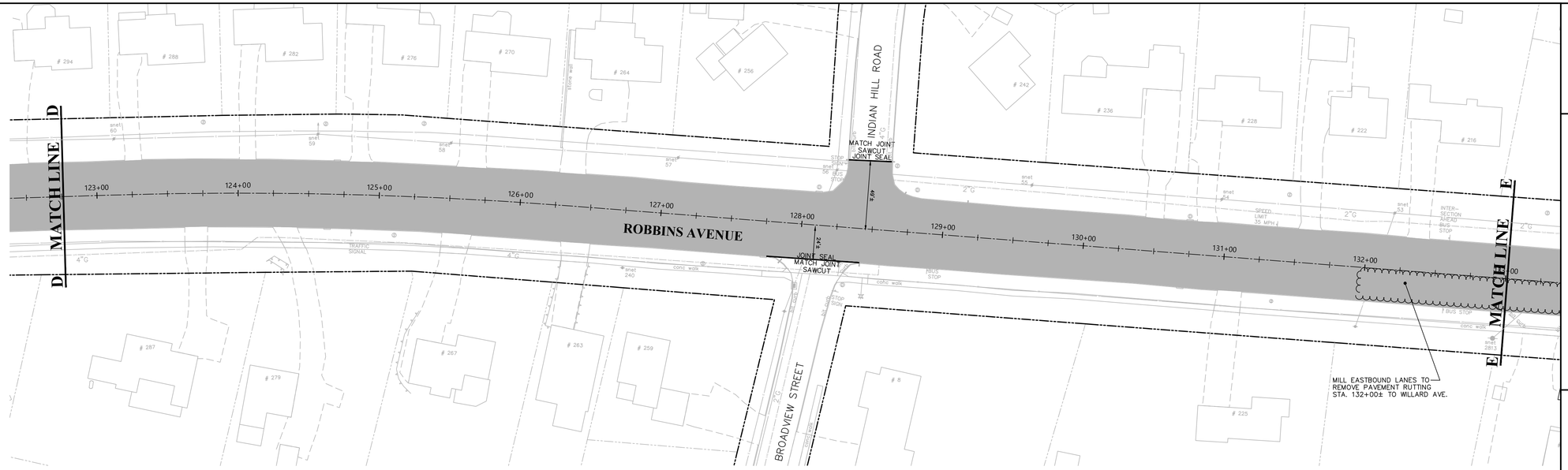
TOWN OF NEWINGTON
131 CEDAR STREET
NEWINGTON, CT. 06111

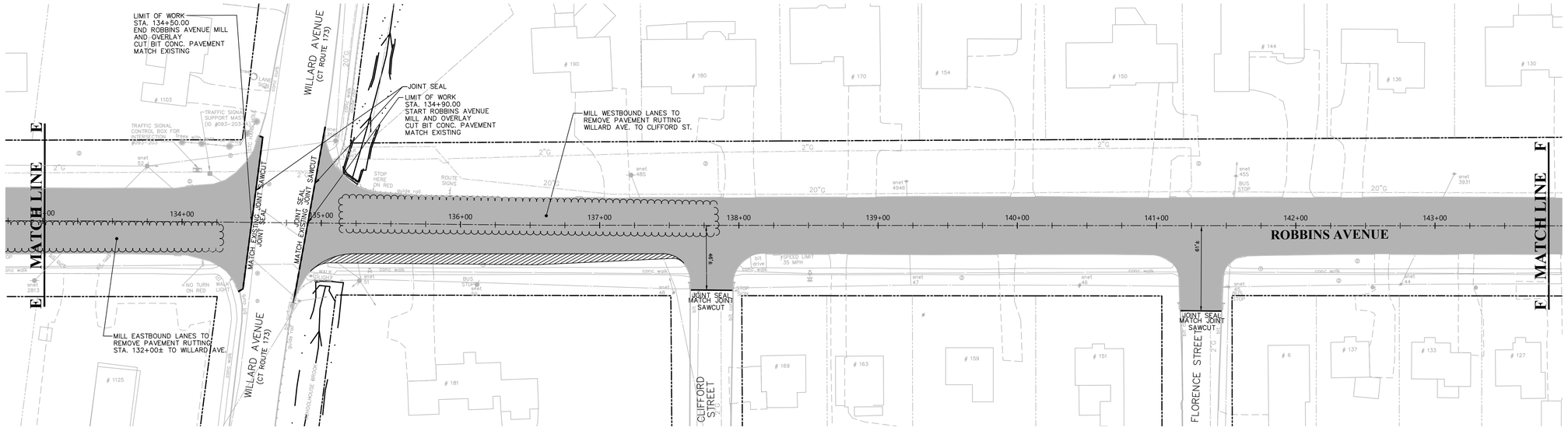
**DATUMS:**

HORIZONTAL: NAD 83

VERTICAL: NAVD88

| | |
|---|---|
| PROJECT | 18003 |
| DATE | 11 / 16/ 2021 |
| DRAWN | EAN |
| CHECK | BAA |
| SHEET | 17 OF 44 |
| SCALE: | 1" = 40' |




GRAPHIC SCALE

40 0 20 40 80 160

( IN FEET )
1 inch = 40 ft.

10/10/2018 - BORINGS LOCATED

REVISIONS:

# MILL AND OVERLAY PLAN
# COMPLETE STREETS PROJECT
# MAPLE HILL AVENUE & ROBBINS AVENUE

PREPARED FOR

TOWN OF NEWINGTON

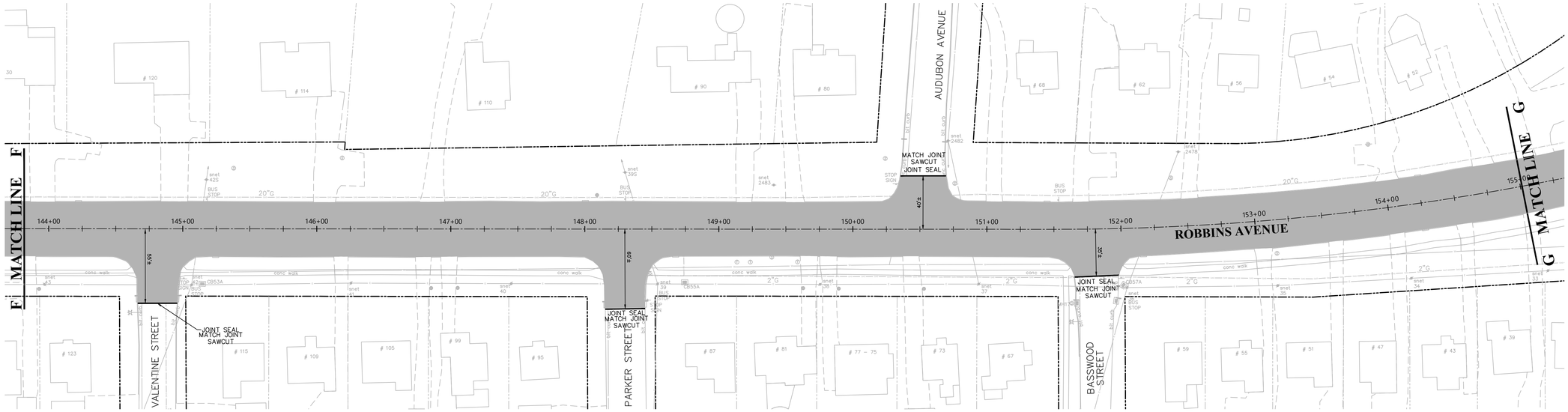
131 CEDAR STREET NEWINGTON, CT. 06111

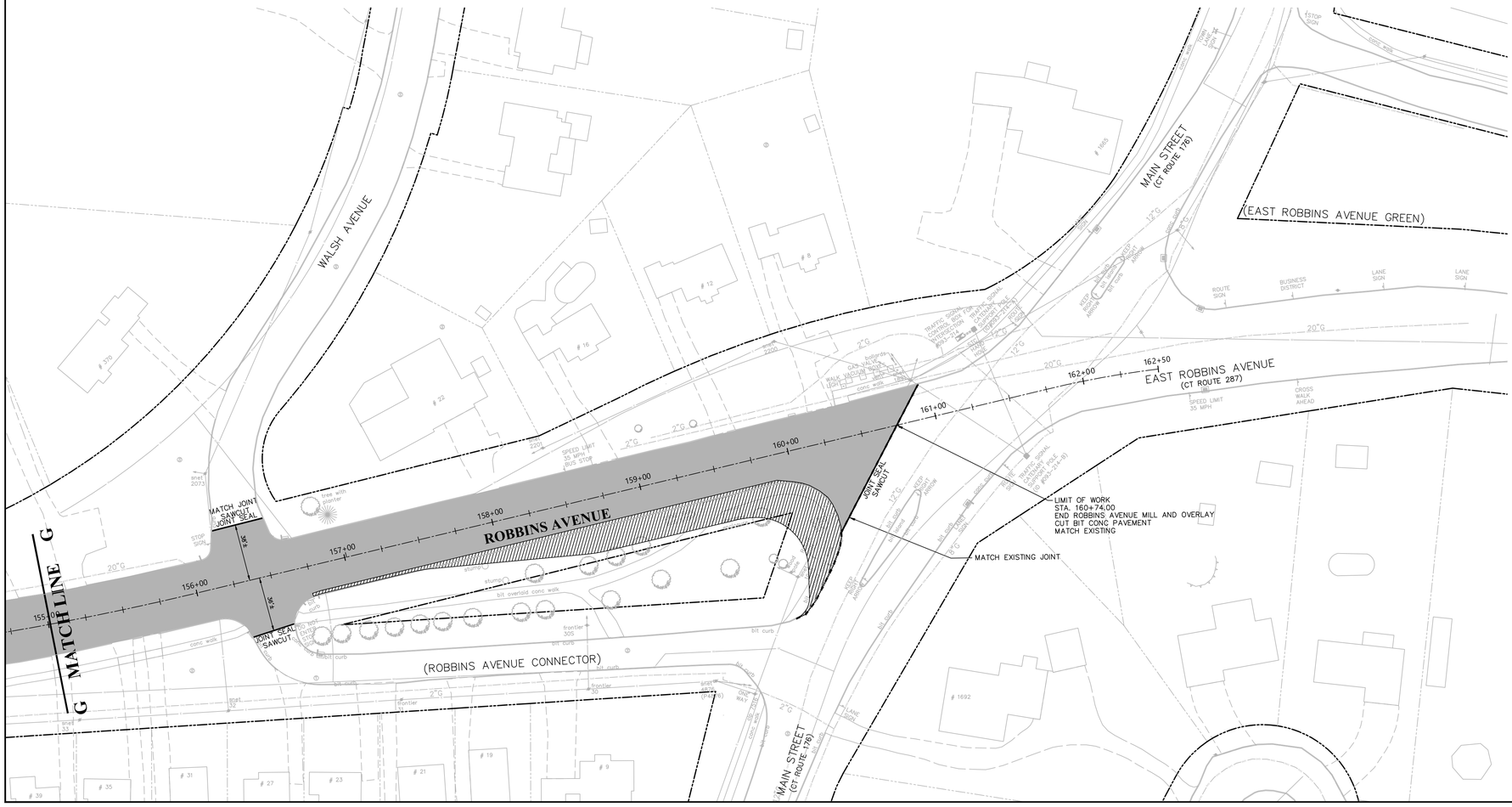
**DATUMS:**

**HORIZONTAL: NAD 83**

**VERTICAL: NAVD88**

| |
|---|
| PROJECT |
| 18003 |
| DATE |
| 11 / 16/ 2021 |
| DRAWN |
| EAN |
| CHECK |
| BAA |
| SHEET |
| 18 OF 44 |
| SCALE: |
| 1" = 40" |




GRAPHIC SCALE

40 0 20 40 80 160

( IN FEET )
1 inch = 40 ft.

10/10/2018 - BORINGS LOCATED

REVISIONS:

vhb

MILL AND OVERLAY PLAN
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE

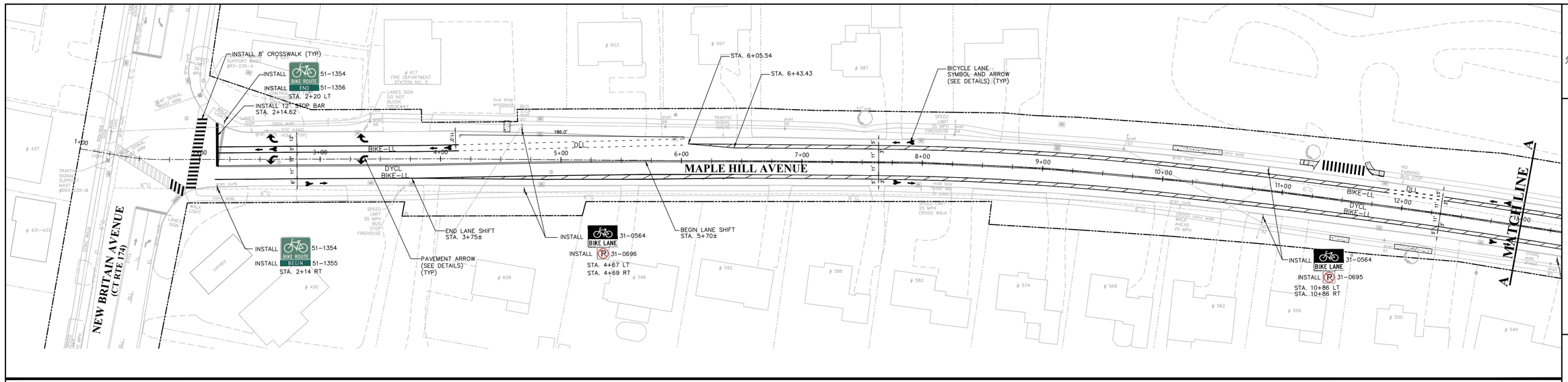
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

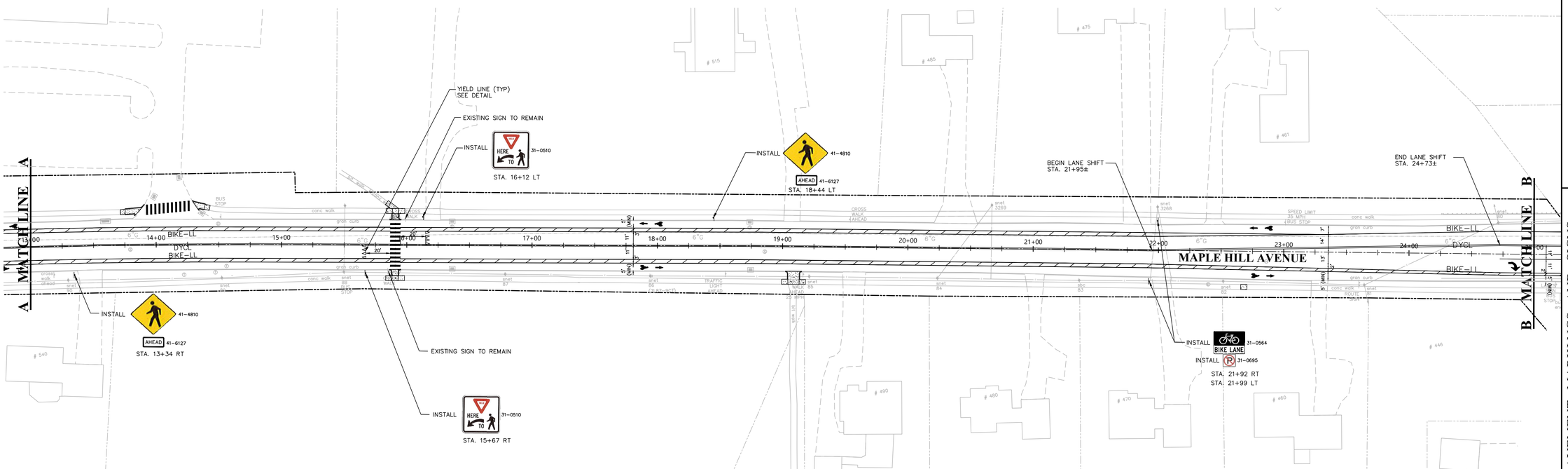
**DATUMS:**

**HORIZONTAL: NAD 83**

**VERTICAL: NAVD88**

| |
|---|
| PROJECT |
| 18006 |
| DATE |
| 11 / 16/ 2021 |
| DRAWN |
| EAN |
| CHECK |
| BAA |
| SHEET |
| 19 OF 44 |
| SCALE: |
| 1" = 40' |




PAVEMENT MARKINGS NOTES:
1. PROVIDE BIKE TEMPLATE TO TOWN OF NEWINGTON
2. INSTALL SIGNS ON 10 FT U-CHANNEL BREAKAWAY POSTS.
3. USE EPOXY RESIN FOR ALL PAVEMENT MARKS.

GRAPHIC SCALE

40 0 20 40 80 160

( IN FEET )
1 inch = 40 ft.

REVISIONS:

vhb

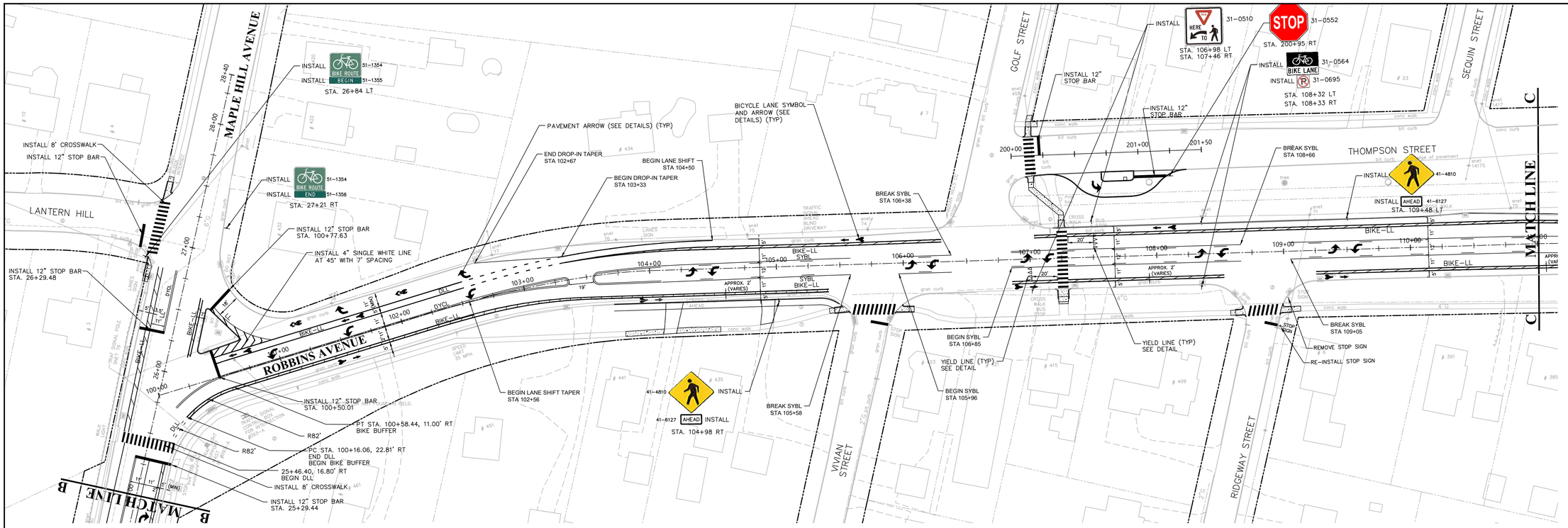
PAVEMENT MARKINGS AND SIGNS
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

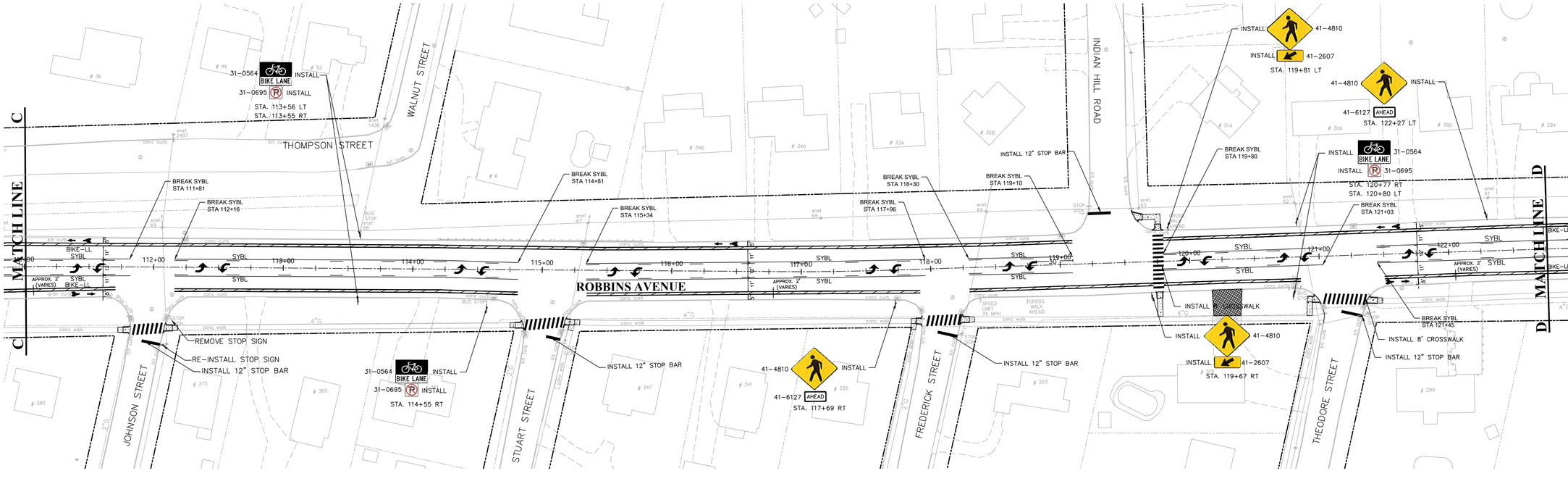
**DATUMS:**

**HORIZONTAL: NAD 83**

**VERTICAL: NAVD88**

| | |
|---|---|
| PROJECT | 18003 |
| DATE | 11 / 16/ 2021 |
| DRAWN | EAN |
| CHECK | BAA |
| SHEET | 20 OF 44 |
| SCALE: | 1" = 40" |




GRAPHIC SCALE

40 0 20 40 80 160

( IN FEET )
1 inch = 40 ft.

REVISIONS:

vhb

PAVEMENT MARKINGS AND SIGNS
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE

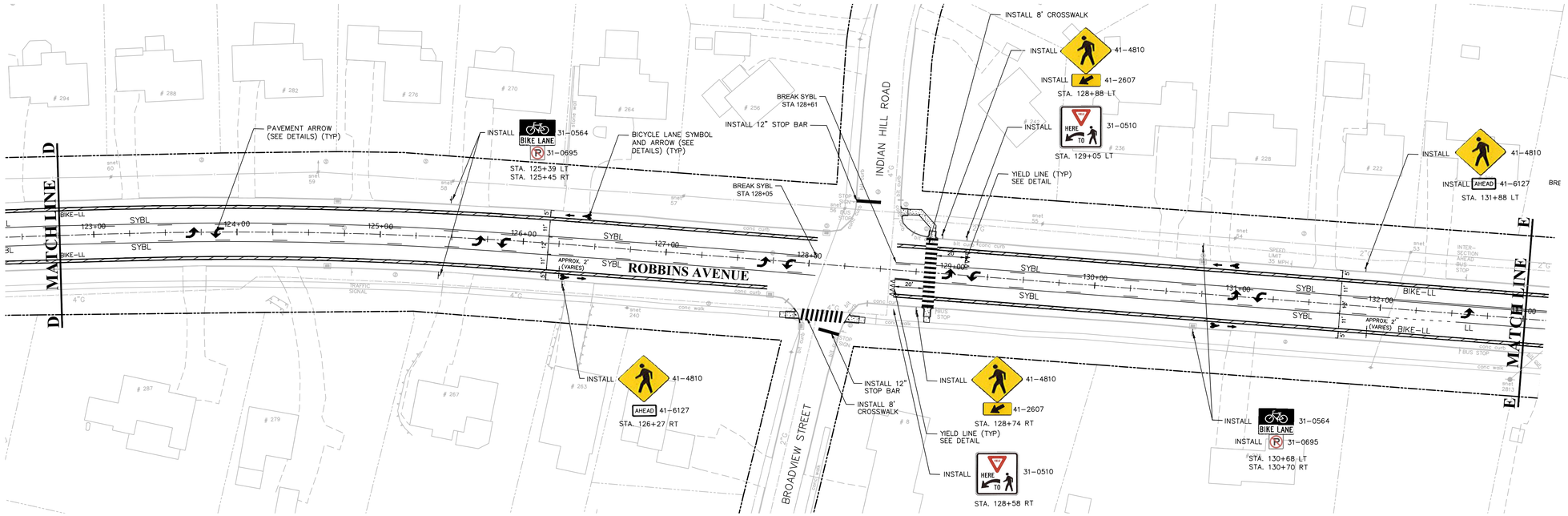
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

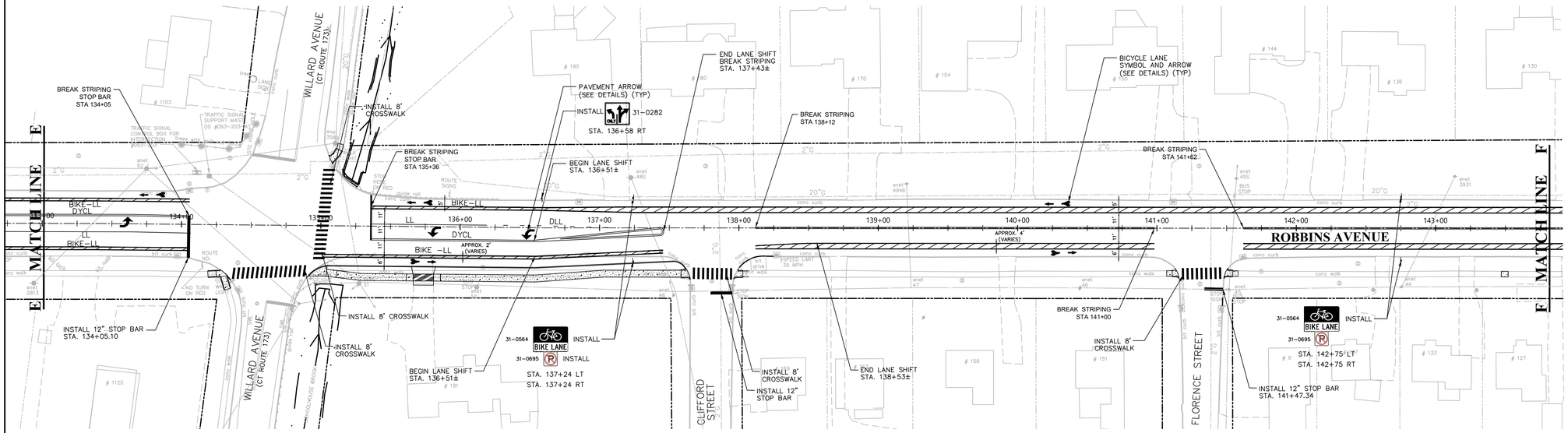
**DATUMS:**

HORIZONTAL: NAD 83

VERTICAL: NAVD88

| | |
|---|---|
| PROJECT | 18003 |
| DATE | 11 / 16/ 2021 |
| DRAWN | EAN |
| CHECK | BAA |
| SHEET | 21 OF 44 |
| SCALE: | 1" = 40" |




GRAPHIC SCALE

40 0 20 40 80 160

( IN FEET )
1 inch = 40 ft.

REVISIONS:

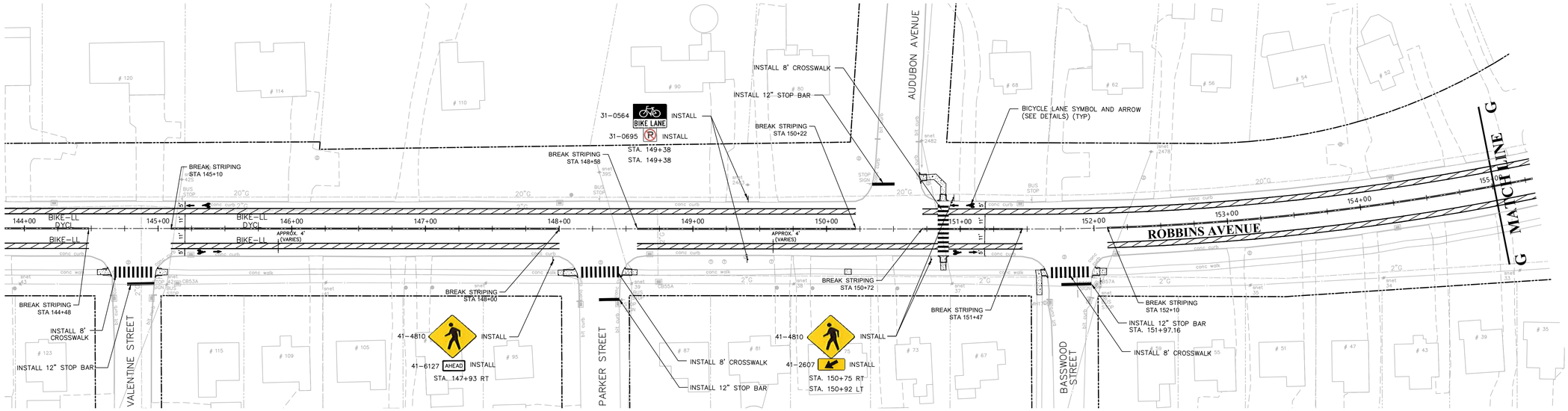
PAVEMENT MARKINGS AND SIGNS
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

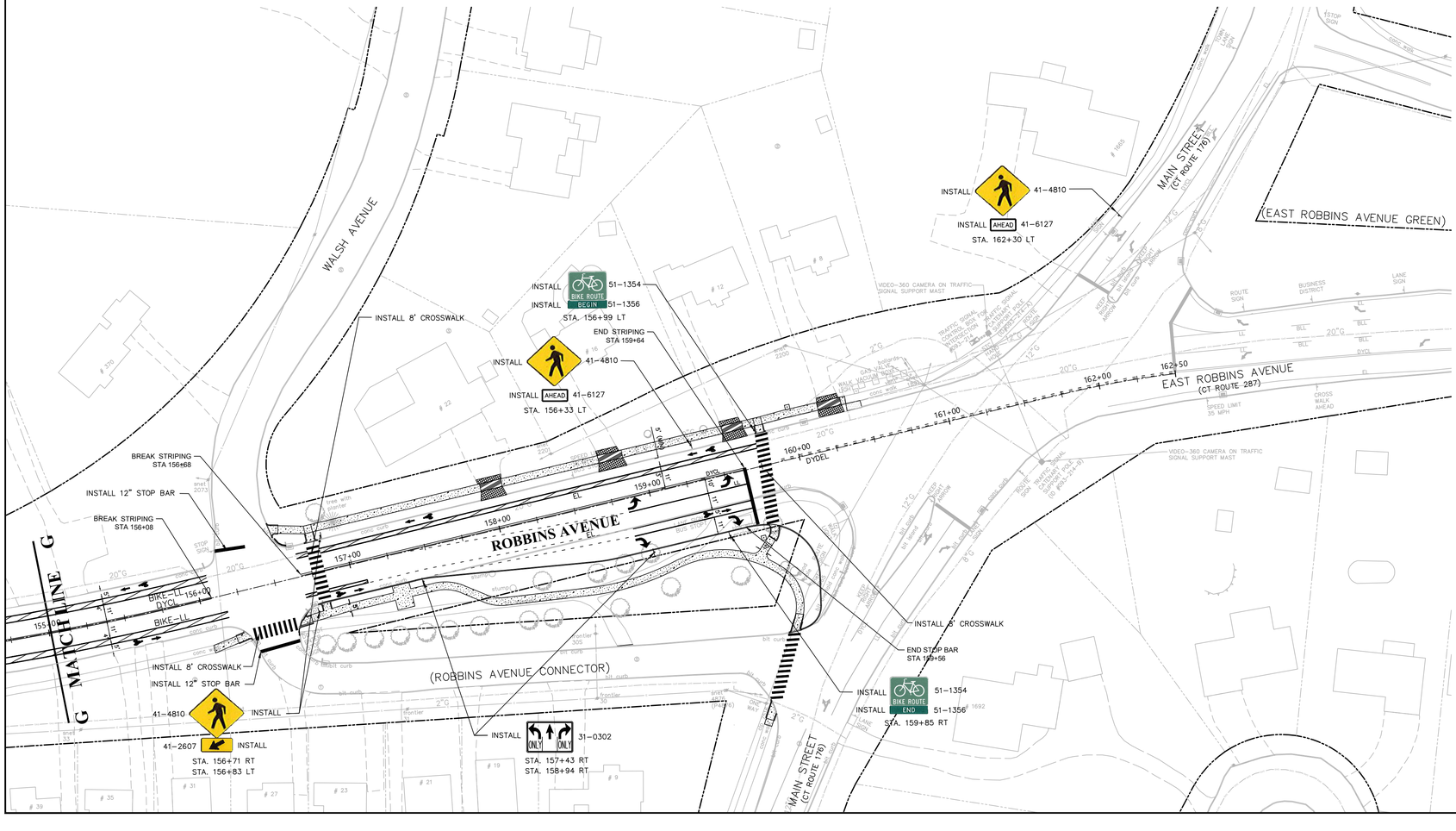
**DATUMS:**

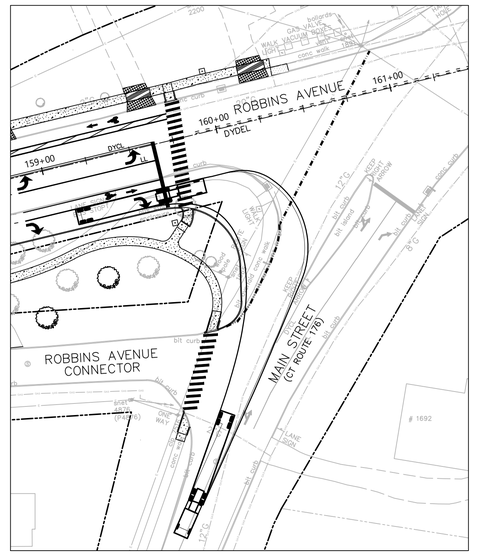
HORIZONTAL: NAD 83

VERTICAL: NAVD88

| |
|---|
| PROJECT |
| 18003 |
| DATE |
| 11 / 16/ 2021 |
| DRAWN |
| EAN |
| CHECK |
| BAA |
| SHEET |
| 22 OF 44 |
| SCALE: |
| 1" = 40" |




WB-67 RIGHT TURN
TURNING TEMPLATE

GRAPHIC SCALE

40 0 20 40 80 160

( IN FEET )
1 inch = 40 ft.

REVISIONS:

vhb

PAVEMENT MARKINGS AND SIGNS
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

**DATUMS:**

**HORIZONTAL: NAD 83**

**VERTICAL: NAVD88**

| | |
|---|---|
| PROJECT | 18006 |
| DATE | 11 / 16/ 2021 |
| DRAWN | EAN |
| CHECK | BAA |
| SHEET | 23 OF 44 |
| SCALE: | 1" = 40' |

## MOVEMENT DIAGRAM

| | NTOR | PHASE 1 | PHASE 2 PRE-EMPT. 1 | PHASE 3 | PHASE 4 | PHASE 5 PRE-EMPT. 2 | PHASE 6 | PHASE 7 | PHASE 8 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | NONE | 1 4 2 | 1 3 2 6 | | 8 7 | 4 5 | | | | |
| | FLASH | GRN CL CL | GRN CL CL | GRN CL CL | GRN CL CL | GRN CL CL | GRN CL CL | GRN CL CL | GRN CL CL | GRN CL CL |
| FACE # 1 | Y | ◄G ◄Y G | G Y R | R R R | R R R | R R R | | | | |
| 2 | Y | G G G | G Y R | R R R | R R R | R R R | | | | |
| 3 | Y | R R R | G Y R | R R R | R R R | R R R | | | | |
| 4 | R | R ► R ►Y R | R R R | R R R | R R R | G Y ① R ② | | | | |
| 5 | R | R R R | R R R | R R R | R R R | ◄G Y R | | | | |
| 6 | Y | R R R | G Y R | R R R | R R R | R R R | | | | |
| 7 | R | R R R | R R R | R R R | G Y R | R R R | | | | |
| 8 | R | R R R | R R R | R R R | ◄G Y R | R R R | | | | |
| P | OFF | ◄ | DW ► | WØ ◄ | DW ► | | | | | |
| | | | ◄ YIELD | | | | | | | |
| INTERVALS | MIN GRN | 5 | 15 | 7 ③ 17 ④ ACCESSIBLE PEDESTRIAN SIGNAL | 5 | 7 | | | | |
| | WALK | | | | | | | | | |
| | PED CLR | | | | | | | | | |
| | VEH EXT | 1.5 | 2.5 | | 1.5 | 3 | | | | |
| | MAX 1 | 14 | 19 | | 8 | 12 | | | | |
| | MAX 2 | 11 | 32 | | 8 | 17 | | | | |
| | YELLOW | 3 | 4.2 | 4 | 3 | 3.6 | | | | |
| | RED | 1.6 | 2.5 | 0 | 1 | 3 | | | | |
| | ADD INIT | | | | | | | | | |
| | MAX INIT | | | | | | | | | |
| | TBR | | | | | | | | | |
| | TTR | | | | | | | | | |
| | MIN GAP | | | | | | | | | |
| | MODE | NON-LOCK | MIN RECALL | NON-LOCK | NON-LOCK | NON-LOCK | OFF | OFF | OFF | OFF |
| | INT START | | THIS PHASE | | | | | | | |

### DETECTORS

| IDENT | SIZE (WXL) | TYPE | MODE |
|---|---|---|---|
| D1 | 6' X 35' | VIDEO 360 | PRESENCE |
| D2,D2A | 6' X 6' | VIDEO-THERM | PRESENCE |
| D2B,D2C | 6' X 6' | VIDEO-THERM | PRESENCE |
| D4 | 6' X 25' | VIDEO 360 | 6" DELAY |
| D5 | 6' X 35' | VIDEO 360 | PRESENCE |
| D5A | 6' X 35' | VIDEO 360 | 6" DELAY |
| BD1 | 4' X 35' | VIDEO 360 | PRESENCE |

SYSTEM LOC: MASTER 93-236

COORDINATION TYPE: TC/TBC

| PROGRAM FUNCTION | PROGRAM TIME | PROGRAM DAYS | CYCLE | OFFSET SEC | OFFSET % |
|---|---|---|---|---|---|
| FLASH | NONE | DAILY | | | |
| MAX 1 | ALL OTHER TIMES | | | | |
| MAX 2 | 1500 - 1800 | | | | |
| PATTERN 1 | ALL OTHER TIMES | | 75" | 1" | |
| PATTERN 2 | 1500 - 1800 | M-F | 90" | 1" | |

SIGN LEGEND:

- (A) EXIST. 31-0283
- (B) EXIST. 31-0282
- (C) SPAN MTD. 31-0135
- (D) EXIST. 31-0283Z
- (E) EXIST. 31-0552
- (F) EXIST. 31-0283Z AND SUBMTD. 31-0803Z

NOTES:

(S) BAR TYPE CROSSWALK (16" - 16" x 8' MIN)-STATE MAINTAINED.

(T) BAR TYPE CROSSWALK (16" - 16" x 8' MIN)-TOWN MAINTAINED.

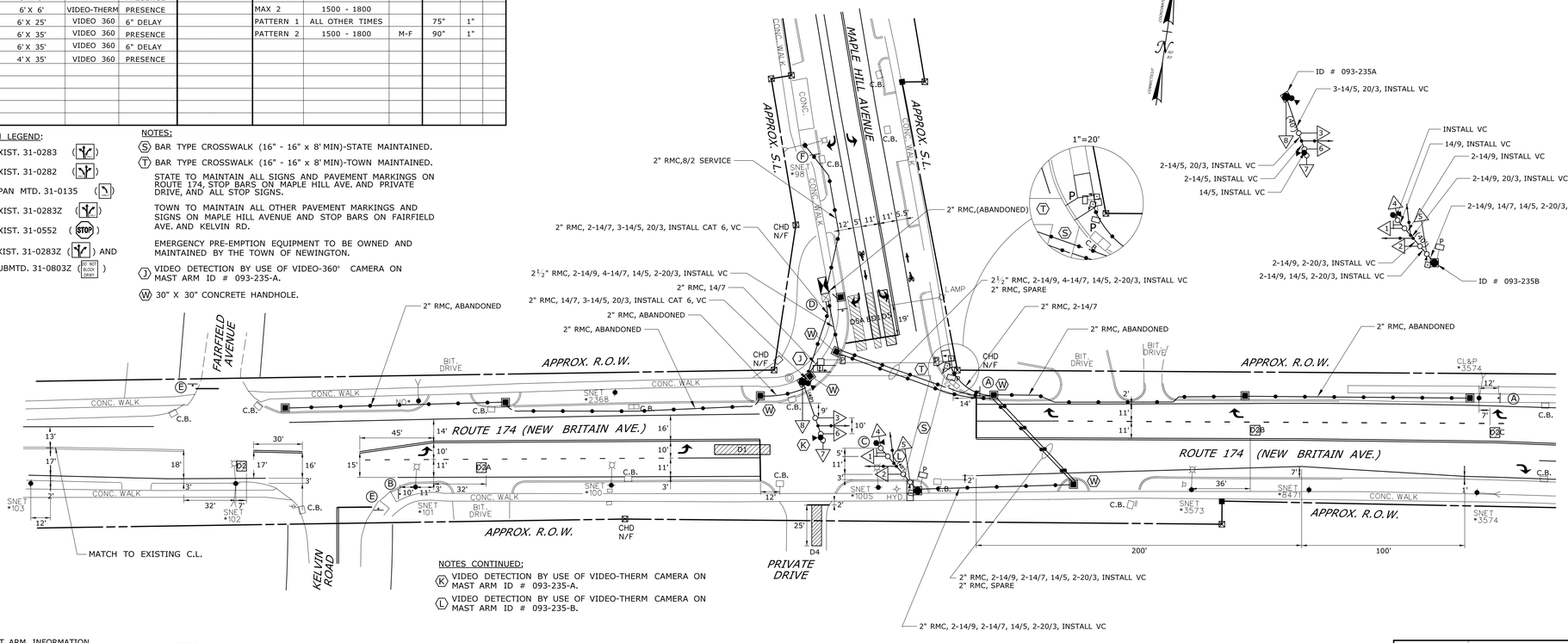
STATE TO MAINTAIN ALL SIGNS AND PAVEMENT MARKINGS ON ROUTE 174, STOP BARS ON MAPLE HILL AVE. AND PRIVATE DRIVE, AND ALL STOP SIGNS.

TOWN TO MAINTAIN ALL OTHER PAVEMENT MARKINGS AND SIGNS ON MAPLE HILL AVENUE AND STOP BARS ON FAIRFIELD AVE. AND KELVIN RD.

EMERGENCY PRE-EMPTION EQUIPMENT TO BE OWNED AND MAINTAINED BY THE TOWN OF NEWINGTON.

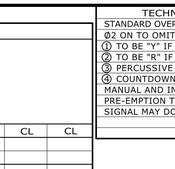
(J) VIDEO DETECTION BY USE OF VIDEO-360° CAMERA ON MAST ARM ID # 093-235-A.

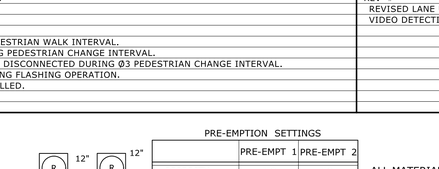
(W) 30" X 30" CONCRETE HANDHOLE.










NOTES CONTINUED:

(K) VIDEO DETECTION BY USE OF VIDEO-THERM CAMERA ON MAST ARM ID # 093-235-A.

(L) VIDEO DETECTION BY USE OF VIDEO-THERM CAMERA ON MAST ARM ID # 093-235-B.

MAST ARM INFORMATION

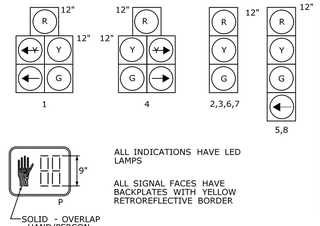
| ID # | ARM LENGTH | APPROX. ARM ATTACHMENT HT. | VERTICAL RISER FOR 360° CAMERA | VERTICAL RISER FOR VIDEO-THERM CAMERA | YEAR INSTALLED |
|---|---|---|---|---|---|
| 093-235A | 40' | 17' | 10' | 8' | 2016 |
| 093-235B | 40' | 17' | N/A | 8' | 2016 |

### TECHNICAL NOTES

- STANDARD OVERLAP SKIP FEATURES APPLY
- Ø2 ON TO OMIT Ø1.
- (1) TO BE "Y" IF PHASE 2 IS NEXT.
- (2) TO BE "R" IF PHASE 2 IS NEXT.
- (3) PERCUSSIVE TONE ONLY DURING PEDESTRIAN WALK INTERVAL.
- (4) COUNTDOWN ONLY DURING FLASHING PEDESTRIAN CHANGE INTERVAL.
- MANUAL AND INTERVAL ADVANCE TO BE DISCONNECTED DURING Ø3 PEDESTRIAN CHANGE INTERVAL.
- PRE-EMPTION TO BE INOPERATIVE DURING FLASHING OPERATION.
- SIGNAL MAY DOUBLE CYCLE IF Ø3 IS CALLED.

### OFFICE RECORD

| REV # | TIR # | SM # N/A | SIGNAL REVISED: |
|---|---|---|---|
| REVISED LANE USE ON MAPLE HILL AVENUE & INSTALLED 360-DEGREE | | | |
| VIDEO DETECTION CAMERA UNDER STATE PROJECT # L093-0001 | | | |




ALL INDICATIONS HAVE LED LAMPS

ALL SIGNAL FACES HAVE BACKPLATES WITH YELLOW RETROREFLECTIVE BORDER

PRE-EMPTION SETTINGS

| | PRE-EMPT 1 | PRE-EMPT 2 |
|---|---|---|
| PRIORITY | NO | NO |
| DET. LOCK | YES | YES |
| DELAY | 0 | 0 |
| ALT. MIN. GRN | 5 | 5 |
| ALT. YELLOW | PARENT | PARENT |
| ALT. RED | PARENT | PARENT |
| ALT. PED. CLR. | 17 | 17 |
| HOLD GREEN | 15 | 15 |
| HOLD YELLOW | 4.2 | 3.6 |
| HOLD RED | 2.5 | 1 |
| HOLD PHASE | 2 | 5 |
| EXIT PHASE | 5 | 1 |
| EXIT CALL | NONE | NONE |

## CONSTRUCTION NOTES:

ALL MATERIAL AND CONSTRUCTION METHODS SHALL CONFORM TO THE FOLLOWING CURRENT D.O.T. DOCUMENTS WHICH CAN BE ACCESSED ON THE D.O.T. WEBSITE:

- •STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION,
- •SUPPLEMENTAL SPECIFICATION TO THE STANDARD SPECIFICATION,
- •SPECIAL PROVISIONS TO THE STANDARD SPECIFICATIONS,
- •STANDARD INSTALLATION AND GUIDE DETAIL SHEETS.

ALL TRAFFIC SIGNAL EQUIPMENT IS EXISTING EXCEPT AS NOTED.

ANY PROPOSED REVISIONS TO THE LOCATION OF THE APPURTENANCES SHOWN ON THE PLAN MUST BE SUBMITTED FOR REVIEW AND APPROVAL BY THE DIVISION OF TRAFFIC ENGINEERING PRIOR TO INSTALLATION.

COORDINATE WITH UTILITY COMPANY REPRESENTATIVES LISTED IN THE SPECIAL PROVISION, 1.07 - LEGAL RELATIONS AND RESPONSIBILITIES.

INSTALL NEW 360-DEGREE VIDEO DETECTION PROCESSOR IN EXISTING CABINET.

(J) INSTALL 360-DEGREE VIDEO DETECTION CAMERA ON MAST ARM ID #093-235A.

(K) VIDEO DETECTION BY USE OF VIDEO-THERM CAMERA ON MAST ARM ID # 093-235-A.

(L) VIDEO DETECTION BY USE OF VIDEO-THERM CAMERA ON MAST ARM ID # 093-235-B.

REMOVE EXISTING IP VIDEO DETECTION CAMERA AND ASSOCIATED CABLING FROM MAST ARM ID #093-235A. RETAIN IP VIDEO DETECTION CAMERA FOR INSTALLATION AT INTERSECTION #093-203.

SALVAGE EXISTING VIDEO DETECTION PROCESSOR PER SPECIAL PROVISION.

VIDEO DETECTION ZONE LOCATIONS ARE FOR ILLUSTRATION PURPOSES ONLY. EXACT LOCATIONS SHALL BE DETERMINED BY THE MANUFACTURER OR DESIGNATED REPRESENTATIVE. CAMERA CABLES ARE TO BE INSTALLED CONTINUOUSLY BETWEEN EACH CAMERA AND THE CONTROLLER CABINET. NO SPLICES WILL BE ALLOWED.

CLEAN EXISTING CONDUIT TO BE REUSED AS NEEDED. WORK TO BE PAID UNDER ITEM # 1008908A - CLEAN EXISTING CONDUIT.

CLEAN EXISTING HANDHOLES TO BE REUSED. WORK TO BE PAID UNDER ITEM # 101060A - CLEAN EXISTING CONCRETE HANDHOLE.

REMOVE ALL ABANDONED TRAFFIC SIGNAL EQUIPMENT PER SPECIAL PROVISION.

MODIFY EXISTING CONTROLLER TO ACCOMMODATE CHANGES. SUPPLY 5 COPIES OF REVISED CABINET WIRING DIAGRAMS.

| | TRAFFIC | DATE | ELECTRICAL | DATE |
|---|---|---|---|---|
| ENGINEER | | | | |
| DRAWN BY | | | | |
| CHECKED BY | | | | |
| SUBMITTED BY | | | | |
| APPROVED BY | | | | |
| APPROVED DATE | | | | |

vhb — 100 Great Meadow Road, Suite 200 Wethersfield, Connecticut 06109 Tel: 860 807-4300 Fax: 860 372-4570

REV # | INTERSECTION # 093-235

ENERGY BY TOWN | ADDRESS #

MAINT LEVEL 5 | SERVICE POLE SNET 98

UNMETERED SERVICE

| NO. | DATE | REVISION DESCRIPTION |
|---|---|---|

LEGEND:

- R RED
- Y YELLOW
- G GREEN
- ◄R RED ARROW
- ◄Y YELLOW ARROW
- ◄ GREEN ARROW
- W@ WALK/ PED. CLR
- D.W. DON'T WALK
- FL. FLASHING

- PROPOSED WOOD SPAN POLE
- EXISTING WOOD SPAN POLE
- PROPOSED STEEL SPAN POLE
- EXISTING STEEL SPAN POLE
- PROPOSED UTILITY POLE
- EXISTING UTILITY POLE
- PEDESTAL MOUNTING
- PEDESTRIAN PUSH BUTTON & SIGN
- DIRECTIONAL ARW. FOR PUSH BUTTON
- TRAFFIC SIGNAL FACE
- PEDESTRIAN SIGNAL FACE
- DET. LEADS IN SAW CUT
- PROPOSED RMC (RIGID METAL CONDUIT)
- EXISTING RMC (RIGID METAL CONDUIT)
- AUXILIARY TERMINATION CABINET
- AUXILIARY EQUIPMENT CABINET
- VIDEO DETECTION ZONE
- PROPOSED CONTROLLER
- EXISTING CONTROLLER
- LOOP DETECTOR
- SD SYSTEM DETECTOR
- MAGNETIC DETECTOR
- OPTICAL DETECTOR
- VIDEO DETECTOR
- AUDIO DETECTOR
- SIDEWALK RAMP
- CABLE CLOSURE
- WIRELESS SENSOR
- WIRELESS RECEIVER
- WIRELESS TRANSMITTER
- GUY WIRE
- PROPOSED HANDHOLE
- EXISTING HANDHOLE

DATE PLOTTED : 2/24/2021 \\vhb\gbl\proj\Wethersfield\42560.00\cad\ts\planset\018_TR_ASSET_093-235.dgn

SCALE 1" = 40'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

TOWN OF NEWINGTON
ROUTE 174 (NEW BRITAIN AVENUE)
AT MAPLE HILL AVENUE

TOWN: NEWINGTON

DRAWING TITLE: TRAFFIC CONTROL SIGNAL PLAN

PROJECT NO. L093-0001

DRAWING NO. TCS-01

SHEET NO. 24 of 44

## MOVEMENT DIAGRAM

| | NTOR | | PHASE 1 | | | PHASE 2 PRE-EMPT 1 | | | PHASE 3 | | | PHASE 4 PRE-EMPT 2 | | | PHASE 5 | | | PHASE 6 | | | PHASE 7 | | | PHASE 8 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NONE | | 1 2 | | | 1 2 3 4 | | | | | | 6 4 5 | | | | | | | | | | | | | | |
| | | FLASH | GRN | CL | CL | GRN | CL | CL | GRN | CL | CL | GRN | CL | CL | | | | | | | | | | | | |
| F | 1 | Y | G | Y | G | G | Y | R | R | R | R | R | R | R | | | | | | | | | | | | |
| A | 2 | Y | G | G | G | G | Y | R | R | R | R | R | R | R | | | | | | | | | | | | |
| C | 3 | Y | R | R | R | G | Y | R | R | R | R | R | R | R | | | | | | | | | | | | |
| E | 4 | Y | R | R | R | G | Y | R | R | R | R | G | Y | R | | | | | | | | | | | | |
| # | 5 | R | R | R | R | R | R | R | R | R | R | G | Y | R | | | | | | | | | | | | |
| | 6 | R | R | R | R | R | R | R | R | R | R | G | Y | R | | | | | | | | | | | | |
| | P | OFF | | | | DW | | | WØ | | | DW | | | | | | | | | | | | | | |
| I | MIN GRN | | 5 | | | 15 | | | 0* | | | 7 | | | | | | | | | | | | | | |
| N | WALK | | | | | | | | 7 3 | ACCESSIBLE | | | | | | | | | | | | | | | | |
| T | PED CLR | | | | | | | | 11 4 | PEDESTRIAN | | | | | | | | | | | | | | | | |
| E | VEH EXT | | 1 | | | 2.5 | | | | SIGNAL | | 3 | | | | | | | | | | | | | | |
| R | MAX1 | | 8 | | | 30 | | | | | | 20 | | | | | | | | | | | | | | |
| V | MAX2 | | 8 | | | 30 | | | | | | 20 | | | | | | | | | | | | | | |
| A | YELLOW | | | 3.0 | | | 3.0 | | | 4.0 | | | 3.0 | | | | | | | | | | | | | |
| L | RED | | | | 1.0 | | | 2.0 | | 0 | | | | 1.5 | | | | | | | | | | | | |
| S | ADD INIT | | | | | | | | | | | | | | | | | | | | | | | | | |
| | MAX INIT | | | | | | | | | COUNTDOWN | | | | | | | | | | | | | | | | |
| | TBR | | | | | | | | | PEDESTRIAN | | | | | | | | | | | | | | | | |
| | TTR | | | | | | | | | SIGNAL | | | | | | | | | | | | | | | | |
| | MIN GAP | | | | | | | | | | | | | | | | | | | | | | | | | |
| | MODE | | NON-LOCK | | | MIN RECALL | | | NON-LOCK | | | LOCKED | | | OFF | | | OFF | | | OFF | | | OFF | | |
| | INIT START | | | | | THIS PHASE | | | | | | | | | | | | | | | | | | | | |

### DETECTORS

| IDENT | SIZE (WxL) | TYPE | MODE |
|---|---|---|---|
| D1 | 6' X 35' | VIDEO-360 | PRESENCE |
| D2 | 6' X 35' | VIDEO-360 | PRESENCE |
| D2A | VARIES | VIDEO-360 | PRESENCE |
| D4 | 6' X 35' | VIDEO-360 | PRESENCE |
| BD1 | 4' X 35' | VIDEO-360 | PRESENCE |
| BD2 | 4' X 35' | VIDEO-360 | PRESENCE |
| BD3 | 4' X 35' | VIDEO-360 | PRESENCE |

### SYSTEM LOC

| MASTER |
|---|
| |

### COORDINATION TYPE: NONE

| PROGRAM FUNCTION | PROGRAM TIME | PROGRAM DAYS | CYCLE | OFFSET SEC | OFFSET % |
|---|---|---|---|---|---|
| FLASH | NONE | | | | |

### DETECTOR CHART

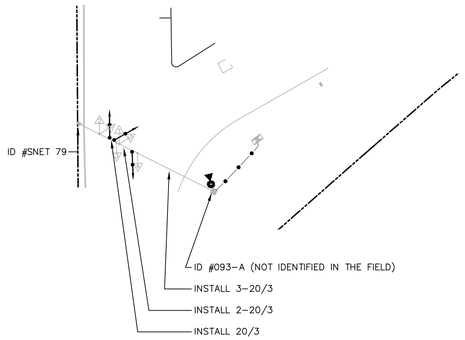
| DETECTOR | LOCAL |
|---|---|
| D1 | Ø1 C&E |
| D2 | Ø2 C&E |
| D2A | Ø2 C&E |
| D4 | Ø4 C&E |
| BD1 | Ø1 C&E |
| BD2 | Ø2 C&E |
| BD3 | Ø4 C&E |

C&E = CALL AND EXTEND
E = EXTEND

### PRE-EMPTION SETTINGS

| | PRE-EMPT 1 | PRE-EMPT 2 |
|---|---|---|
| PRIORITY | NO | NO |
| DET. LOCK | YES | YES |
| DELAY | 0 | 0 |
| ALT. MIN. GRN | 5 | 5 |
| ALT. YELLOW | PARENT | PARENT |
| ALT. RED | PARENT | PARENT |
| ALT. PED. CLR. | 17 | 17 |
| HOLD GREEN | 15 | 15 |
| HOLD YELLOW | 3 | 3 |
| HOLD RED | 2 | 1.5 |
| HOLD PHASE | 2 | 4 |
| EXIT PHASE | 4 | 1 |
| EXIT CALL | NONE | NONE |

Ⓣ BAR TYPE CROSSWALK (12"WIDE, 24"SPACE, 8'LONG MINIMUM), TOWN MAINTAINED
Ⓢ BAR TYPE CROSSWALK (16"WIDE, 24"SPACE, 8'LONG MINIMUM), STATE MAINTAINED




SPAN WIRE
ELECTRICAL CALLOUTS
N.T.S.

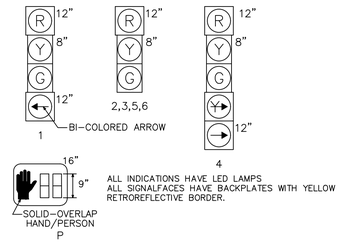
### TECHNICAL NOTES

| |
|---|
| STANDARD OVERLAP SKIP FEATURES APPLY |
| Ø2 ON TO OMIT Ø1. |
| 3 PERCUSSIVE TONE ONLY DURING PEDESTRIAN WALK INTERVAL. |
| 4 COUNTDOWN ONLY DURING FLASHING PEDESTRIAN CHANGE INTERVAL. |
| MANUAL AND INTERVAL ADVANCE TO BE DISCONNEDTED DURING Ø3 PEDESTRIAN CHANGE INTERVAL. |
| PRE-EMPTION TO BE INOPERATIVE DURING FLASHING OPERATION. |
| SIGNAL MAY DOUBLE CYCLE IF Ø3 IS CALLED. |

### OFFICE RECORD

| REV. # | TIR # | SM # N/A | SIGNAL REVISED: |
|---|---|---|---|
| | | | WIDEN ROBBINS AVENUE TO ADD PRE-EMPTION AND VIDEO DETECTION UNDER PROJECT NO. L093-0001. |

SIGNAL FACES







ALL INDICATIONS HAVE LED LAMPS
ALL SIGNALFACES HAVE BACKPLATES WITH YELLOW RETROREFLECTIVE BORDER.

## CONSTRUCTION NOTES:

ALL MATERIAL AND CONSTRUCTION METHODS SHALL CONFORM TO THE FOLLOWING CURRENT D.O.T. DOCUMENTS WHICH CAN BE ACCESSED ON THE D.O.T. WEBSITE:

- STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION,
- SUPPLEMENTAL SPECIFICATION TO THE STANDARD SPECIFICATION,
- SPECIAL PROVISIONS TO THE STANDARD SPECIFICATIONS,
- STANDARD INSTALLATION AND GUIDE DETAIL SHEETS.

ALL TRAFFIC SIGNAL EQUIPMENT IS EXISTING EXCEPT AS NOTED.

MODIFY EXISTING CONTROLLER TO ACCOMMODATE CHANGES. SUPPLY 5 COPIES OF REVISED CABINET WIRING DIAGRAMS.

INSTALL NEW 360-DEGREE VIDEO DETECTION PROCESSOR IN EXISTING CABINET.

INSTALL 360-DEGREE VIDEO DETECTION CAMERA ON THE SPAN POLE ON THE SOUTHEAST CORNER, AS SHOWN ON THE PLAN.

VIDEO DETECTION ZONE LOCATIONS ARE FOR ILLUSTRATION PURPOSES ONLY. EXACT LOCATIONS SHALL BE DETERMINED BY THE MANUFACTURER OR DESIGNATED REPRESENTATIVE. CAMERA CABLES ARE TO BE INSTALLED CONTINUOUSLY BETWEEN EACH CAMERA AND THE CONTROLLER CABINET. NO SPLICES WILL BE ALLOWED.

Ⓒ REPLACE ARROW INDICATION IN SIGNAL HEAD 1 WITH BI-COLOR ARROW. REUSE EXISTING CABLES.

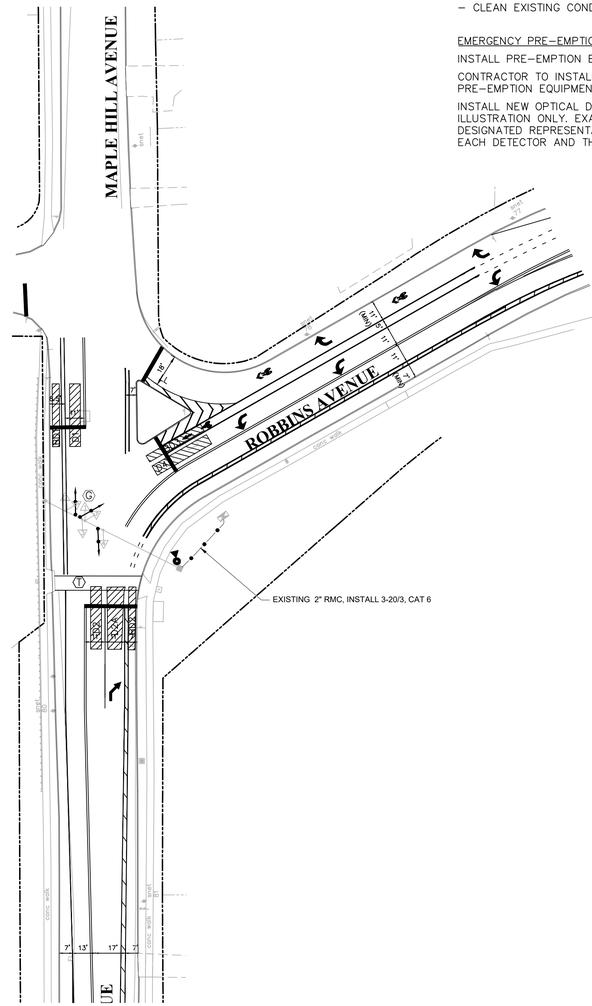
CLEAN EXISTING CONDUIT TO BE REUSED AS NEEDED. WORK TO BE PAID UNDER ITEM # 1008908A - CLEAN EXISTING CONDUIT.

EMERGENCY PRE-EMPTION NOTES

INSTALL PRE-EMPTION EQUIPMENT IN EXISTING CONTROLLER CABINET.

CONTRACTOR TO INSTALL A SWITCH IN THE SIGNAL CABINET TO EFFECTIVELY DISCONNECT THE PRE-EMPTION EQUIPMENT FROM THE TRAFFIC SIGNAL CONTROLLER.

INSTALL NEW OPTICAL DETECTORS ON EXISTING SPAN. PRE-EMPTION DETECTOR LOCATIONS ARE FOR ILLUSTRATION ONLY. EXACT LOCATIONS SHALL BE DETERMINED BY THE MANUFACTURER OR HIS DESIGNATED REPRESENTATIVE. DETECTOR CABLES ARE TO BE INSTALLED CONTINUOUS BETWEEN EACH DETECTOR AND THE CONTROLLER CABINET.




TOWN SIGNAL

GRAPHIC SCALE

40 0 20 40 80 160

( IN FEET )
1 inch = 40 ft.

NOTES:
1. SIGNAL OWNED BY TOWN OF NEWINGTON.
2. TOWN TO MAINTAIN SIGNS AND PAVEMENT MARKINGS ON MAPLE HILL AVENUE AND ROBBINS AVENUE.
3. LOCATION OF ALL PHYSICAL FEATURES, INCLUDING SIGNAL EQUIPMENT AND PAVEMENT MARKINGS, MAY NOT REFLECT ACTUAL FIELD CONDITIONS.
4. DATA SHOWN IN GRAY (MOVEMENT DIAGRAM, DETECTORS, PROGRAM, TECHNICAL NOTES, ETC.) FROM FIELD OBSERVATION ON FEBRUARY 5, 2019.
5. NO CLOCK IN CENTRAL BOX.
6. EXISTING ELECTRIC WIRES/CONDUIT FOR TRAFFIC SIGNAL AND ELECTRIC SERVICE NOT SHOWN.
7. EXISTING ELECTRIC SERVICE LIKELY FROM SNET 79.

TRAFFIC PLAN LEGEND:
R RED
Y YELLOW
G GREEN
◄R RED ARROW
◄Y YELLOW ARROW
◄G GREEN ARROW
WØ WALK/PED. CLR
D.W. DON'T WALK
FL. FLASHING

O PROPOSED WOOD SPAN POLE
● EXISTING WOOD SPAN POLE
□ PROPOSED STEEL SPAN POLE
■ EXISTING STEEL SPAN POLE
⊖ PROPOSED UTILITY POLE
● EXISTING UTILITY POLE
□ PEDESTAL MOUNTING
⊡ PEDESTRIAN PUSH BUTTON & SIGN
⊡ DIRECTIONAL ARW. FOR PUSH BUTTON

TRAFFIC SIGNAL FACE
PEDESTRIAN SIGNAL FACE
DET. LEADS IN SAW CUT
PROPOSED RMC (RIGID METAL CONDUIT)
EXISTING RMC (RIGID METAL CONDUIT)
AUXILIARY TERMINATION CABINET
AUXILIARY EQUIPMENT CABINET
VIDEO DETECTION ZONE

PROPOSED CONTROLLER
EXISTING CONTROLLER
LOOP DETECTOR
SD SYSTEM DETECTOR
MAGNETIC DETECTOR
OPTICAL DETECTOR
VIDEO DETECTOR
AUDIO DECTOR

SIDEWALK RAMP
CABLE CLOSURE
WIRELESS SENSOR
WIRELESS RECEIVER
WIRELESS TRANSMITTER
GUY WIRE
PROPOSED HANDHOLE
EXISTING HANDHOLE

360° CAMERA
STANDARD CAMERA
SWL SINGLE WHITE LINE
DYL DOUBLE YELLOW LINE

REVISIONS:

TOWN OF NEWINGTON
ENGINEERING DEPARTMENT

TRAFFIC CONTROL SIGNAL PLAN
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

**DATUMS:**

**HORIZONTAL: NAD 83**

**VERTICAL: NAVD88**

PROJECT
18003

DATE
11/16/2021

DRAWN
WGK

CHECK
CB

SHEET
25 OF 44

SCALE:
1" = 40'

## MOVEMENT DIAGRAM

| | NTOR | PHASE 1 | PHASE 2 | PHASE 3 | PHASE 4 | PHASE 5 | PHASE 6 | PHASE 7 | PHASE 8 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | PRE-EMPT 1 | | PRE-EMPT 2 | | | | PRE-EMPT 3 | |
| | FLASH | GRN CL CL | GRN CL CL | GRN CL CL | GRN CL CL | GRN CL CL | GRN CL CL | GRN CL CL | GRN CL CL | GRN CL CL |
| FACE # 1 | Y | ◄G ◄Y G G | G Y R | R R R | R R R | R R R | | R R R | R R R | |
| 2 | Y | G G G | G Y R | R R R | R R R | R R R | | R R R | R R R | |
| 3 | Y | R R R | G Y R | R R R | R R R | R R R | | R R R | R R R | |
| 4 | R | R R R | R R R | ◄R ◄Y R | R R R | R R R | | R R R | G Y R | |
| 5 | R | R R R | R R R | R R R | R R R | R R R | | R R R | G Y R | |
| 6 | R | R R R | R R R | R R R | G Y R | R R R | | ◄R ◄Y R | R R R | |
| 7 | R | R R R | R R R | R R R | G Y R | R R R | | R R R | R R R | |
| P | OFF | ◄ DW | ◄ DW | ◄ DW | ◄ DW | WØ ◄ DW | | ◄ DW | ◄ | |
| INTERVALS MIN GRN | | 6 | 15 | 6 | 9 | 7 ① 15 ② ACCESSIBLE PEDESTRIAN SIGNAL | | 6 | 9 | |
| WALK | | | | | | | | | | |
| PED CLR | | | | | | | | | | |
| VEH EXT | | 2 | 4 | 2 | 2 | | | 2 | 2 | |
| MAX 1 | | 9 | 20 | 9 | 20 | | | 9 | 20 | |
| MAX 2 | | 9 | 30 | 12 | 30 | | | 12 | 30 | |
| YELLOW | | 3.0 | 4.3 | 3.0 | 3.6 | 4.0 | | 3.0 | 3.6 | |
| RED | | 1.0 | 2.2 | 1.0 | 3.2 | 0.0 | | 1.0 | 3.2 | |
| ADD INIT | | | | | | COUNTDOWN PEDESTRIAN SIGNAL | | | | |
| MAX INIT | | | | | | | | | | |
| TBR | | | | | | | | | | |
| TTR | | | | | | | | | | |
| MIN GAP | | | | | | | | | | |
| MODE | | MIN RECALL | MIN RECALL | NON-LOCK | NON-LOCK | NON-LOCK | OFF | NON-LOCK | NON-LOCK | OFF |
| INIT START | | | THIS PHASE | | | | | | | |

### DETECTORS

| IDENT | SIZE (WXL) | TYPE | MODE |
|---|---|---|---|
| D1 | 6' X 35' | VIDEO 360 | PRESENCE |
| D2 | 14' X 6' | VIDEO IP | PRESENCE |
| D3 | 8' X 6' | VIDEO 360 | PRESENCE |
| D4 | 6' X 35' | VIDEO 360 | PRESENCE |
| D5 | 6' X 35' | VIDEO 360 | PRESENCE |
| D6 | 6' X 35' | VIDEO 360 | PRESENCE |
| D7 | 6' X 35' | VIDEO 360 | PRESENCE |
| BD1 | 3' X 35' | VIDEO 360 | PRESENCE |
| BD2 | 3' X 35' | VIDEO 360 | PRESENCE |

SYSTEM LOC MASTER

COORDINATION TYPE: NONE

| PROGRAM FUNCTION | TIME | DAYS |
|---|---|---|
| FLASH | NONE | |
| MAX 1 | ALL OTHER TIMES | |
| MAX 2 | 1400-1900 | M-SAT |

| CYCLE | OFFSET SEC | OFFSET % |
|---|---|---|
| | | |

SIGN LEGEND

Ⓐ EXIST. 31-0349 (↖↑↗)

Ⓑ EXIST. 31-0802Z (STOP HERE ON RED ↙)

Ⓒ EXIST. 31-0824Z (NTOR)

NOTES:

STATE TO MAINTAIN ALL SIGNS AND PAVEMENT MARKINGS ON ROUTE 173 AND ALL STOP BARS.

TOWN TO MAINTAIN ALL SIGNS AND OTHER PAVEMENT MARKINGS ON ROBBINS AVE.

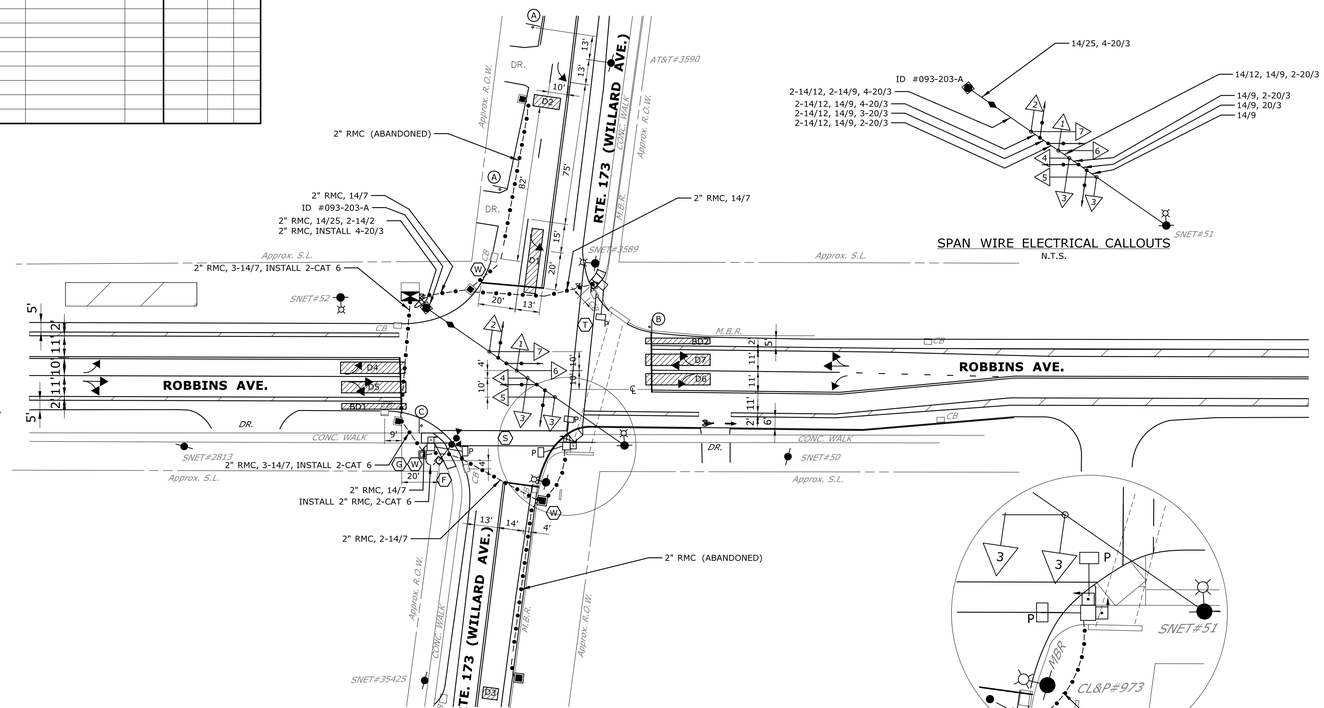
Ⓢ BAR TYPE CROSSWALK (24" - 16" X 8' MIN.) - STATE MAINTAINED.

Ⓣ BAR TYPE CROSSWALK (24" X 16" X 8' MIN.) - TOWN MAINTAINED.

Ⓦ 30" X 30" CONCRETE HANDHOLE.

THE LOCATION OF ALL PHYSICAL FEATURES, INCLUDING SIGNAL EQUIPMENT AND PAVEMENT MARKINGS, MAY NOT REFLECT ACTUAL FIELD CONDITIONS.

Ⓖ VIDEO DETECTION BY USE OF VIDEO-360 CAMERA AND VIDEO-IP CAMERA ON LIGHT STANDARD (15' BRACKET, 30' MOUNTING HEIGHT). VERTICAL RISER FOR VIDEO-360 CAMERA TO BE 3'.




DETAIL "A" ENLARGED VIEW
N.T.S.




SPAN WIRE ELECTRICAL CALLOUTS
N.T.S.

SPAN POLE INFORMATION

ID # 093-203A HEIGHT 30', B.C. 20", LOAD AT YIELD 7,800 LBS. INSTALLED 1995

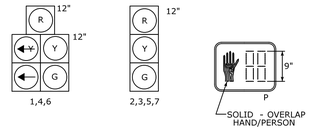
### TECHNICAL NOTES

| |
|---|
| STANDARD OVERLAP SKIP FEATURES APPLY |
| PHASE 2 ON TO OMIT PHASE 1. |
| PHASES 4 & 8 CHECK TO CALL PHASES 3 & 7. |
| ① PERCUSSIVE TONE ONLY DURING PEDESTRIAN WALK INTERVAL. |
| ② COUNTDOWN ONLY DURING FLASHING PEDESTRIAN CHANGE INTERVAL. |
| MANUAL AND INTERVAL ADVANCE TO BE DISCONNECTED DURING PHASE 5 PEDESTRIAN CHANGE INTERVAL. |
| PRE-EMPTION TO BE INOPERATIVE DURING FLASHING OPERATION. |

### OFFICE RECORD

| REV # | TIR # N/A | SM # | SIGNAL REVISED: |
|---|---|---|---|
| REVISED PAVEMENT MARKINGS, ADDED PRE-EMPTION AND VIDEO DETECTION UNDER PERMIT. | | | |

### SIGNAL FACES




ALL INDICATIONS HAVE LED LAMPS.

PRE-EMPTION SETTINGS

| | PRE-EMPT 1 | PRE-EMPT 2 | PRE-EMPT 3 |
|---|---|---|---|
| PRIORITY | NO | NO | NO |
| DET. LOCK | YES | YES | YES |
| DELAY | 0 | 0 | 0 |
| ALT. MIN. GRN | 5 | 5 | 5 |
| ALT. YELLOW | PARENT | PARENT | PARENT |
| ALT. RED | PARENT | PARENT | PARENT |
| ALT. PED. CLR. | 18 | 18 | 18 |
| HOLD GREEN | 15 | 15 | 15 |
| HOLD YELLOW | 4.3 | 3.6 | 3.6 |
| HOLD RED | 2.2 | 3.2 | 3.2 |
| HOLD PHASE | 2 | 4 | 8 |
| EXIT PHASE | 3&7 | 1 | 1 |
| EXIT CALL | NONE | NONE | NONE |

## CONSTRUCTION NOTES:

ALL MATERIAL AND CONSTRUCTION METHODS SHALL CONFORM TO THE FOLLOWING CURRENT D.O.T. DOCUMENTS WHICH CAN BE ACCESSED ON THE D.O.T. WEBSITE:
- •STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION,
- •SUPPLEMENTAL SPECIFICATION TO THE STANDARD SPECIFICATION,
- •SPECIAL PROVISIONS TO THE STANDARD SPECIFICATIONS,
- •STANDARD INSTALLATION AND GUIDE DETAIL SHEETS.

ALL TRAFFIC SIGNAL EQUIPMENT IS EXISTING EXCEPT AS NOTED.

ANY PROPOSED REVISIONS TO THE LOCATION OF THE APPURTENANCES SHOWN ON THE PLAN MUST BE SUBMITTED FOR REVIEW AND APPROVAL BY THE DIVISION OF TRAFFIC ENGINEERING* PRIOR TO INSTALLATION.

THE LOCATION OF TRAFFIC SIGNAL FOUNDATIONS WHEN IN OR ADJACENT TO SIDEWALKS SHALL BE VERIFIED PRIOR TO INSTALLATION TO PROVIDE A FREE PATH OF NOT LESS THAN 4 FEET. IF A MINIMUM 4 FOOT PATH IS UNAVAILABLE, NOTIFY THE ENGINEER AND CONTACT THE DIVISION OF TRAFFIC ENGINEERING.

COORDINATE WITH UTILITY COMPANY REPRESENTATIVES LISTED IN THE SPECIAL PROVISION, 1.07 - LEGAL RELATIONS AND RESPONSIBILITIES.

TRIM TREE BRANCHES/VEGETATION AS NEEDED AND AS DIRECTED BY THE ENGINEER TO ACCOMMODATE VIDEO DETECTION ZONES AS SHOWN ON THE PLAN. WORK TO BE PAID UNDER ITEM NO. 0952001A SELECTIVE CLEARING AND THINNING.

MODIFY EXISTING CONTROLLER TO ACCOMMODATE CHANGES. SUPPLY 5 COPIES OF REVISED CABINET WIRING DIAGRAMS.

COORDINATE THIS REVISION WITH CONNECTICUT D.O.T. SIGNAL LAB. CONTACT MR. DONALD ASSARD (860) 258-0346 OR MR. MARK ZAMPINI (860) 258-0349 AT LEAST 14 DAYS PRIOR TO REVISION.

Ⓕ PULL BACK EXISTING 14/7 CABLES AND REPLACE EXISTING HANDHOLE WITH 30"x 30" CONCRETE HANDHOLE. EXTEND CONDUITS INTO NEW HANDHOLE AND RECONNECT 14/7 CABLES.

INSTALL NEW 360° VIDEO DETECTION PROCESSOR IN EXISTING CABINET.

Ⓖ INSTALL 360-DEGREE VIDEO DETECTION CAMERA AND IP VIDEO CAMERA ON NEW ALUMINUM LIGHT STANDARD (15' BRACKET, 30' MOUNTING HEIGHT). VERTICAL RISER FOR VIDEO-360 CAMERA TO BE 3'. IP VIDEO CAMERA TO BE RELOCATED FROM INTERSECTION 093-235. IP VIDEO CAMERA RELOCATION TO BE PAID UNDER ITEM #1118012A - REMOVAL AND/OR RELOCATION OF TRAFFIC SIGNAL EQUIPMENT.

VIDEO DETECTION ZONE LOCATIONS ARE FOR ILLUSTRATION PURPOSES ONLY. EXACT LOCATIONS SHALL BE DETERMINED BY THE MANUFACTURER OR DESIGNATED REPRESENTATIVE. CAMERA CABLES ARE TO BE INSTALLED CONTINUOUSLY BETWEEN EACH CAMERA AND THE CONTROLLER CABINET. NO SPLICES WILL BE ALLOWED.

CLEAN EXISTING CONDUIT TO BE REUSED AS NEEDED. WORK TO BE PAID UNDER ITEM # 1008908A - CLEAN EXISTING CONDUIT.

CLEAN EXISTING HANDHOLES TO BE REUSED. WORK TO BE PAID UNDER ITEM # 101060A - CLEAN EXISTING CONCRETE HANDHOLE.

REMOVE ABANDONED TRAFFIC SIGNAL EQUIPMENT PER SPECIAL PROVISIONS. CONDUIT SHOWN ON THE PLAN AS ABANDONED SHALL REMAIN IN PLACE.

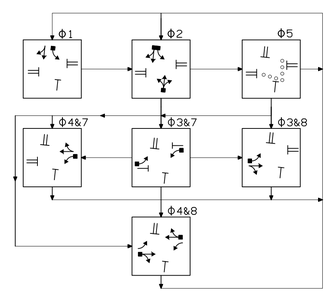
EMERGENCY PRE-EMPTION NOTES

INSTALL AUXILIARY EQUIPMENT CABINET ON LEFT SIDE OF CONTROLLER CABINET. INSTALL PRE-EMPTION EQUIPMENT IN AUXILIARY CABINET.

CONTRACTOR TO INSTALL A SWITCH IN THE SIGNAL CABINET TO EFFECTIVELY DISCONNECT THE PRE-EMPTION EQUIPMENT FROM THE TRAFFIC SIGNAL CONTROLLER.

INSTALL NEW OPTICAL DETECTORS ON EXISTING SPAN. PRE-EMPTION DETECTOR LOCATIONS ARE FOR ILLUSTRATION ONLY. EXACT LOCATIONS SHALL BE DETERMINED BY THE MANUFACTURER OR HIS DESIGNATED REPRESENTATIVE. DETECTOR CABLES ARE TO BE INSTALLED CONTINUOUS BETWEEN EACH DETECTOR AND THE AUXILIARY EQUIPMENT CABINET.

PHASING DIAGRAM




| NO. | DATE | REVISION DESCRIPTION |
|---|---|---|
| | | |

LEGEND:
R, Y, G RED, YEL, GRN
◄R RED ARROW
◄Y YELLOW ARROW
◄G GREEN ARROW
W,Ø WALK/ PED. CLR
D.W. DON'T WALK
FL. FLASHING
LIGHT POLE

PROPOSED WOOD SPAN POLE
EXISTING WOOD SPAN POLE
PROPOSED STEEL SPAN POLE
EXISTING STEEL SPAN POLE
PROPOSED UTILITY POLE
EXISTING UTILITY POLE
PEDESTAL MOUNTING
PEDESTRIAN PUSH BUTTON & SIGN
DIRECTIONAL ARW. FOR PUSH BUTTON

TRAFFIC SIGNAL FACE
PEDESTRIAN SIGNAL FACE
DET. LEADS IN SAW CUT
PROPOSED RMC (RIGID METAL CONDUIT)
EXISTING RMC (RIGID METAL CONDUIT)
AUXILIARY TERMINATION CABINET
AUXILIARY EQUIPMENT CABINET
VIDEO DETECTION ZONE

PROPOSED CONTROLLER
EXISTING CONTROLLER
LOOP DETECTOR
SYSTEM DETECTOR
MAGNETIC DETECTOR
OPTICAL DETECTOR
VIDEO DETECTOR
AUDIO DETECTOR

VC VIDEO CAMERA CABLE
CABLE CLOSURE
WIRELESS SENSOR
WIRELESS RECEIVER
WIRELESS TRANSMITTER
GUY WIRE
PROPOSED HANDHOLE
EXISTING HANDHOLE

DATE PLOTTED : 2/24/2021 \\vhb\gbl\proj\Wethersfield\42560.00\cad\ts\planset\017_TR_ASSET_093-203.dgn

**STATE OF CONNECTICUT**
**DEPARTMENT OF TRANSPORTATION**

ROUTE 173 (WILLARD AVE) AT ROBBINS AVE

SCALE 1" = 40'

| | TRAFFIC DESIGN | ELECTRICAL DESIGN |
|---|---|---|
| ENGINEER | | |
| DRAWN BY | | |
| CHECKED BY | | |
| SUBMITTED BY | | |
| APPROVED BY | | |
| APPROVED DATE | | |

vhb 100 Great Meadow Road, Suite 200 Wethersfield, Connecticut 06109 Tel: 860 807-4300 Fax: 860 372-4570

REV # INTERSECTION #093-203

| ENERGY BY - TOWN | ADDRESS # |
|---|---|
| MAINT LEVEL 5 | SERVICE POLE - SNET 52 |
| | UNMETERED SERVICE |

TOWN: **NEWINGTON**

DRAWING TITLE: **TRAFFIC CONTROL SIGNAL PLAN**

PROJECT NO. L093-0001

DRAWING NO. TCS-03

SHEET NO. 26 of 44

## MOVEMENT DIAGRAM

| | NTOR | PHASE 1 | PHASE 2 | PHASE 3 | PHASE 4 | PHASE 5 | PHASE 6 | PHASE 7 | PHASE 8 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | NONE | PRE-EMPT 1 | PRE-EMPT 2 | | PRE-EMPT 3 | | | | | |
| | FLASH | GRN CL CL | GRN CL CL | GRN CL CL | GRN CL CL | GRN CL CL | GRN CL CL | GRN CL CL | GRN CL CL | GRN CL CL |
| FACE # 1 | R | ◄G ◄Y G | G Y R | R R R | R R R | | | | | |
| 2 | R | G G G | G Y R | R R R | R R R | | | | | |
| 3 | R | R R R | G Y R | R R R | R R R | | | | | |
| 4 | R | R R R | R R R | R R R | G Y R | | | | | |
| 5 | R | R R R | R R R | R R R | G Y R | | | | | |
| P | OFF | ◄ | DW ► | WØ ◄ | DW ► | | | | | |
| INTERVALS MIN GRN | | 5 | 15 | 7 (2) 13 (1) | 15 | | | | | |
| WALK | | | | | | | | | | |
| PED CLR | | | | | | | | | | |
| VEH EXT | | 2 | 5 | | 5 | | | | | |
| MAX 1 | | 7 | 30 | | 25 | | | | | |
| MAX 2 | | 10 | 40 | | 35 | | | | | |
| YELLOW | | 3.0 | 4.2 | 4.0 | 3.6 | | | | | |
| RED | | 1.0 | 3.3 | 0.0 | 4.6 | | | | | |
| ADD INIT | | | 2.5 | | 2.5 | | | | | |
| MAX INIT | | | 20 | | 20 | | | | | |
| TBR | | | | | | | | | | |
| TTR | | | | | | | | | | |
| MIN GAP | | | 5 | | 5 | | | | | |
| MODE | | MIN RECALL | MIN RECALL | NON-LOCK | LOCK | OFF | OFF | OFF | OFF | OFF |
| INT START | | | THIS PHASE | | | | | | | |

ACCESSIBLE PEDESTRIAN SIGNAL

COUNTDOWN PEDESTRIAN SIGNAL

### TECHNICAL NOTES

STANDARD OVERLAP SKIP FEATURES APPLY
PHASE 2 ON TO OMIT PHASE 1.
PRE-EMPTION TO BE INOPERATIVE DURING FLASHING OPERATION.
(1) COUNTDOWN ONLY DURING FLASHING PEDESTRIAN CHANGE INTERVAL.
(2) PERCUSSIVE TONE ONLY DURING PEDESTRIAN WALK INTERVAL.

### OFFICE RECORD

REV # | TIR # N/A | SM # | SIGNAL REVISED:
WIDENED ROBBINS AVENUE TO ADD RIGHT-TURN LANE AND ADDED PRE-EMPTION
UNDER PERMIT.

### DETECTORS

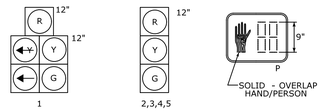
| IDENT | SIZE (WXL) | TYPE | MODE |
|---|---|---|---|
| D1 | 6' X 35' | VIDEO 360 | PRESENCE |
| D2 | 6' X 35' | VIDEO 360 | PRESENCE |
| D3 | 6' X 35' | VIDEO 360 | PRESENCE |
| D3A | 6' X 35' | VIDEO 360 | PRESENCE |
| D4 | 6' X 35' | VIDEO 360 | PRESENCE |
| D4A | 6' X 35' | VIDEO 360 | PRESENCE |
| D4B | 9' X 35' | VIDEO 360 | PRESENCE |
| D5 | 6' X 35' | VIDEO 360 | PRESENCE |
| D5A | 6' X 35' | VIDEO 360 | PRESENCE |
| D5B | 6' X 35' | VIDEO 360 | PRESENCE |
| BD1 | 4' X 35' | VIDEO 360 | PRESENCE |

SYSTEM LOC: MASTER

COORDINATION TYPE: NONE

| PROGRAM FUNCTION | TIME | DAYS | CYCLE | OFFSET SEC | OFFSET % |
|---|---|---|---|---|---|
| FLASH | NONE | | | | |
| MAX 1 | ALL OTHER TIMES | | | | |
| MAX 2 | 0700-0900 1500-1800 | M-F | | | |

### SIGNAL FACES




ALL INDICATIONS HAVE LED LAMPS EXCEPT PEDESTRIAN SIGNALS.
ALL INDICATIONS HAVE TUNNEL VISORS.

### PRE-EMPTION SETTINGS

| | PRE-EMPT 1 | PRE-EMPT 2 | PRE-EMPT 3 |
|---|---|---|---|
| PRIORITY | NO | NO | NO |
| DET. LOCK | YES | YES | YES |
| DELAY | 0 | 0 | 0 |
| ALT. MIN. GRN | 5 | 5 | 5 |
| ALT. YELLOW | PARENT | PARENT | PARENT |
| ALT. RED | PARENT | PARENT | PARENT |
| ALT. PED. CLR. | 18 | 18 | 18 |
| HOLD GREEN | 15 | 15 | 15 |
| HOLD YELLOW | 3.0 | 4.2 | 3.6 |
| HOLD RED | 1.0 | 3.3 | 4.5 |
| HOLD PHASE | 1 | 2 | 4 |
| EXIT PHASE | 2 | 4 | 1 |
| EXIT CALL | NONE | NONE | NONE |

## CONSTRUCTION NOTES:

ALL MATERIAL AND CONSTRUCTION METHODS SHALL CONFORM TO THE FOLLOWING CURRENT D.O.T. DOCUMENTS WHICH CAN BE ACCESSED ON THE D.O.T. WEBSITE:
- •STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION,
- •SUPPLEMENTAL SPECIFICATION TO THE STANDARD SPECIFICATION,
- •SPECIAL PROVISIONS TO THE STANDARD SPECIFICATIONS,
- •STANDARD INSTALLATION AND GUIDE DETAIL SHEETS.

ALL TRAFFIC SIGNAL EQUIPMENT IS EXISTING EXCEPT AS NOTED.

ANY PROPOSED REVISIONS TO THE LOCATION OF THE APPURTENANCES SHOWN ON THE PLAN MUST BE SUBMITTED FOR REVIEW AND APPROVAL BY THE DIVISION OF TRAFFIC ENGINEERING* PRIOR TO INSTALLATION.

THE LOCATION OF TRAFFIC SIGNAL FOUNDATIONS WHEN IN OR ADJACENT TO SIDEWALKS SHALL BE VERIFIED PRIOR TO INSTALLATION TO PROVIDE A FREE PATH OF NOT LESS THAN 4 FEET. IF A MINIMUM 4 FOOT FREE PATH IS UNAVAILABLE NOTIFY THE ENGINEER AND CONTACT THE DIVISION OF TRAFFIC ENGINEERING

MODIFY EXISTING CONTROLLER TO ACCOMMODATE CHANGES. SUPPLY 5 COPIES OF REVISED CABINET WIRING DIAGRAMS.

REMOVE ALL ABANDONED TRAFFIC SIGNAL EQUIPMENT PER THE SPECIAL PROVISIONS. CONDUIT SHOWN ON THE PLAN AS ABANDONED SHALL REMAIN IN PLACE.

(F) INSTALL NEW COUNTDOWN PEDESTRIAN SIGNAL AND APS PUSHBUTTON ON AN 8' ALUMINUM PEDESTAL ON A NEW FOUNDATION.

(G) INSTALL PEDESTAL FOUNDATIONS ADJACENT TO LANDING AREAS.

LOCATE EXISTING CONDUIT AND EXTEND INTO NEW PEDESTAL FOUNDATION.

COORDINATE WITH UTILITY COMPANY REPRESENTATIVES LISTED IN THE SPECIAL PROVISION, 1.07 - LEGAL RELATIONS AND RESPONSIBILITIES.

CLEAN EXISTING CONDUIT TO BE REUSED AS NEEDED. WORK TO BE PAID UNDER ITEM # 1008908A - CLEAN EXISTING CONDUIT.

CLEAN EXISTING HANDHOLES TO BE REUSED AS NEEDED. WORK TO BE PAID UNDER ITEM # 101060A - CLEAN EXISTING CONCRETE HANDHOLE.

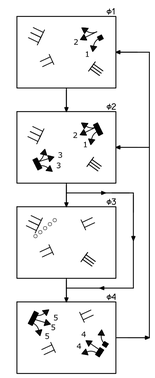
EMERGENCY PRE-EMPTION NOTES

INSTALL AUXILIARY EQUIPMENT CABINET ON LEFT SIDE OF CONTROLLER CABINET. INSTALL PRE-EMPTION EQUIPMENT IN AUXILIARY CABINET.

CONTRACTOR TO INSTALL A SWITCH IN THE SIGNAL CABINET TO EFFECTIVELY DISCONNECT THE PRE-EMPTION EQUIPMENT FROM THE TRAFFIC SIGNAL CONTROLLER.

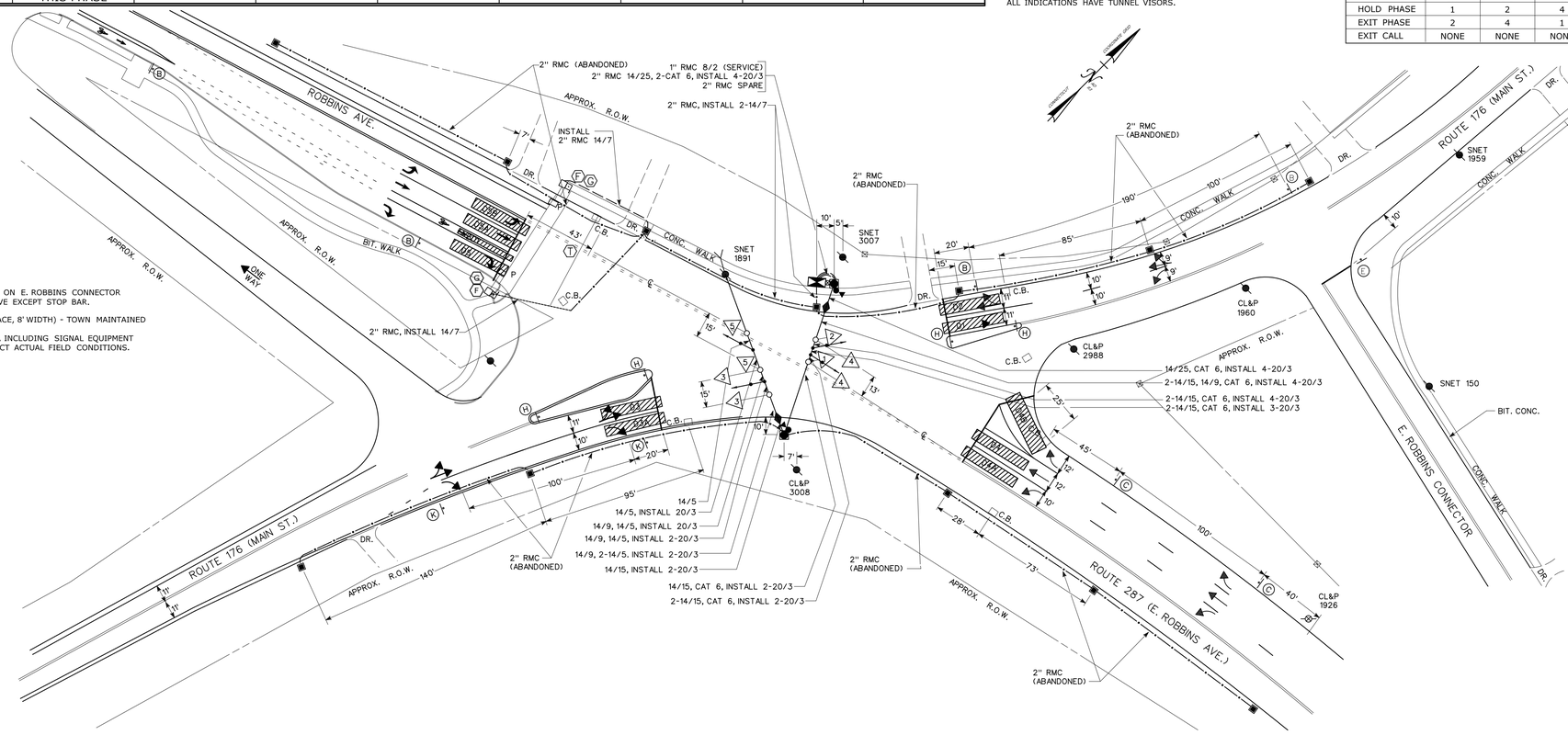
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### PHASING DIAGRAM




SIGN LEGEND

(B) INSTALL 31-0302 (↰↑↱)
(C) EXIST. 31-0302 (↰↑↱)
(E) EXIST. 31-0552 (STOP)
(H) EXIST. 31-1526 (KEEP RIGHT)
(K) EXIST. 31-0283 (↑↱)




NOTES:

TOWN TO MAINTAIN ALL PAVEMENT MARKINGS ON E. ROBBINS CONNECTOR AND ALL PAVEMENT MARKINGS ON ROBBINS AVE EXCEPT STOP BAR.

(T) BAR TYPE CROSSWALK - (16" BARS, 24" SPACE, 8' WIDTH) - TOWN MAINTAINED

THE LOCATION OF ALL PHYSICAL FEATURES, INCLUDING SIGNAL EQUIPMENT AND PAVEMENT MARKINGS, MAY NOT REFLECT ACTUAL FIELD CONDITIONS.

SPAN POLE INFORMATION

28', 20" B.C., 6100 LBS. LOAD AT YIELD, INSTALLED 1994.

| NO. | DATE | REVISION DESCRIPTION |
|---|---|---|
| | | |

LEGEND:
R RED
Y YELLOW
G GREEN
◄R RED ARROW
◄Y YELLOW ARROW
◄G GREEN ARROW
WØ WALK/ PED. CLR
D.W. DON'T WALK
FL. FLASHING

- PROPOSED WOOD SPAN POLE
- EXISTING WOOD SPAN POLE
- PROPOSED STEEL SPAN POLE
- EXISTING STEEL SPAN POLE
- PROPOSED UTILITY POLE
- EXISTING UTILITY POLE
- PEDESTAL MOUNTING
- PEDESTRIAN PUSH BUTTON & SIGN
- DIRECTIONAL ARW. FOR PUSH BUTTON
- TRAFFIC SIGNAL FACE
- PEDESTRIAN SIGNAL FACE
- DET. LEADS IN SAW CUT
- PROPOSED RMC (RIGID METAL CONDUIT)
- EXISTING RMC (RIGID METAL CONDUIT)
- AUXILIARY TERMINATION CABINET
- AUXILIARY EQUIPMENT CABINET
- VIDEO DETECTION ZONE
- PROPOSED CONTROLLER
- EXISTING CONTROLLER
- LOOP DETECTOR
- SD SYSTEM DETECTOR
- MAGNETIC DETECTOR
- OPTICAL DETECTOR
- VIDEO DETECTOR
- AUDIO DETECTOR
- SIDEWALK RAMP
- CABLE CLOSURE
- WIRELESS SENSOR
- WIRELESS RECEIVER
- WIRELESS TRANSMITTER
- GUY WIRE
- PROPOSED HANDHOLE
- EXISTING HANDHOLE

DATE PLOTTED : 2/24/2021 \\vhb\gbl\proj\Wethersfield\42560.00\cad\ts\planset\015_TR_ASSET_093-214.dgn

SCALE 1" = 40'

| | TRAFFIC | DATE | ELECTRICAL | DATE |
|---|---|---|---|---|
| ENGINEER | | | | |
| DRAWN BY | | | | |
| CHECKED BY | | | | |
| SUBMITTED BY | | | | |
| APPROVED BY | | | | |
| APPROVED DATE | | | | |

vhb — 100 Great Meadow Road, Suite 200 Wethersfield, Connecticut 06109 Tel: 860 807-4300 Fax: 860 372-4570

REV # | INTERSECTION #093-214

ENERGY BY - TOWN | ADDRESS #
MAINT LEVEL 5 | SERVICE POLE - SNET 1891
UNMETERED SERVICE

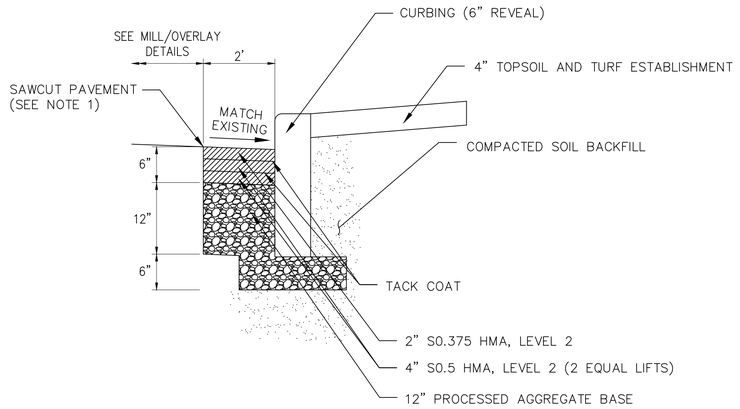
STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ROUTE 176 (MAIN ST) AT ROUTE 287 (E. ROBBINS AVE) AND ROBBINS AVE

TOWN: NEWINGTON

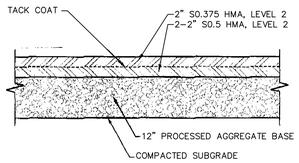
DRAWING TITLE: TRAFFIC CONTROL SIGNAL PLAN

PROJECT NO. L093-0001
DRAWING NO. TCS-04
SHEET NO. 27 of 44



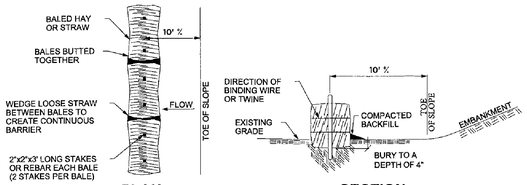

NOTES:
1. CONTRACTOR TO SAWCUT 2' FROM THE PROPOSED BACE OF CURB. COST OF SAWCUT IS INCLUDED IN THE UNIT COST FOR THE CURB OF THE TYPE SPECIFIED.
2. COST FOR THE EXCAVATION, PROCESSED AGGREGATE, SOIL BACKFILL, TACK COAT AND HMA ARE INCLUDED IN THE UNIT COST FOR THE CURB OF THE TYPE SPECIFIED.

## BITUMINOUS CONCRETE PAVEMENT BASE AT CURB ON MILL/OVERLAY ROADWAYS
n.t.s.



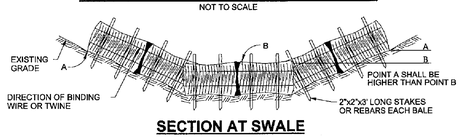

## FULL DEPTH PAVEMENT
N.T.S.

NOTE: MATCH EXISTING PAVEMENT SECTION IF THICKNESSES ARE GREATER.

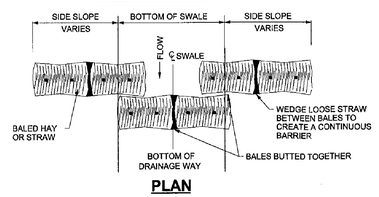



PLAN SECTION

## HAY BALES AT TOE OF SLOPE
NOT TO SCALE

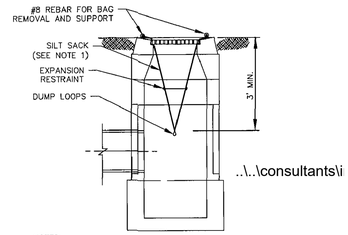



## SECTION AT SWALE




PLAN

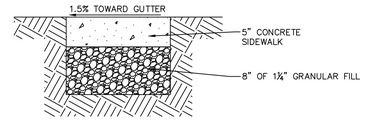
## HAY BALES AT SWALE
NOT TO SCALE



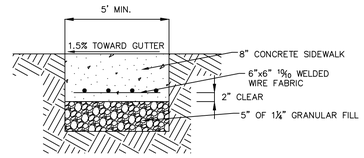

NOTES:
1. SILT SACKS SHALL BE HI-FLOW SILTSACK® 'TYPE A' FOR TYPE "C-L" CB TOPS AND 'TYPE B' WITH CURB DEFLECTORS FOR TYPE "C" CB TOPS OR OTHER STRUCTURES WITH CURB INLETS AS MANUFACTURED BY ACF ENVIRONMENTAL, INC OR APPROVED EQUAL.
2. SILT SACKS SHALL BE PROVIDED WITH INTERNAL OVERFLOWS.
3. SILT SACKS SHALL BE EMPTIED WHEN THEY HAVE COLLECTED 6" TO 12" OF SEDIMENT. INSPECT EVERY 1 TO 2 WEEKS AND AFTER EVERY MAJOR RAINFALL EVENT.

ir-1

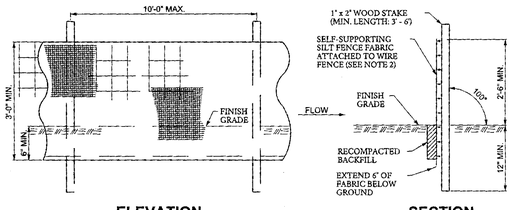
## SILT SACK
NOT TO SCALE




## CONCRETE SIDEWALK MID-BLOCK SECTION DETAIL
(n.t.s.)



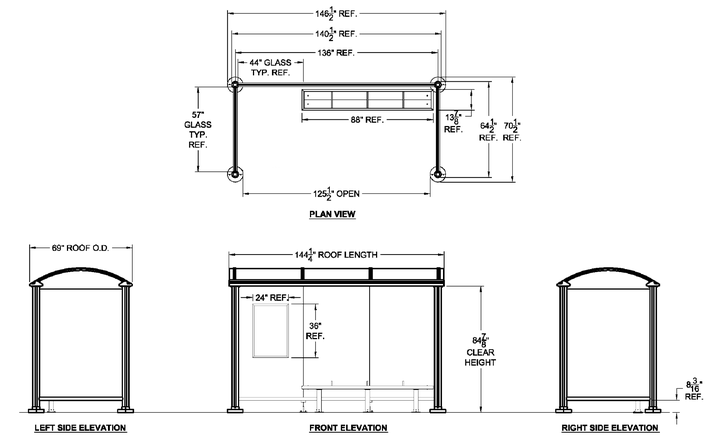

## CONCRETE SIDEWALK AT DRIVEWAY SECTION DETAIL
(n.t.s.)




ELEVATION SECTION

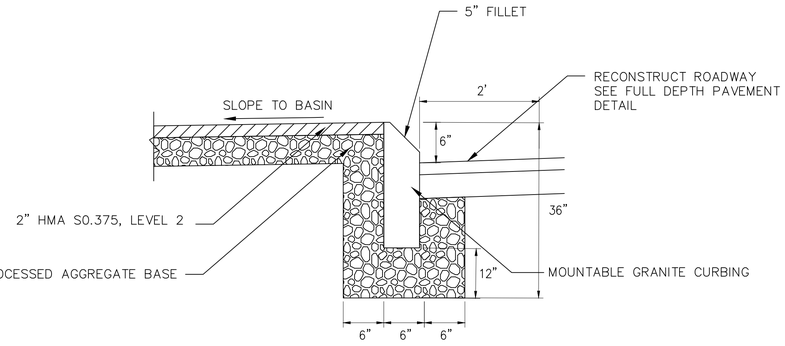
NOTES:
1. INSTALL SILT FENCE & WOOD STAKES AS RECOMMENDED BY MANUFACTURER.
2. SILT FENCE SUBJECT TO HEAVY LOADS SHALL BE REINFORCED WITH FARM FENCING & STEEL POSTS (0.5 # STEEL/L.F.). THE MINIMUM POST LENGTH SHALL BE 5'-0".
3. SILT FENCE FABRIC SHALL BE A PERVIOUS SHEET OF WOVEN PROPYLENE, NYLON, POLYESTER OR POLYETHYLENE FILAMENTS AND SHALL BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER.

## SILT FENCE
NOT TO SCALE

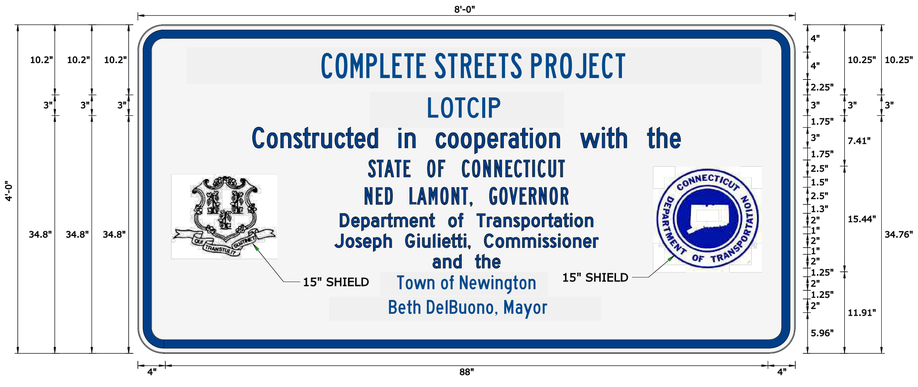



NOTES:
-ALUMINUM STRUCTURE (ANODIZED OR POWDER COAT PAINTED)
-3/8" TEMPERED SAFETY GLASS OR 3/8" POLYCARBONATE
-BARREL VAULT ROOF WITH INTEGRATED RAIN GUTTER AND PERFORATED FOR LEAF DIVERSION
-24" X 36" SCHEDULE HOLDER
-88" ECLIPSE BENCH WITH HDPE BENCH SLATS

## BUS SHELTER
n.t.s.




## BITUMINOUS ISLAND DETAIL
n.t.s.




## LOTCIP PROJECT SIGN
N.T.S.

REVISIONS:

vhb

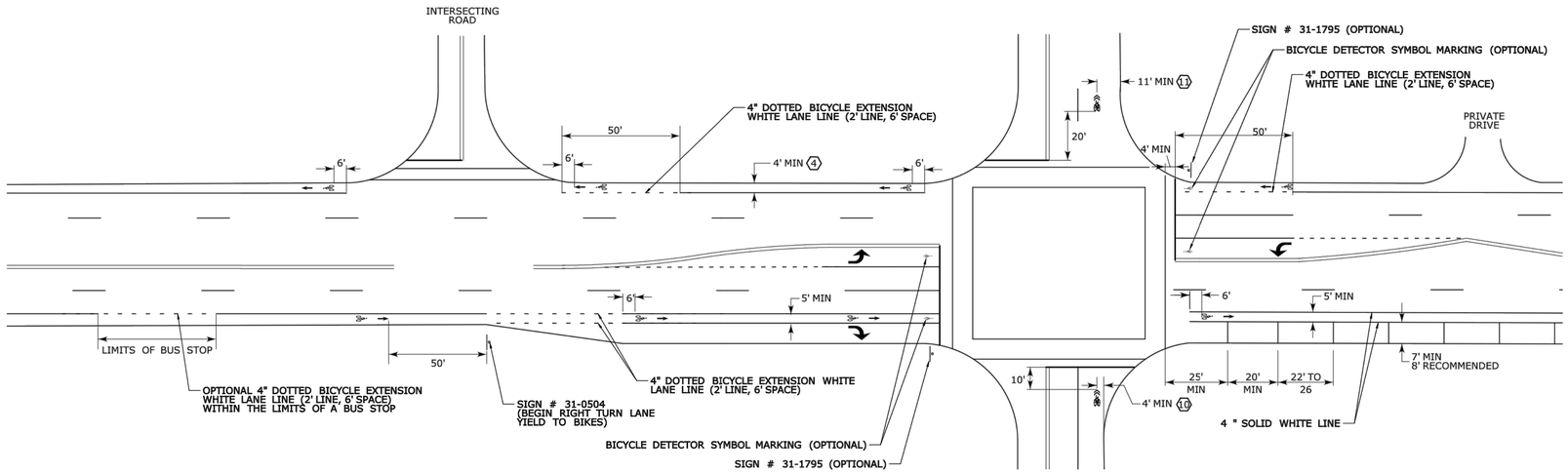
DETAILS FOR
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET
NEWINGTON, CT. 06111

**DATUMS:**

HORIZONTAL: NAD 83
VERTICAL: NAVD88

PROJECT
18006
DATE
11 / 16/ 2021
DRAWN
EAN
CHECK
BAA
SHEET
28 OF 44
SCALE:
AS - NOTED

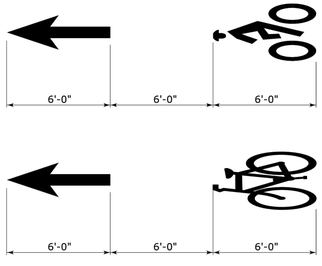
## TYPICAL BICYCLE LANE AND SHARROW MARKING DETAIL



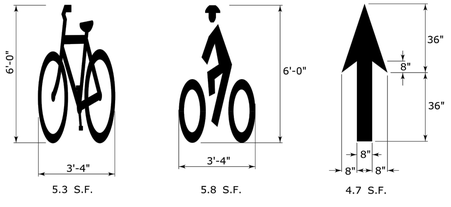

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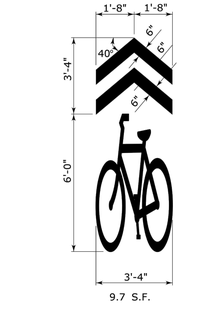
1. BICYCLE PAVEMENT MARKINGS AND GREEN PAVEMENT TO BE OWNED AND MAINTAINED BY THE MUNICIPALITY.
2. MUNICIPALITY MUST OBTAIN FHWA INTERIM APPROVAL FOR BICYCLE BOX INSTALLATION AND COMPLY WITH THE REQUIREMENTS OF FHWA INTERIM APPROVAL No. IA-18, OPTIONAL USE OF AN INTERSECTION BICYCLE BOX. BICYCLE BOX USE IS LIMITED TO SIGNALIZED INTERSECTIONS.
3. MUNICIPALITY MUST OBTAIN FHWA INTERIM APPROVAL FOR GREEN PAVEMENT INSTALLATION AND COMPLY WITH THE REQUIREMENTS OF FHWA INTERIM APPROVAL No. IA-14, OPTIONAL USE OF GREEN COLORED PAVEMENT FOR BIKE LANES AND FHWA INTERPRETATION LETTER 9(09)-86(I), CHROMATICITY REQUIREMENTS FOR GREEN-COLORED PAVEMENT. GREEN COLORED PAVEMENT MAY BE INSTALLED ONLY WITHIN A BICYCLE LANE OR WITHIN AN EXTENSION OF A BICYCLE LANE.
4. (4) 5 FEET WIDE BICYCLE LANES SHOULD BE USED IF IMMEDIATELY ADJACENT TO A CURB, GUIDE RAIL, OR OTHER VERTICAL SURFACES.
5. MARKINGS USED ON BIKEWAYS SHALL BE RETROREFLECTORIZED.
6. BICYCLE LANES MARKINGS SHOULD BE SPACED AT INTERVALS NO GREATER THAN 500 FT.
7. IF USED, SHARED LANE MARKINGS SHOULD BE SPACED AT INTERVALS NO GREATER THAN 250 FT.
8. SHARED LANE MARKINGS SHOULD NOT BE PLACED ON ROADWAYS THAT HAVE A SPEED LIMIT ABOVE 35 MPH.
9. BICYCLE DETECTOR SYMBOL MARKINGS MAY BE PLACED ON THE PAVEMENT INDICATING THE OPTIMUM POSITION FOR A BICYCLIST TO ACTUATE THE SIGNAL. THE LOCATION OF THE MARKINGS SHALL BE SPECIFIED ON THE SIGNAL PLAN. THE MARKINGS MAY BE SUPPLEMENTED BY SIDE MOUNTED SIGN # 31-1795.
10. (10) ON STREETS WITHOUT ON-STREET PARKING AND WITH OUTSIDE TRAVEL LANES LESS THAN 14 FEET WIDE, THE CENTERS OF THE SHARED LANE MARKINGS SHOULD BE AT LEAST 4 FEET FROM THE FACE OF THE CURB, OR FROM THE EDGE OF THE PAVEMENT WHERE THERE IS NO CURB.
11. (11) ON STREETS WITH ON-STREET PARKING THE CENTERS OF THE SHARED LANE MARKINGS SHOULD BE AT LEAST 11 FEET FROM THE FACE OF THE CURB, OR FROM THE EDGE OF THE PAVEMENT WHERE THERE IS NO CURB.
12. (12) COUNTDOWN PEDESTRIAN SIGNAL HEADS ARE REQUIRED FOR BICYCLE BOXES LOCATED ACROSS MULTILANE APPROACHES.
13. (13) TURNS ON RED SHALL BE PROHIBITED FROM THE APPROACH WHERE A BICYCLE BOX IS PLACED USING A NO TURN ON RED (R10-11 SERIES) SIGN.
14. AREA OF PAVEMENT MARKING SYMBOLS AS INDICATED IS APPROXIMATE.
15. REFER TO STANDARD SHEET TR-1210_04 FOR PAVEMENT MARKING LINE DETAILS.

## TYPICAL LONGITUDINAL SPACING




## BICYCLE LANE SYMBOL MARKINGS




REVISIONS:

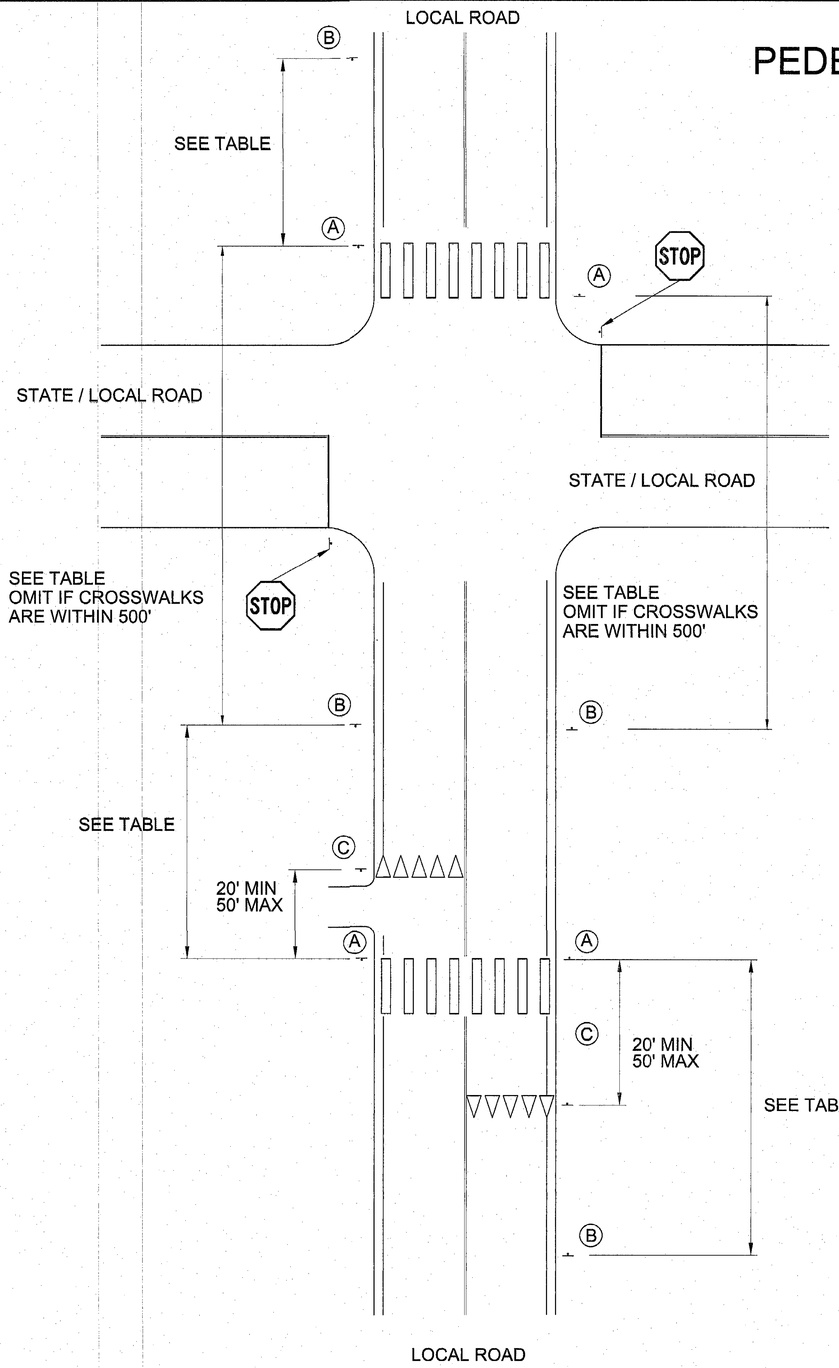
DETAILS FOR
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

**DATUMS:**

HORIZONTAL: NAD 83
VERTICAL: NAVD88

| | |
|---|---|
| PROJECT | 18006 |
| DATE | 11 / 16/ 2021 |
| DRAWN | EAN |
| CHECK | BAA |
| SHEET | 29 OF 44 |
| SCALE: | AS - NOTED |

# PEDESTRIAN SIGNING AND YIELD LINE DETAILS



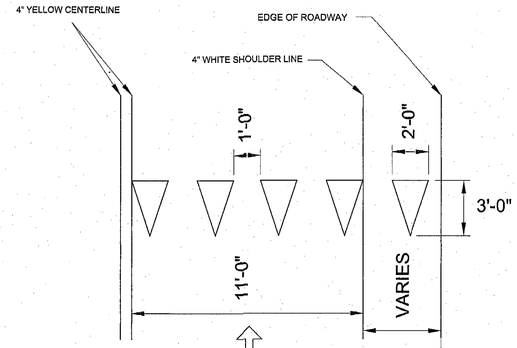

## SIGN PLACEMENT TABLE

| POSTED SPEED ON APPROACH STREET | DISTANCE BETWEEN ASSEMBLY (A) AND ASSEMBLY (B) |
|---|---|
| 15 | 100' - 150' |
| 20 | 115' - 165' |
| 25 | 155' - 205' |
| 30 | 200' - 250' |
| 35 | 250' - 300' |
| 40 | 305' - 355' |
| 45 | 360' - 410' |

NOTES:

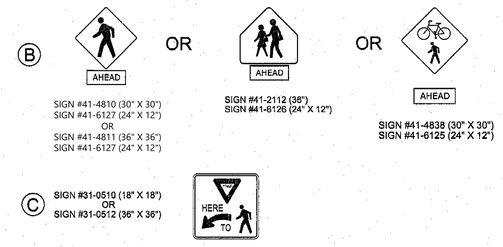
1. SIGN ASSEMBLY (A) TO BE LOCATED AS CLOSE TO MARKED CROSSWALK AS POSSIBLE
2. SIGN ASSEMBLY (B) TO BE INSTALLED IN ADVANCE OF CROSSWALK WITH SUFFICIENT SIGHT DISTANCE ACCORDING TO POSTED SPEED LIMITS AND THE SIGN PLACEMENT TABLE.
3. IF A PEDESTRIAN CROSSING SIGN IS POST-MOUNTED AT THE CROSSWALK LOCATION WHERE "A YIELD HERE TO PEDESTRIANS" (31-0510 or 31-0512) SIGN IS USED ON THE SAME APROACH, THE "YIELD HERE TO PEDESTRIANS" SIGN SHALL NOT BE PLACED ON THE SAME POST AS OR BLOCK THE ROAD USER'S VIEW OF THE PEDESTRIAN CROSSING SIGN.
4. AN ADVANCE PEDESTRIAN CROSSING SIGN WITH AN AHEAD PLAQUE MAY BE USED IN CONJUNCTION WITH A "YIELD HERE TO PEDESTRIANS" SIGN ON THE APPROACH TO THE SAME CROSSWALK.
5. AN ADVANCE PEDESTRIAN CROSSING SIGN WITH AN AHEAD PLAQUE SHALL BE OMITTED IF THERE IS ANOTHER CROSSWALK IN THE SAME DIRECTION WITHIN 500'.
6. PEDESTRIAN SIGNS SHALL BE 30" X 30" ON TWO LANE ROADS AND 36" X 36" ON MULTI-LANE ROADS. 48" X 48" SIGNS ARE ONLY TO BE USED AS DIRECTED IN THE NOTICE TO CONTRACTOR - PROJECT LOCATIONS.
7. ALL PLAQUES, OR SUB-PLATES, ARE TO BE ATTACHED ON THE SIGN POST 1/2" BELOW THE PARENT SIGN AND HAVE THE SAME COLOR BACKGROUND AND SHEETING TYPE AS THE PARENT SIGN.
8. IF THERE ARE TWO CROSSWALKS AT AN INTERSECTION, A PEDESTRIAN SIGN WITH AN ARROW PLAQUE SHALL BE INSTALLED ADJACENT TO THE CROSSWALK ON THE NEAR SIDE OF THE INTERSECTION.
9. SIGN ASSEMBLIES (A) AND (B) SHALL BE INSTALLED WITH A NEW RETROREFLECTIVE STRIP WITH THE SAME COLOR BACKGROUND AND SHEETING TYPE AS THE PARENT SIGN AND BE ATTACHED TO THE SIGN POST 1/2" BELOW THE APPROPRIATE PLAQUE.
10. YIELD LINES SHALL BE INSTALLED SYMETRICALLY AND NOT WITHIN AN OPENING OF A DRIVEWAY.

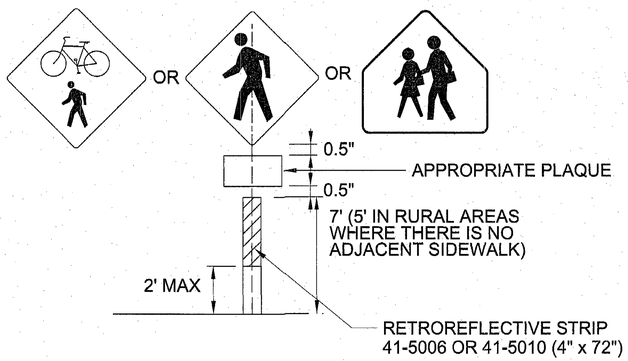
YIELD LINE DETAIL
WHITE










| REV. | DATE | REVISION DESCRIPTION | SHEET NO. |
|---|---|---|---|
| - | - | - | - |
| - | - | - | - |
| - | - | - | - |
| - | - | - | - |
| - | - | - | - |
| - | - | - | - |

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: 11/8/2017

DESIGNER/DRAFTER: LSA
CHECKED BY:
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\Local Road Ped Signing - Typical Sheet - Draft.dgn

SIGNATURE/BLOCK:
OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE:
**PEDESTRIAN SIGNING ON LOCAL ROADS**

TOWN: **VARIOUS - DISTRICT 1**
DRAWING TITLE: **DETAILS FOR PEDESTRIAN CROSSINGS**

PROJECT NO.
DRAWING NO.
SHEET NO.

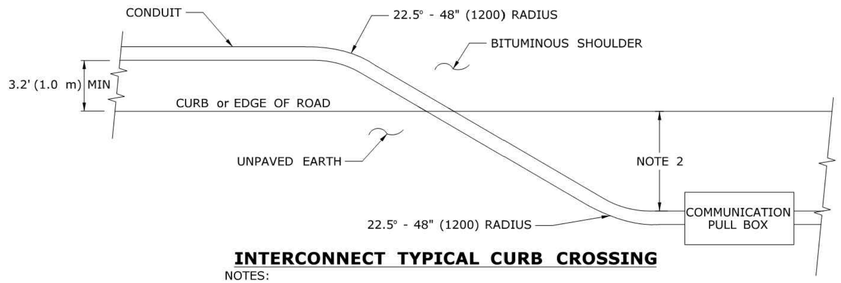
REVISIONS:

vhb

DETAILS FOR
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

**DATUMS:**
HORIZONTAL: NAD 83
VERTICAL: NAVD88

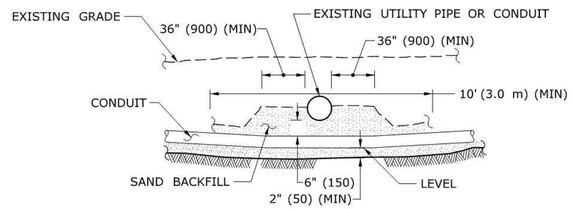
PROJECT 18006
DATE 11 / 16/ 2021
DRAWN EAN
CHECK BAA
SHEET 30 OF 44
SCALE: AS - NOTED




## INTERCONNECT TYPICAL CURB CROSSING

NOTES:

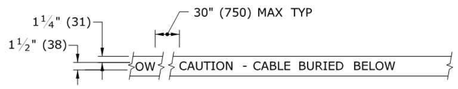
1. RESTORE AREAS DISTURBED BY TRENCH TO ORIGINAL CONDITION.
2. INSTALL PULL BOX A MINIMUM OF 10' (3.0 m) FROM CURB UNLESS OTHERWISE SHOWN ON PLANS OR DIRECTED BY ENGINEER.




## CROSSING UNDER EXISTING UTILITY

NOTES:

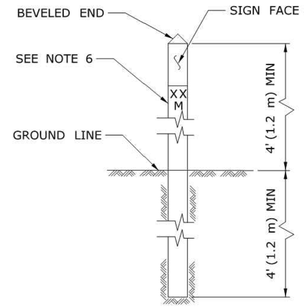
1. WHEN ENCOUNTERED AT APPROXIMATELY THE SAME DEPTH, CROSS BENEATH.
2. PROTECT & SUPPORT EXPOSED EXISTING UTILITY.

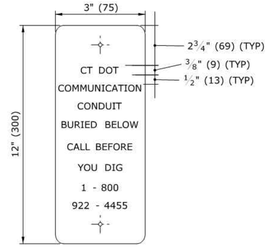



## DETECTABLE WARNING TAPE

NOTE:
STANDARD SPECIFICATIONS, ARTICLE: 1.05.15

1. TAPE COLORS:
   COMMUNICATION - ORANGE BACKGROUND / BLACK LEGEND
   POWER - RED BACKGROUND / BLACK LEGEND



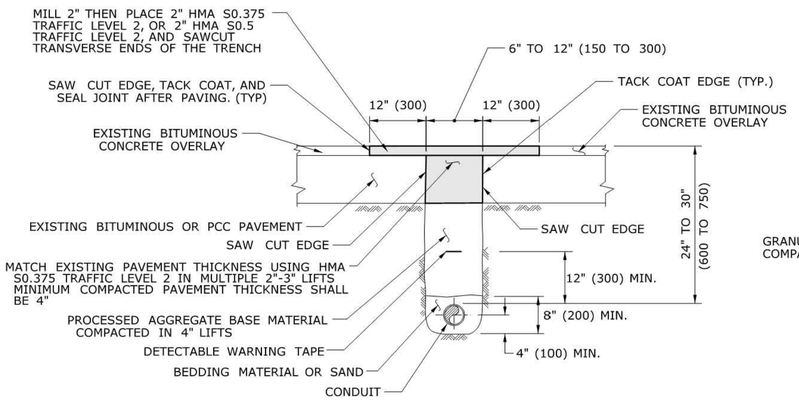




## INTERCONNECT CONDUIT IDENTIFICATION POST

**SIGN FACE DETAIL**
SIGN # 41-4669

NOTES:

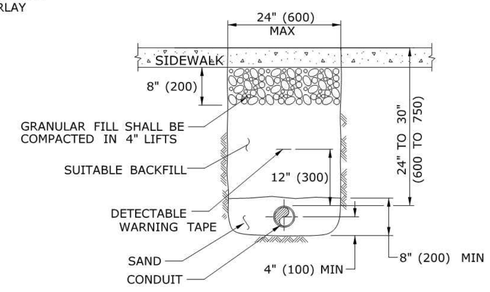
1. 4" x 4" (100 x 100) NOMINAL, PRESSURE TREATED WOOD POST.
2. ATTACH SIGN TO POST WITH ¼" x 1¼" (6 x 31) STAINLESS STEEL LAG SCREW WITH NYLON WASHER ON FACE OF SIGN.
3. SIGN COLORS: BACKGROUND - ORANGE (RETROREFLECTIVE) LEGEND - BLACK (OPAQUE).
4. INSTALL POST APPROX 24" (600) FROM RMC IN VICINITY OF EACH PULL BOX.
5. INSTALL POSTS BETWEEN PULL BOXES, APPROX 10' (3.0 m) OFF CURB. SPACE POSTS 1500'± (460 m±) APART.
6. 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 OVERLAYED PORTLAND CEMENT CONCRETE

NOTES:
STANDARD SPECIFICATION, ARTICLE 3.04 AND SECTION 4.06.03

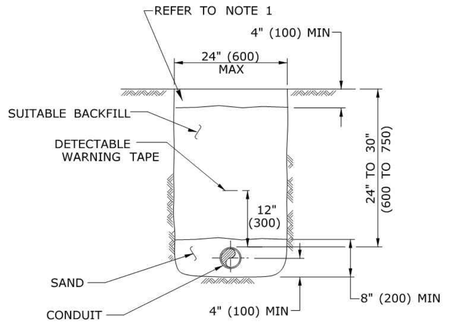
1. TOTAL HOT MIX ASPHALT (HMA) THICKNESS TO MATCH EXISTING BITUMINOUS CONCRETE AND PORTLAND CEMENT CONCRETE (PCC) THICKNESS.
2. WHEN ALLOWED BY ENGINEER, USE CONTROLLED LOW STRENGTH MATERIAL (CLSM) AS BEDDING MATERIAL. TOP OF CLSM AT LEAST 20" (500) BELOW SURFACE.




## SIDEWALK

NOTES:
STANDARD SPECIFICATIONS, ARTICLE: 9.21 & 9.22

1. 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

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

GENERAL NOTES:

1. TOP OF CONDUIT NO LESS THAN 24" (600) DEEP.
2. 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 |
|---|---|---|
| 2 | 4-2019 | REVISED FILL & OVERLAY REQUIREMENTS, & MINOR REVISIONS |
| 1 | 4-2012 | REVISED BITUMINOUS CONCRETE TO HMA, & MINOR REVISIONS. |

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: 7/1/2019

DESIGNER/DRAFTER:
CHECKED BY:
NO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: GS_TRENCHING & BACKFILLING.DGN Model: GS_TRENCHING AND BACKFILLING

SIGNATURE/ BLOCK:
OFFICE OF ENGINEERING
APPROVED BY: DATE:

PROJECT TITLE:

TOWN:

DRAWING TITLE:
TRENCHING & BACKFILLING, ELECTRICAL CONDUIT

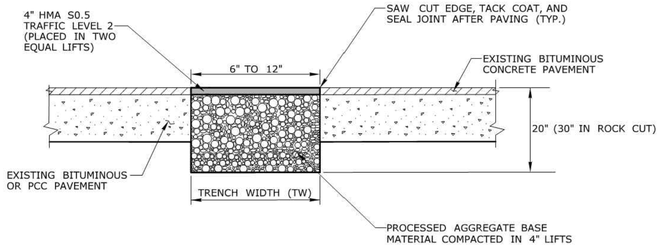
PROJECT NO.
DRAWING NO.
SHEET NO.

REVISIONS:

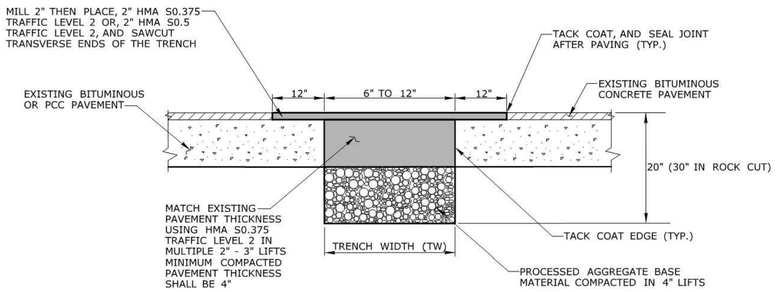
DETAILS FOR COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
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**DATUMS:**
HORIZONTAL: NAD 83
VERTICAL: NAVD88

PROJECT 18006
DATE 11 / 16/ 2021
DRAWN EAN
CHECK BAA
SHEET 31 OF 44
SCALE: AS - NOTED




**TEMPORARY PAVEMENT - FOR NARROW TRENCH THROUGH BITUMINOUS CONCRETE OR OVERLAID PORTLAND CEMENT CONCRETE (PCC) (TRENCH WIDTH BETWEEN 6" AND 12")**




**PERMANENT PAVEMENT - FOR NARROW TRENCH THROUGH BITUMINOUS CONCRETE OR OVERLAID PORTLAND CEMENT CONCRETE (PCC) (TRENCH WIDTH BETWEEN 6" AND 12")**

## GENERAL NOTES:

1. LONGITUDINAL TRENCHING FOR JOINTED CONCRETE PAVEMENT:

   A. IF THE LONGITUDINAL TRENCH FALLS BETWEEN THE SLAB CENTERLINE AND THE EDGE OF SLAB, REMOVE CONCRETE AND BITUMINOUS CONCRETE PAVEMENT FROM THE TRENCH EDGE TO THE EDGE OF ROAD. IF THE LONGITUDINAL TRENCH FALLS BETWEEN THE LONGITUDINAL JOINT AND THE SLAB CENTERLINE, REMOVE THE ENTIRE CONCRETE SLAB AND BITUMINOUS CONCRETE PAVEMENT TO THE EDGE OF ROAD. IN EITHER CASE REBUILD WITH THE FOLLOWING:

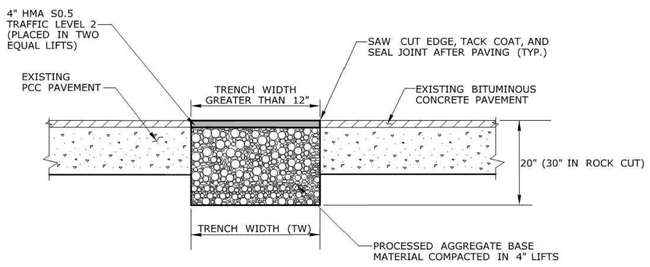
      a. PLACE HMA S1.0 TRAFFIC LEVEL 2 IN TWO EQUAL 4" - 5" LIFTS TO MATCH EXISTING CONCRETE PAVEMENT THICKNESS
      b. PLACE HMA S0.5 TRAFFIC LEVEL 2 IN 2" - 3" LIFTS TO MATCH EXISTING BITUMINOUS CONCRETE PAVEMENT THICKNESS, WITH THE FINAL LIFT BEING 2"

2. TRANSVERSE TRENCHING FOR JOINTED CONCRETE PAVEMENT:

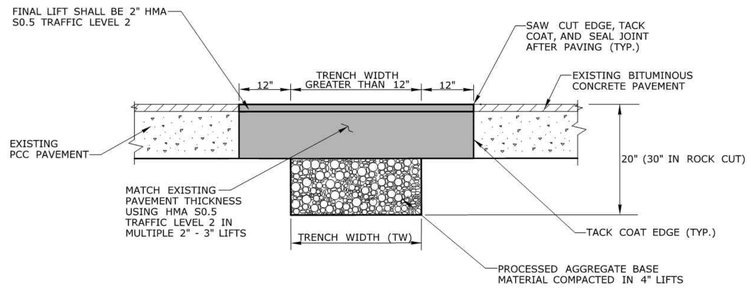
| TABLE 1 | |
|---|---|
| TOTAL SLAB LENGTH (L) | MIN. LENGTH REMAINING |
| 40' OR LONGER | 1/4 L |
| 15' - 40' | 10' |
| 15' OR SHORTER | REBUILD TO NEAREST JOINT |

   A. FOR TRANSVERSE TRENCHES, THE MINIMUM SLAB LENGTH AS SHOWN IN TABLE 1 SHALL BE LEFT IN PLACE TO THE NEAREST TRANSVERSE JOINT. IF THIS CRITERIA CANNOT BE MET, THE EXISTING SLAB AREA FROM THE TRENCH EDGE TO THE NEAREST TRANSVERSE JOINT SHALL BE REMOVED AND REBUILT AS FOLLOWS:

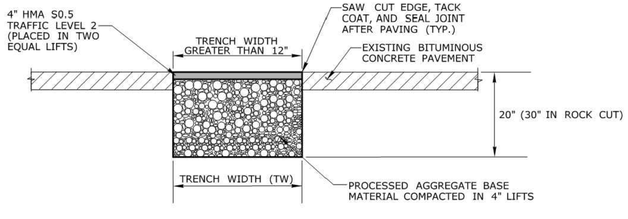
      a. PLACE HMA S1.0 TRAFFIC LEVEL 2 IN TWO EQUAL 4" - 5" LIFTS TO MATCH EXISTING CONCRETE PAVEMENT THICKNESS
      b. PLACE HMA S0.5 TRAFFIC LEVEL 2 IN 2" - 3" LIFTS TO MATCH EXISTING BITUMINOUS CONCRETE PAVEMENT THICKNESS, WITH THE FINAL LIFT BEING 2"



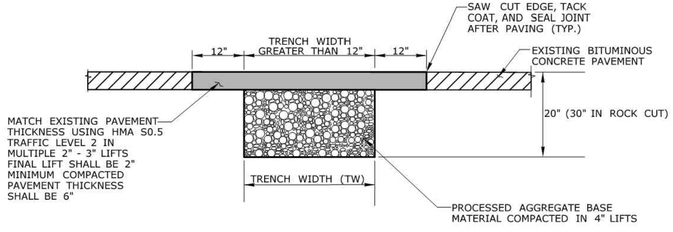

**TEMPORARY PAVEMENT FOR TRENCH THROUGH OVERLAID PORTLAND CEMENT CONCRETE (PCC) (TRENCH WIDTH GREATER THAN 12")**



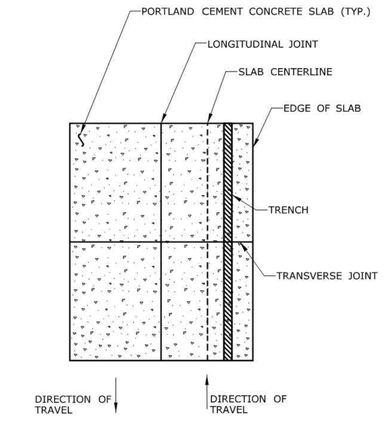

**PERMANENT PAVEMENT FOR TRENCH THROUGH OVERLAID PORTLAND CEMENT CONCRETE (PCC) (TRENCH WIDTH GREATER THAN 12")**



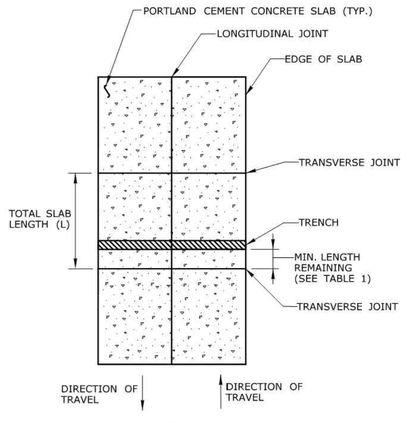

**TEMPORARY PAVEMENT FOR TRENCH THROUGH BITUMINOUS CONCRETE (TRENCH WIDTH GREATER THAN 12")**




**PERMANENT PAVEMENT FOR TRENCH THROUGH BITUMINOUS CONCRETE**




**LONGITUDINAL TRENCHING FOR JOINTED CONCRETE PAVEMENT**
(SEE NOTE 1)




**TRANSVERSE TRENCHING FOR JOINTED CONCRETE PAVEMENT**
(SEE NOTE 2)

REVISIONS:

vhb

DETAILS FOR
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

**DATUMS:**

HORIZONTAL: NAD 83

VERTICAL: NAVD88

PROJECT
18006

DATE
11 / 16/ 2021

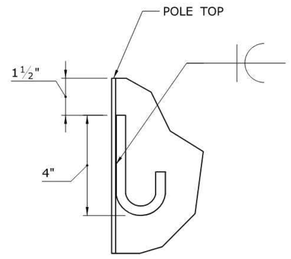
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EAN

CHECK
BAA

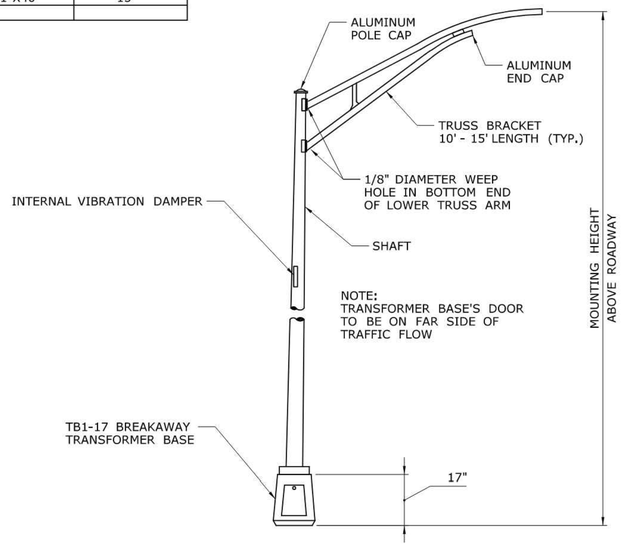
SHEET
32 OF 44

SCALE:
AS - NOTED

| ALUMINUM LIGHT STANDARD - DIMENSION TABLE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ITEM NO. | MOUNTING HEIGHT | BRACKET LENGTH | SHAFT DIAMETER | | SHAFT WALL THICKNESS | BASE TYPE | ANCHOR BOLT SIZE | BOLT CIRCLE DIAMETER |
| | | | BOTTOM | TOP | | | | |
| 1003206 | 30' | 15' | 8" | 6" | 0.188" | TRANSFORMER | 1"X40" | 15" |
| | | | | | | | | |




**J-HOOK MOUNTING DETAIL**



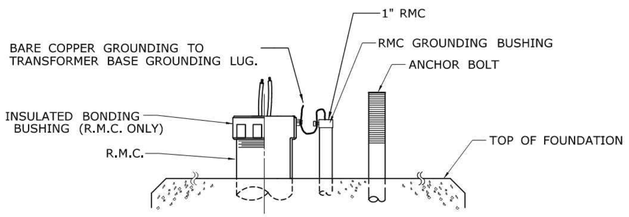

**ALUMINUM LIGHT STANDARD FOR VEHICLE DETECTOR**

NOTE:

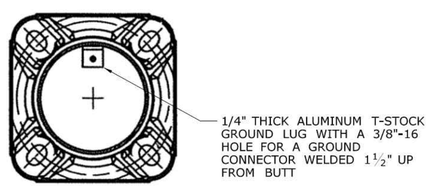
TRANSFORMER BASE DOOR TO BE ON FAR SIDE OF TRAFFIC FLOW.

TOP 2'-6" OF SHAFT IS NOT TAPERED.

REFER TO SIGNAL PLANS FOR BRACKET LENGTHS.

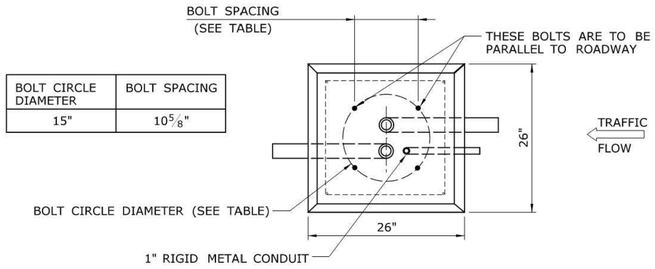


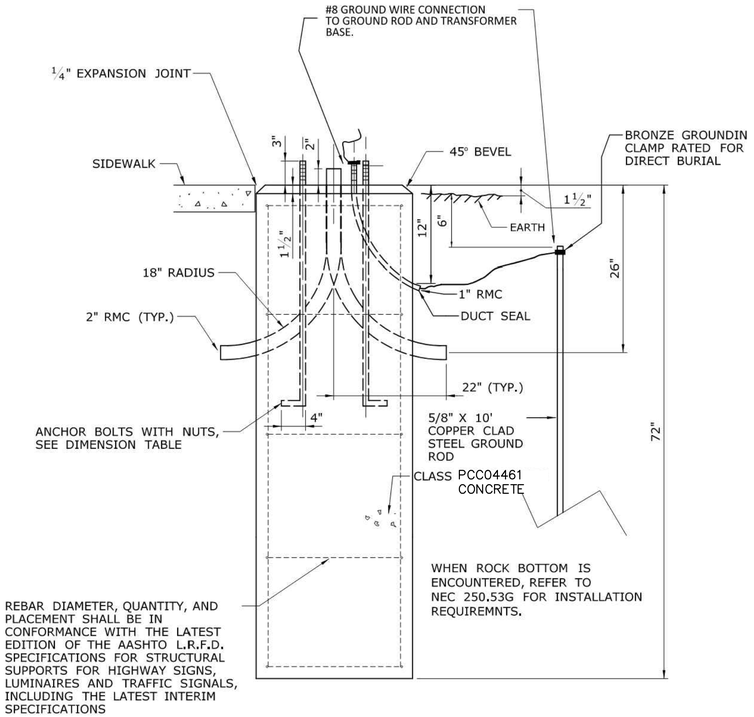

**CONDUIT TERMINATION AT VEHICLE DETECTOR LIGHT STANDARD BASE**




**ALUMINUM LIGHT STANDARD BASE**

| BOLT CIRCLE DIAMETER | BOLT SPACING |
|---|---|
| 15" | 10⅝" |




**LIGHT STANDARD FOUNDATION - TYPE I**

## LIGHT STANDARD NOTES:

1) ALUMINUM ALLOY SHALL BE 6063, T6 TEMPER.
2) BOLT CIRCLE SHOWN IS FOR TRANSFORMER BASE BOTTOM.
3) TO BE DESIGNED TO AASHTO "STANDARD SPECIFICATION FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS" FOR 90 M.P.H. WINDS.
4) WELDING DESIGN AND FABRICATION SHALL CONFORM TO THE LATEST EDITION OF THE ANSI/AWS D1.2, STRUCTURAL WELDING CODE - ALUMINUM.
5) FOR BASE CONNECTION WELDS, FABRICATION INSPECTION AND TESTING SHALL BE PERFORMED AS NECESSARY PRIOR TO ASSEMBLY, DURING ASSEMBLY, DURING WELDING, AND AFTER WELDING, TO ENSURE THAT MATERIALS AND WORKMANSHIP MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. FABRICATION INSPECTION AND TESTING IS THE RESPONSIBILITY OF THE CONTRACTOR. VERIFICATION INSPECTION AND TESTING IS THE PREROGATIVE OF THE ENGINEER (CONNDOT).
6) NON-DESTRUCTIVE TESTING FOR ALUMINUM SHALL BE AS FOLLOWS: A RANDOM 25% OF ALL BASE CONNECTION WELDS SHALL BE INSPECTED IN ACCORDANCE WITH ASTM E-165 STANDARD PRACTICE FOR LIQUID PENETRANT INSPECTION METHOD.

REVISIONS:

vhb

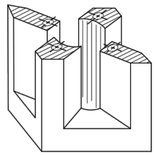
DETAILS FOR
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT 06111

**DATUMS:**

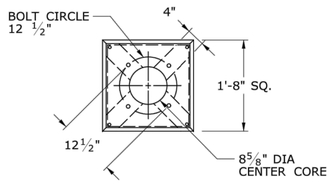
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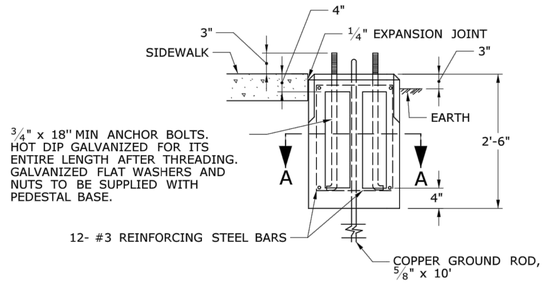
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|---|---|
| PROJECT | 18006 |
| DATE | 11 / 16/ 2021 |
| DRAWN | EAN |
| CHECK | BAA |
| SHEET | 33 OF 44 |
| SCALE: | AS - NOTED |

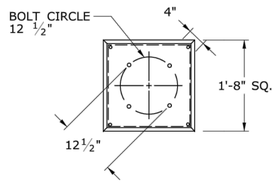


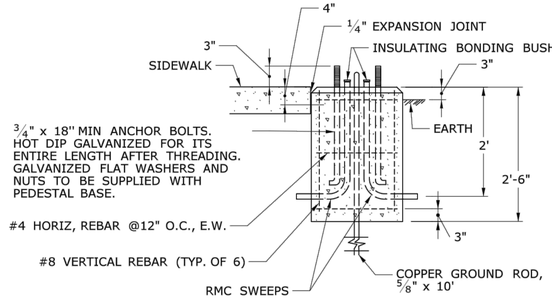
**PICTORIAL**
**SECTION A-A**




**TRAFFIC CONTROL FOUNDATION**
**PEDESTAL - TYPE I - PRECAST**

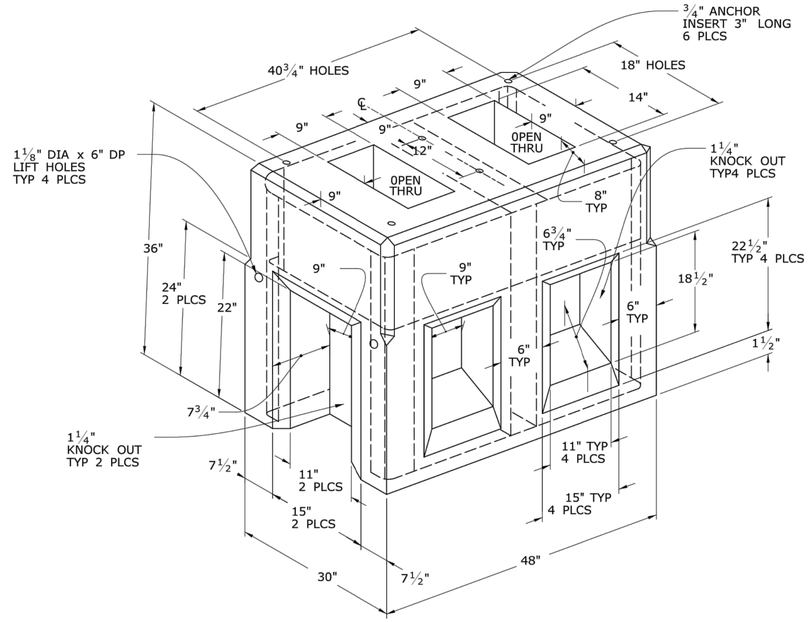



**TRAFFIC CONTROL FOUNDATION**
**PEDESTAL - TYPE I - CAST IN PLACE**

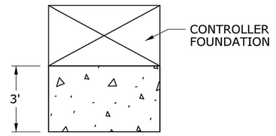
NOTES:

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



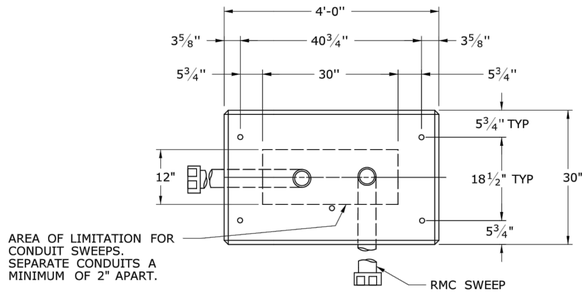

**TRAFFIC CONTROL FOUNDATION**
**CONTROLLER - TYPE IV - PRECAST**

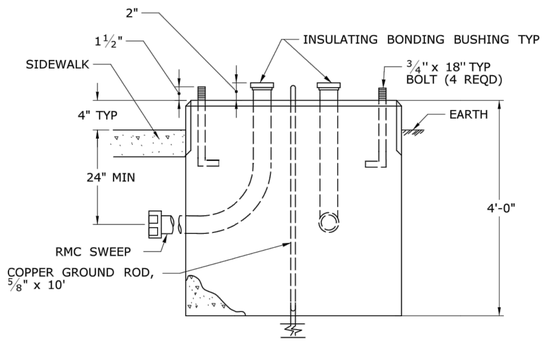
LEGEND AS SHOWN ON TRAFFIC CONTROL SIGNAL PLAN:
- PROPOSED CONTROLLER
- EXISTING CONTROLLER
- PROPOSED STEEL SPAN POLE
- EXISTING STEEL SPAN POLE




INSTALL PRECAST OR CAST IN PLACE CONCRETE SIDEWALK ON CABINET DOOR SIDE OF CONTROLLER FOUNDATION.
PITCH SIDEWALK ¼" PER FOOT AWAY FROM THE CONTROLLER FOUNDATION.
REFER TO HIGHWAY STANDARD SHEET HW-921_01 FOR SIDEWALK CONSTRUCTION.

**TYPICAL CONCRETE SIDEWALK**
**AT CONTROLLER FOUNDATION**




**TRAFFIC CONTROL FOUNDATION**
**CONTROLLER - TYPE IV - CAST IN PLACE**

NOTES:

INSTALL FOUNDATION ON 6" OF COMPACTED GRAVEL IN ACCORDANCE WITH SECTION 2.14.
LEVEL FOUNDATION WITH A PROJECTION OF 4" ABOVE FINISHED GRADE.
INSTALL COPPER GROUND ROD: 5#8" x 10".
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" 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 PCC04461 CONFORMING TO ARTICLE M.03.01.
#4 REBAR 2" MIN COVER AROUND ALL OPENINGS, 3-#4 REBARS IN EACH CORNER.
CONDUITS SHALL NOT PROJECT MORE THAN 2" ABOVE FOUNDATION.

REVISIONS:

vhb

DETAILS FOR
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MAPLE HILL AVENUE & ROBBINS AVENUE
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TOWN OF NEWINGTON
NEWINGTON, CT. 06111
131 CEDAR STREET

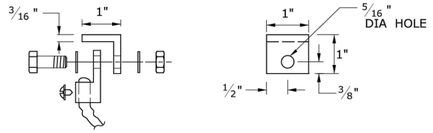
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VERTICAL: NAVD88

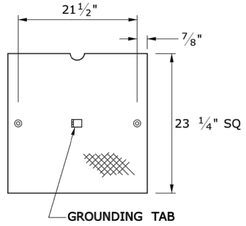
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DATE
11 / 16/ 2021
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SHEET
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SCALE:
AS - NOTED

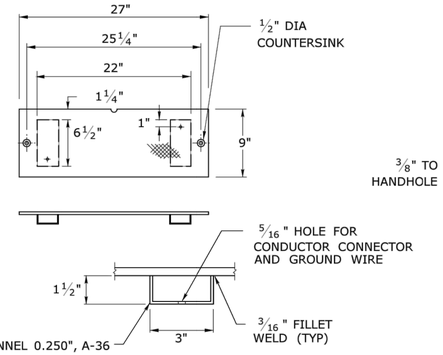
**COVER NOTES:**

1. GROUNDING TAB WELDED TO BOTTOM CENTER OF COVER WITH 3/16" WELD (3 SIDES).
2. ATTACH 6' LENGTH OF NO. 8 GROUND WIRE TO GROUNDING TAB WITH CONDUCTOR CONNECTOR, 1/4" - 20 X 3/4" 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: 3/8"-16, 1 1/2"L, STAINLESS STEEL.
5. COVER SCREW: 3/8"-16, 1"L, FLAT HEAD, SLOTTED, STAINLESS STEEL.

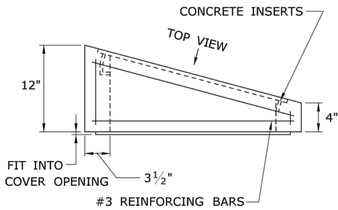



**STEEL GROUNDING TAB**
**w/ CONDUCTOR CONNECTOR**

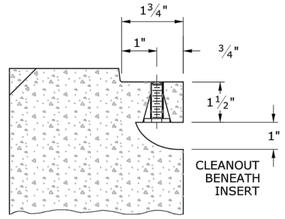


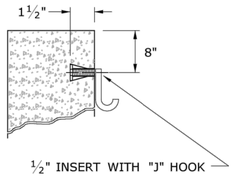

**NON SKID FLOOR PLATE**
**GALVANIZED STEEL, 3/8" (10)**




**BANK ADAPTER**

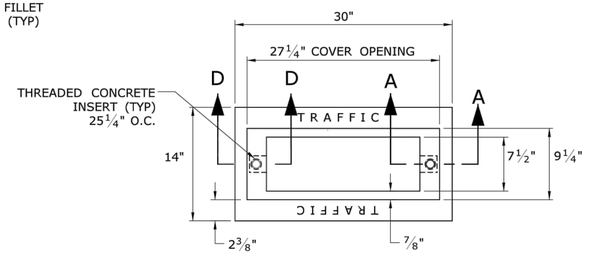



**SECTION D-D**

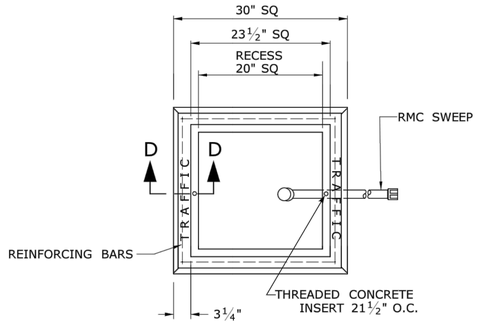



**INSERT DETAIL**

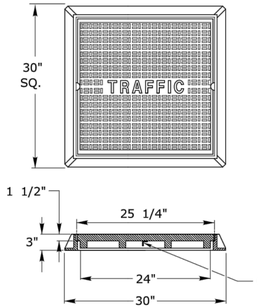
TYP IN TWO PLACES FOR ALL HANDHOLES

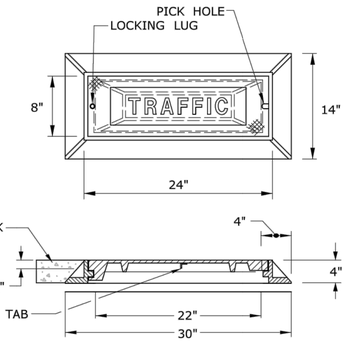



**PLAN VIEW**

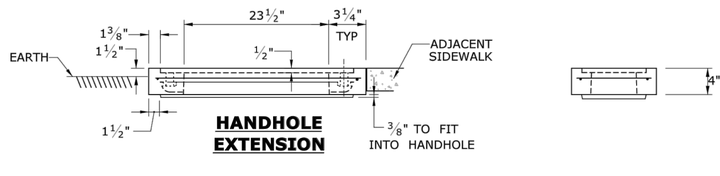



**PLAN VIEW**

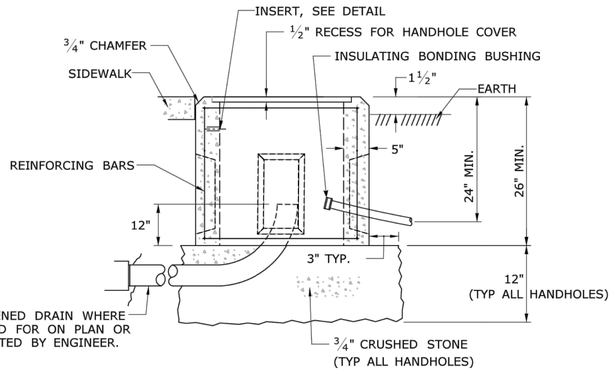


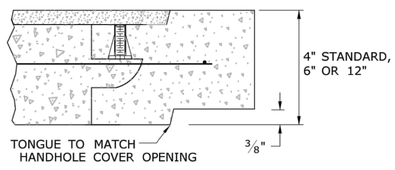

**CAST IRON**
**HANDHOLE COVERS**




**HANDHOLE EXTENSION**

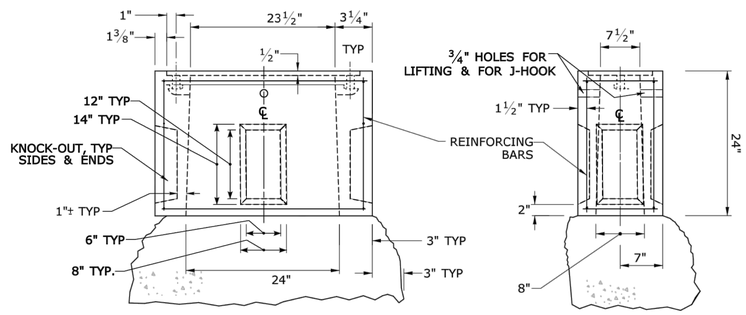



**CONCRETE HANDHOLE TYPE I**




**SECTION A-A**
**HANDHOLE EXTENSIONS**

4 - #8 REINFORCING BARS REQ'D




**BASE SECTION**
**CONCRETE HANDHOLE TYPE II**

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

**HANDHOLE NOTES:**

1. **MINIMUM CLASS PCC04461 CONCRETE.**
2. COMPLETE TYPE II HANDHOLE:
   IN EARTH AREAS, CONSISTS OF A BASE SECTION WITH 4" HANDHOLE EXTENSION,
   IN SIDEWALK AREAS, CONSISTS OF A BASE SECTION WITH 4" 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" SIDE PARALLEL TO ROAD UNLESS OTHERWISE NOTED.
6. INSTALL HANDHOLES APPROX. 12" BEHIND CURB OR IF NO CURB, 24" BEHIND EDGE OF ROAD UNLESS OTHERWISE SPECIFIED.
7. CAST THE WORD "TRAFFIC" INTO TOP EDGE OF HANDHOLE, 1 1/2" 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)

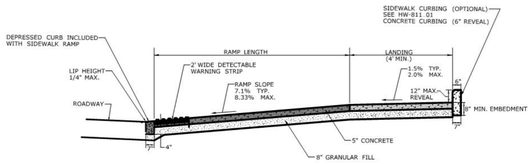
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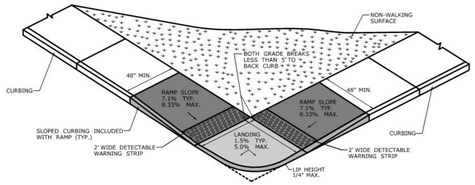
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VERTICAL: NAVD88

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|---|---|
| PROJECT | 18006 |
| DATE | 11 / 16/ 2021 |
| DRAWN | EAN |
| CHECK | BAA |
| SHEET | 35 OF 44 |
| SCALE: | AS - NOTED |




**BASIC RAMP ATTRIBUTES**

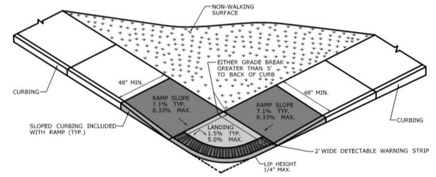
- Plan view of Ramp Components
- Section View of Typical Ramp
- Wheelchair Cross-slope Criteria
- Ramp Warping Detail




**PERPENDICULAR RAMP(S)**
**LANDING'S GRADE BREAK OF 5' OR LESS**

TYPE 1 SIDEWALK ABUTS ROADWAY

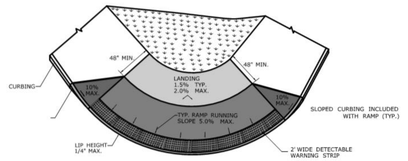
TYPE 3 SIDEWALK SEPARATED FROM ROADWAY WITH NONWALK AREA




**BLENDED RAMP(S)**
**LANDING'S GRADE BREAK GREATER THAN 5'**

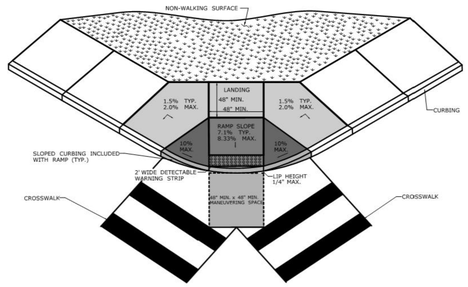
TYPE 2 SIDEWALK ABUTS ROADWAY

TYPE 4 SIDEWALK SEPARATED FROM ROADWAY WITH NONWALK AREA




**BLENDED RAMP(S)**
**LANDING'S IS LOCATED ON TOP**

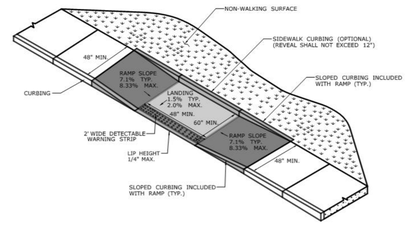
TYPE 5 SIDEWALK ABUTS ROADWAY




**PERPENDICULAR RAMP(S) WITH STREET MANEUVERING SPACE**

TYPE 6 LANDING OBSTRUCTION PRESENT

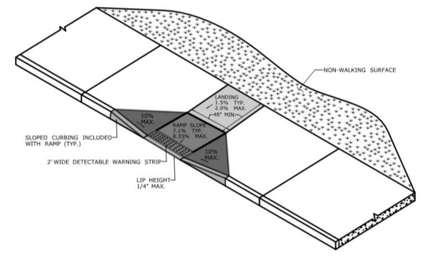
TYPE 7 NO LANDING OBSTRUCTION




**PARALLEL RAMP(S)**

TYPE 9 TWO RAMP(S) APPROACH TO LANDING

TYPE 10 SINGLE RAMP TO LANDING



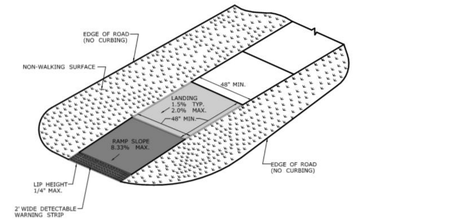

**PERPENDICULAR RAMP(S)**

TYPE 8 LANDING BYPASS WITH WALKABLE SURFACE

TYPE 13 LANDING WITH NON-WALKABLE SURFACE

TYPE 12 60" X 48" LANDING WITH NON-WALKABLE SURFACE

TYPE 11 60" X 60" LANDING WITH NON-WALKABLE SURFACE



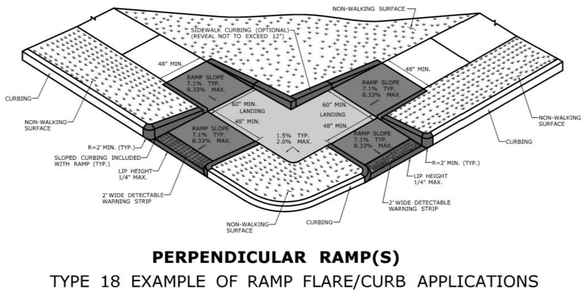

**SINGLE DIRECTION RAMP(S)**

TYPE 15 LANDING'S GRADE BREAK LESS THAN 5 FT

TYPE 14 LANDING'S GRADE BREAK GREATER 5 FT

TYPE 16 RAMP WITH RETURN CURBING

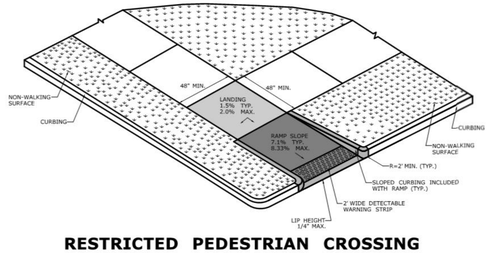
TYPE 17 RAMP WITH NO RETURN CURBING




**PERPENDICULAR RAMP(S)**

TYPE 18 EXAMPLE OF RAMP FLARE/CURB APPLICATIONS

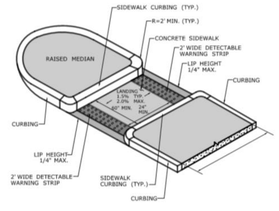
TYPE 19 COMBINATION SIDEWALK RAMPS




**RESTRICTED PEDESTRIAN CROSSING SIDEWALK RAMP(S)**

TYPE 20 SINGLE RAMP FROM LANDING

TYPE 21 TWO RAMP(S) TO LANDING




**PEDESTRIAN REFUGE ISLAND(S)**

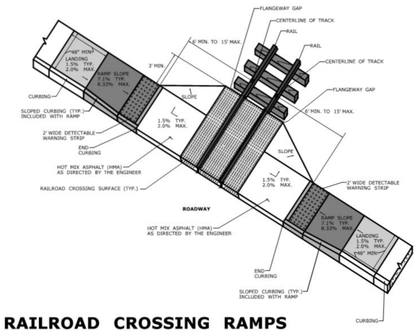
TYPE 22 ISLAND WIDTH 6 FT OR MORE

TYPE 23 ISLAND LESS THAN 6 FT WIDE

TYPE 24 REFUGE ISLAND WITH ELEVATED LANDING

TYPE 25 RIGHT TURN SLIP-LANE REFUGE ISLAND

TYPE 26 REFUGE ISLAND WITH OFFSET ACCESS




**RAILROAD CROSSING RAMPS**

TYPE 27 RAILROAD CROSSING WITHOUT GATE

TYPE 28 RAILROAD CROSSING WITH GATE

| REV. | DATE | REVISION DESCRIPTION | SHEET NO. |
|---|---|---|---|
| | | | |

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Plotted Date: 6/11/2019

DESIGNER/DRAFTER: -

CHECKED BY: -

**STATE OF CONNECTICUT**
**DEPARTMENT OF TRANSPORTATION**

Filename: ...\CTDOT_HIGHWAY_GD_SIDEWALK_INDEX [6-3-19].dgn

SIGNATURE/ BLOCK:

**OFFICE OF ENGINEERING**

APPROVED BY:

PROJECT TITLE: - - -

TOWN: - -

DRAWING TITLE: **CONCRETE SIDEWALK RAMP(S) INDEX**

PROJECT NO. -

DRAWING NO.

SHEET NO.

REVISIONS:

DETAILS FOR
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

**DATUMS:**

HORIZONTAL: NAD 83

VERTICAL: NAVD88

PROJECT 18006

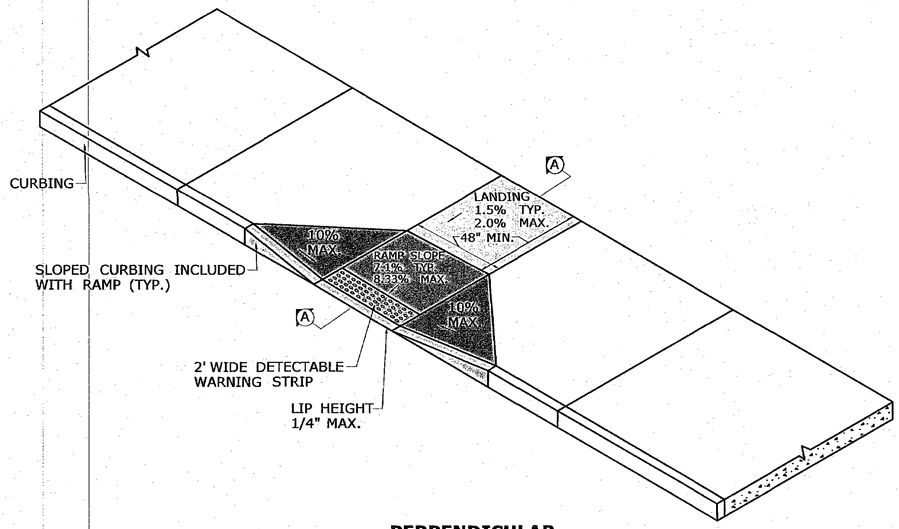
DATE 11 / 16/ 2021

DRAWN EAN

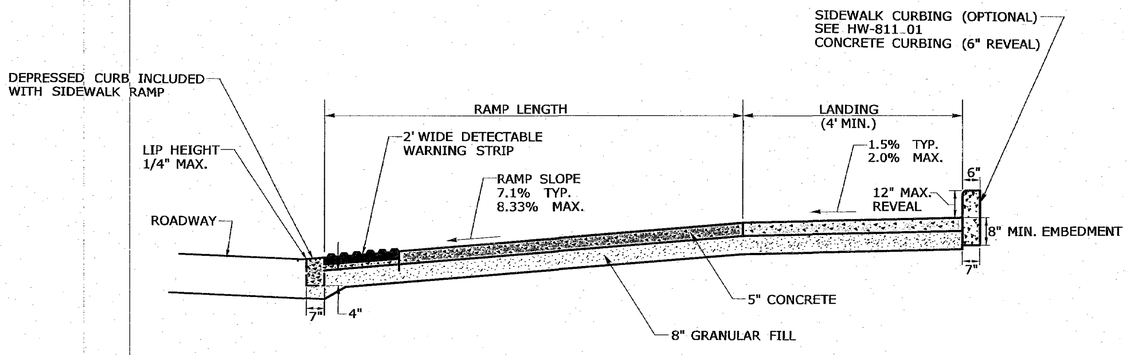
CHECK BAA

SHEET 36 OF 44

SCALE: AS - NOTED



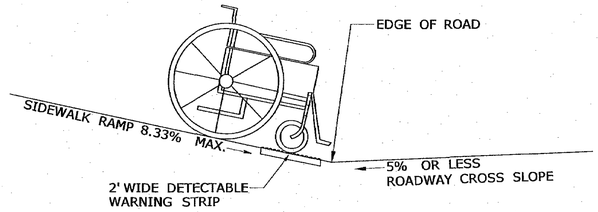

**PERPENDICULAR SIDEWALK RAMP**



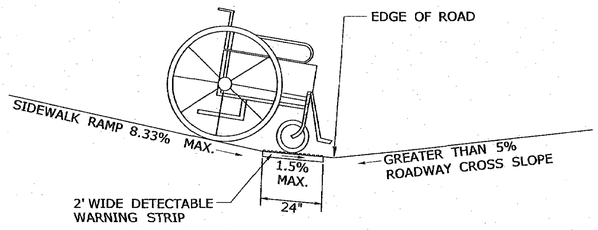

**SECTION AA**

**GENERAL NOTES:**

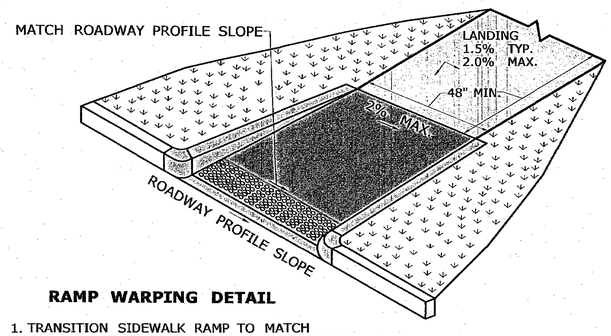
1. SIDEWALK RAMPS SHALL HAVE A COARSE BROOM FINISH TRAVERSE TO THE SLOPE OF THE RAMP.
2. VERTICAL SURFACE DISCONTINUITIES AT JOINTS SHALL NOT EXCEED ¼ INCH.
3. REMOVAL OF EXISTING SIDEWALK FOR NEW RAMP INSTALLATIONS SHALL BE TO THE NEAREST EXPANSION OR CONTRACTION JOINT.
4. THE RUNNING SLOPE OF THE CURB RAMP SHALL BE 8.3 PERCENT MAXIMUM BUT SHALL NOT REQUIRE THE RAMP LENGTH TO EXCEED 15 FEET.




**SIDEWALK RAMP GRADE AT ROADWAY CROSS SLOPE OF 5% OR LESS**




**SIDEWALK RAMP GRADE AT ROADWAY CROSS SLOPE OF GREATER THAN 5%**




**RAMP WARPING DETAIL**

1. TRANSITION SIDEWALK RAMP TO MATCH ROADWAY PROFILE AS GRADUALLY AS POSSIBLE. DO NOT EXCEED 3 % PER FOOT CROSS SLOPE RATE OF CHANGE WHEN TRANSITIONING TO ROADWAY PROFILE.
2. COMPLETE TRANSITION TO ROADWAY PROFILE BEHIND DETECTABLE WARNING SURFACE.

| REV. | DATE | REVISION DESCRIPTION | SHEET NO. |
|---|---|---|---|
| 1. | 6/19 | REVISED MAX LANDING SLOPE TO 2% AND DRAWING TITLE | |

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Plotted Date: 6/11/2019

DESIGNER/DRAFTER: -
CHECKED BY: -

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\CTDOT_HIGHWAY_GD [5-30-19].dgn

SIGNATURE/BLOCK:
OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE: - - -

TOWN: - -

DRAWING TITLE: CONCRETE SIDEWALK RAMPS SHEET 1

PROJECT NO. -
DRAWING NO.
SHEET NO.

REVISIONS:

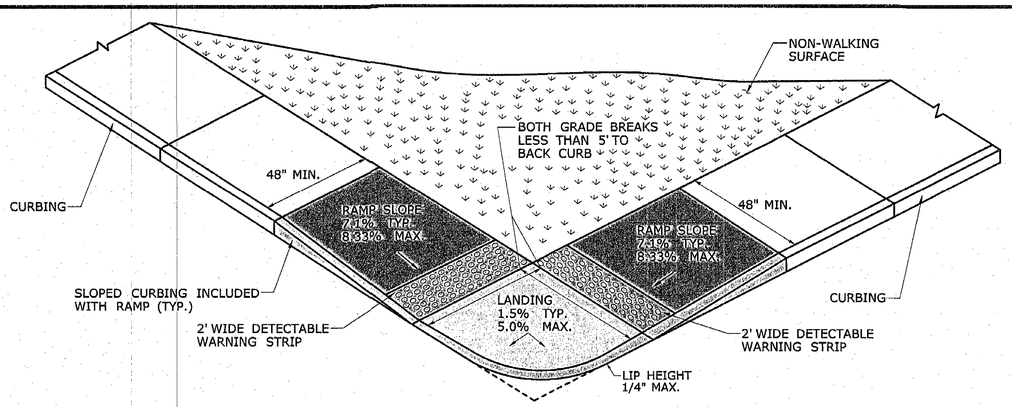
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DETAILS FOR COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

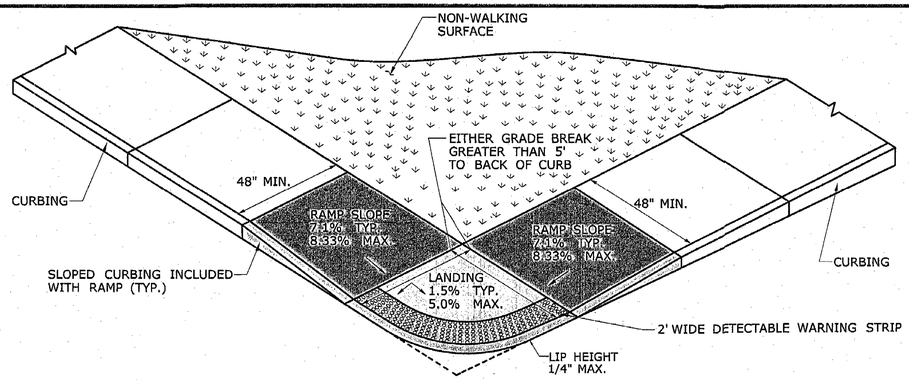
**DATUMS:**

HORIZONTAL: NAD 83
VERTICAL: NAVD88

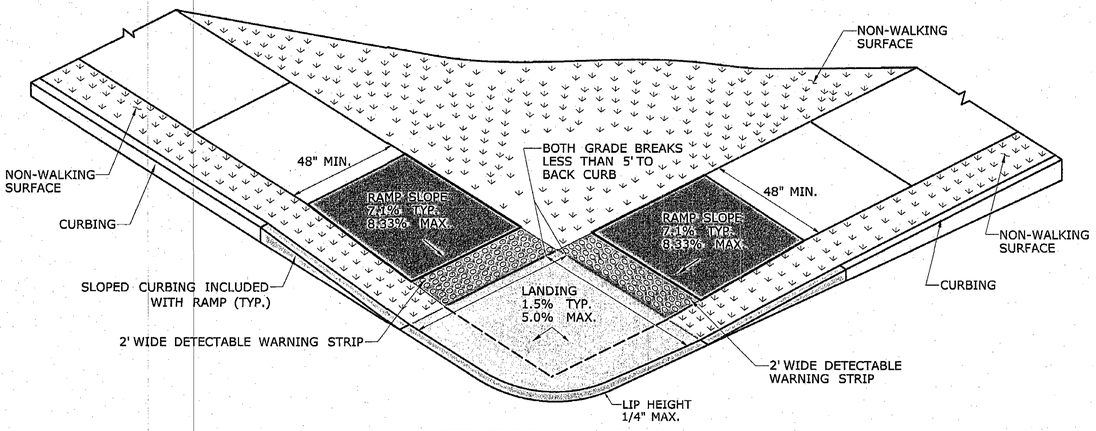
PROJECT 18006
DATE 11 / 16/ 2021
DRAWN EAN
CHECK BAA
SHEET 37 OF 44
SCALE: AS - NOTED



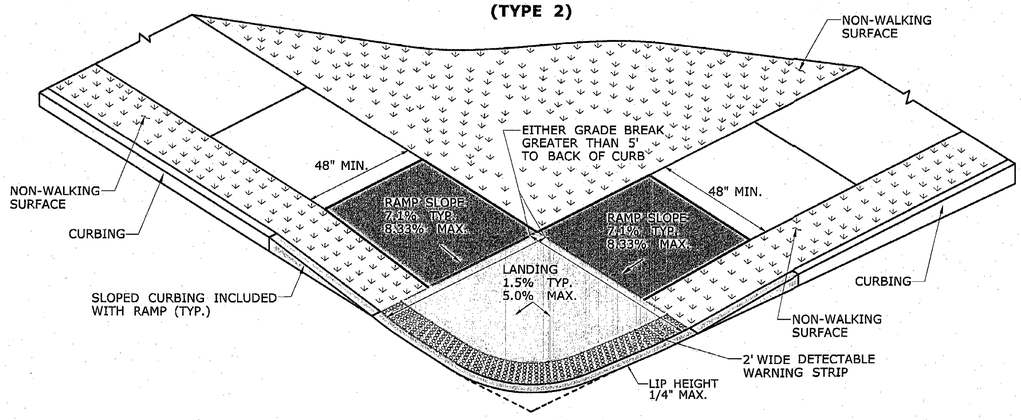

**PERPENDICULAR RAMP**
**WITH A GRADE BREAK OF 5' OR LESS**
**(TYPE 1)**



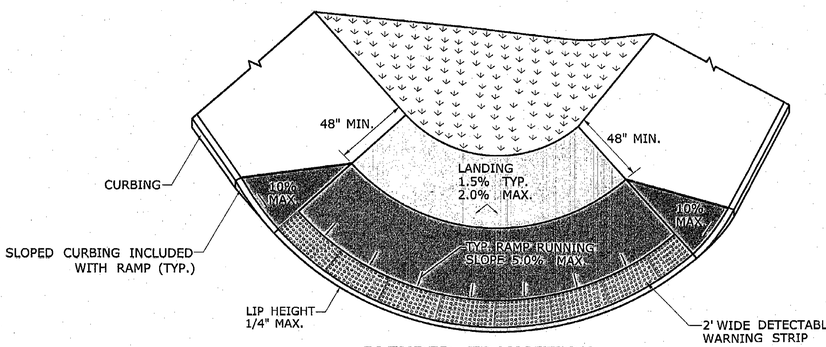

**BLENDED TRANSITION**
**WITH GRADE BREAK GREATER THAN 5'**
**(TYPE 2)**




**PERPENDICULAR RAMP**
**WITH A GRADE BREAK**
**TO BACK OF CURB OF 5' OR LESS**
**(TYPE 3)**




**BLENDED TRANSITION**
**WITH A GRADE BREAK**
**TO BACK OF CURB GREATER THAN 5'**
**(TYPE 4)**




**BLENDED TRANSITION**
**WITH LANDING AT TOP**
**(TYPE 5)**

REVISIONS:

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DETAILS FOR
COMPLETE STREETS PROJECT
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131 CEDAR STREET NEWINGTON, CT. 06111

**DATUMS:**

HORIZONTAL: NAD 83
VERTICAL: NAVD88

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|---|---|
| PROJECT | 18006 |
| DATE | 11 / 16/ 2021 |
| DRAWN | EAN |
| CHECK | BAA |
| SHEET | 38 OF 44 |
| SCALE: | AS - NOTED |

| REV. | DATE | REVISION DESCRIPTION | SHEET NO. |
|---|---|---|---|

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Plotted Date: 1/30/2019

DESIGNER/DRAFTER: -
CHECKED BY: -

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\CTDOT_HIGHWAY_GD_[1-28-19].dgn

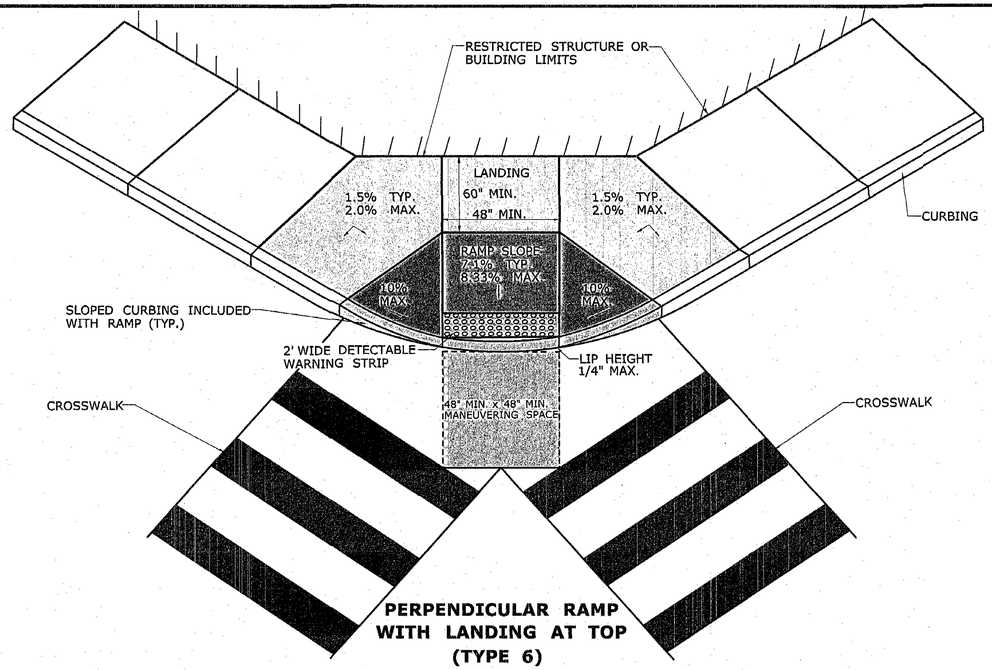
SIGNATURE/ BLOCK:
OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE: - - -

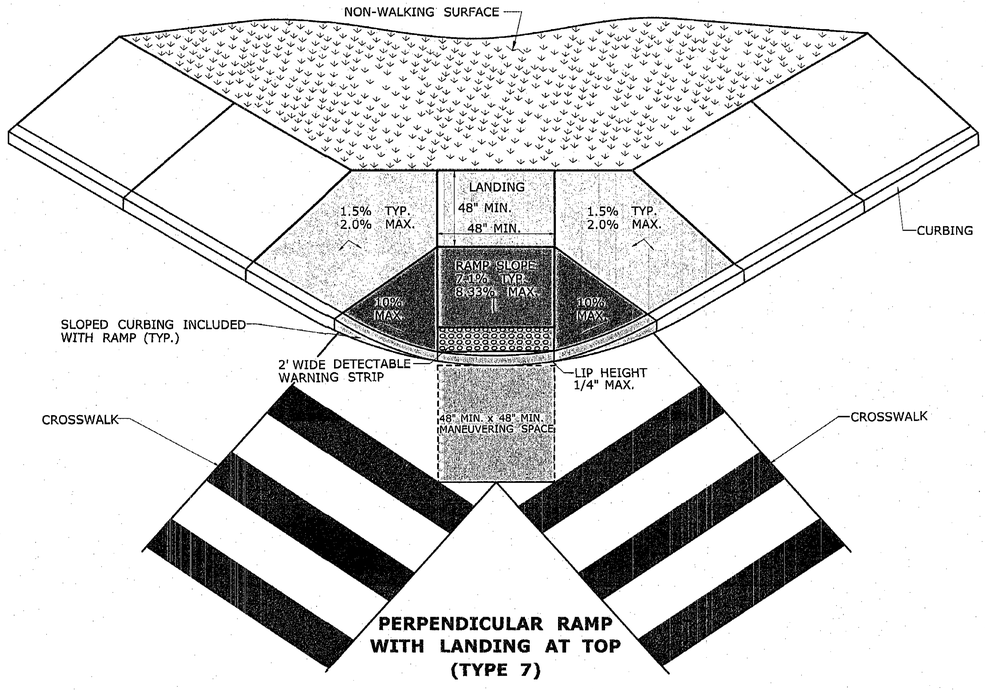
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DRAWING TITLE:
**CONCRETE SIDEWALK RAMPS - SHEET 2**

PROJECT NO. -
DRAWING NO.
SHEET NO.




**PERPENDICULAR RAMP WITH LANDING AT TOP (TYPE 6)**




**PERPENDICULAR RAMP WITH LANDING AT TOP (TYPE 7)**

| REV. | DATE | REVISION DESCRIPTION | SHEET NO. |
|---|---|---|---|
| | | | |

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Plotted Date: 1/30/2019

DESIGNER/DRAFTER: -

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STATE OF CONNECTICUT
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Filename: ...\CTDOT-HIGHWAY-GD-[1-28-19].dgn

SIGNATURE/ BLOCK:
OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE: - - -

TOWN: - -

DRAWING TITLE:
CONCRETE SIDEWALK RAMPS SHEET 3

PROJECT NO. -

DRAWING NO.

SHEET NO.

REVISIONS:

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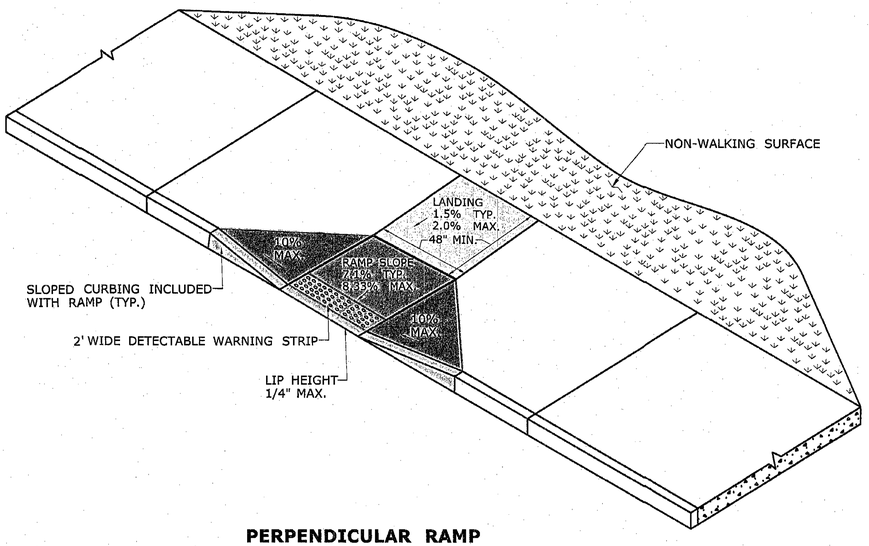
DETAILS FOR
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

**DATUMS:**

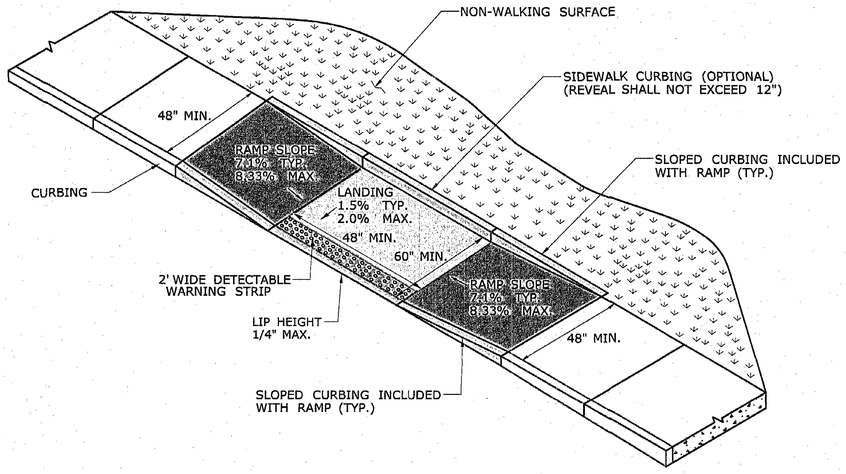
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VERTICAL: NAVD88

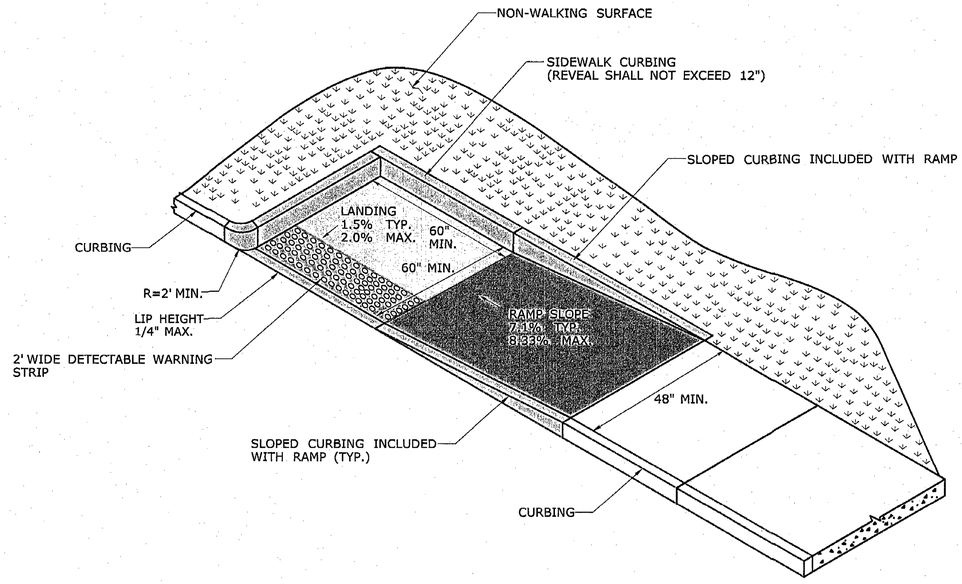
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|---|---|
| PROJECT | 18006 |
| DATE | 11 / 16/ 2021 |
| DRAWN | EAN |
| CHECK | BAA |
| SHEET | 39 OF 44 |
| SCALE: | AS - NOTED |




**PERPENDICULAR RAMP**
**WITH 48" BY-PASS**
**(TYPE 8)**




**PARALLEL RAMP WITHOUT**
**NON-WALKING SURFACE**
**(TYPE 9)**




**PARALLEL RAMP**
**WITH LANDING AT BOTTOM ON CORNER**
**(TYPE 10)**

| REV. | DATE | REVISION DESCRIPTION | SHEET NO. |
|---|---|---|---|

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Plotted Date: 1/30/2019

DESIGNER/DRAFTER: -
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**STATE OF CONNECTICUT**
**DEPARTMENT OF TRANSPORTATION**

Filename: ...\CTDOT_HIGHWAY_GD_[1-28-19].dgn

SIGNATURE/ BLOCK:
**OFFICE OF ENGINEERING**
APPROVED BY:

PROJECT TITLE: - - -

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DRAWING TITLE:
**CONCRETE SIDEWALK RAMPS SHEET 4**

PROJECT NO. -
DRAWING NO.
SHEET NO.

REVISIONS:

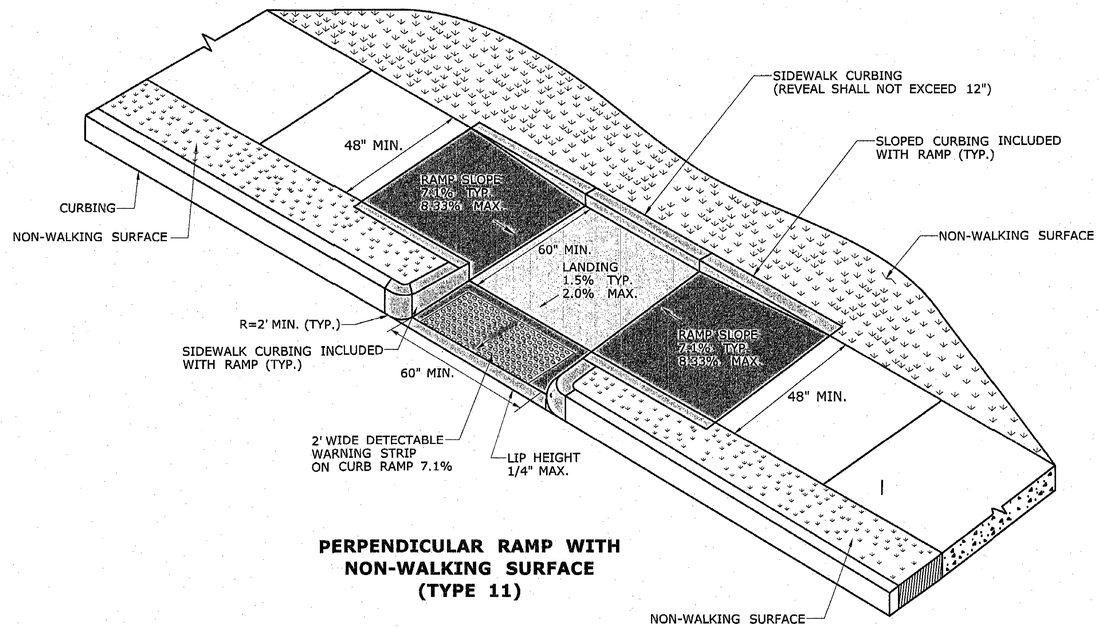
vhb

DETAILS FOR
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

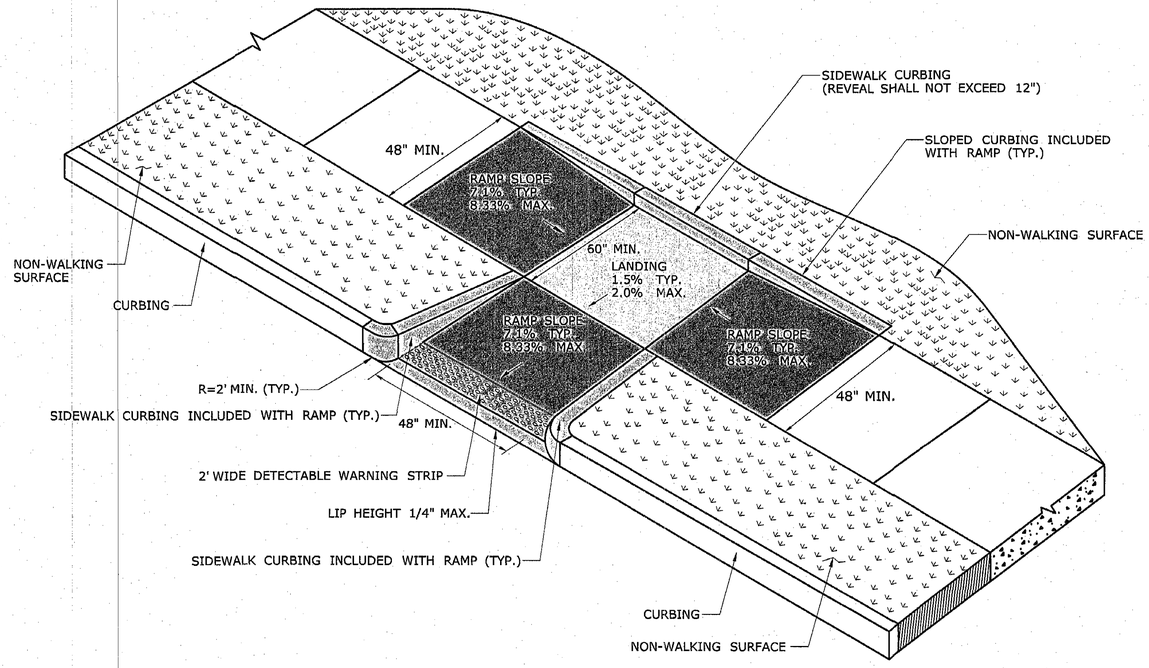
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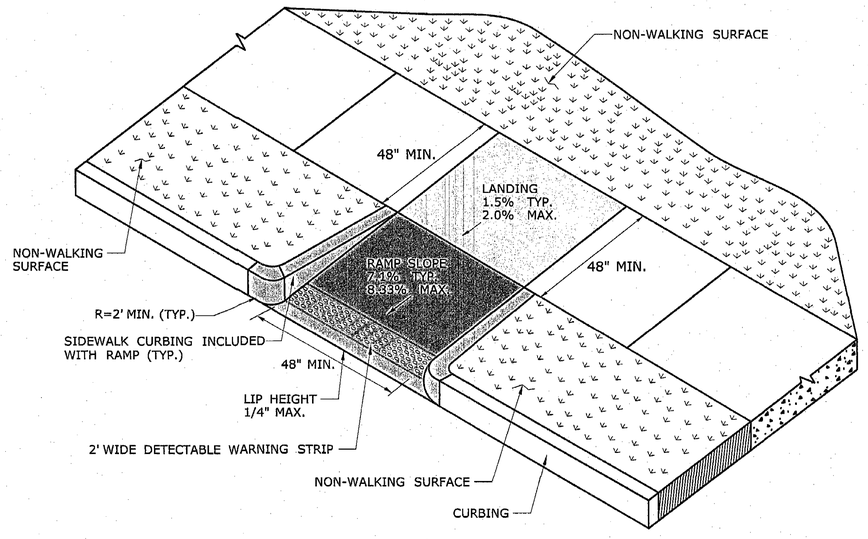
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|---|---|
| PROJECT | 18006 |
| DATE | 11 / 16/ 2021 |
| DRAWN | EAN |
| CHECK | BAA |
| SHEET | 40 OF 44 |
| SCALE: | AS - NOTED |




**PERPENDICULAR RAMP WITH NON-WALKING SURFACE (TYPE 11)**




**PERPENDICULAR RAMP WITH SIDEWALK CURB AND NON-WALKING SURFACE (TYPE 12)**




**PERPENDICULAR RAMP WITH NON-WALKING SURFACE (TYPE 13)**

| REV. | DATE | REVISION DESCRIPTION | SHEET NO. |
|---|---|---|---|
| | | | |

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Plotted Date: 1/30/2019

DESIGNER/DRAFTER: -

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STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\CTDOT_HIGHWAY_GD_[1-28-19].dgn

SIGNATURE/ BLOCK:
OFFICE OF ENGINEERING
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PROJECT TITLE: - - -

TOWN: - -

DRAWING TITLE:
CONCRETE SIDEWALK RAMPS SHEET 5

PROJECT NO. -

DRAWING NO.

SHEET NO.

REVISIONS:

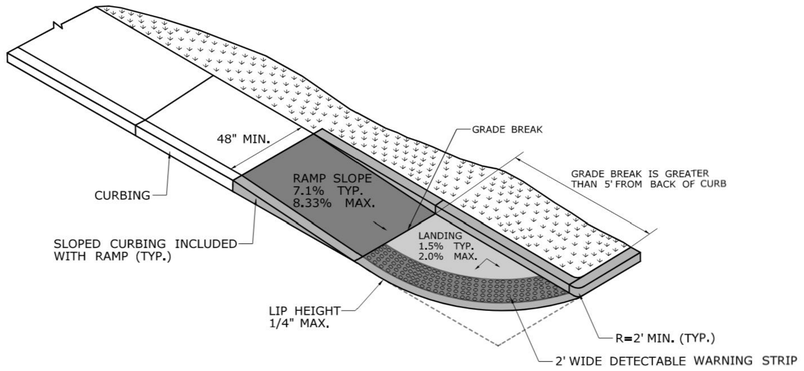
vhb

DETAILS FOR
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

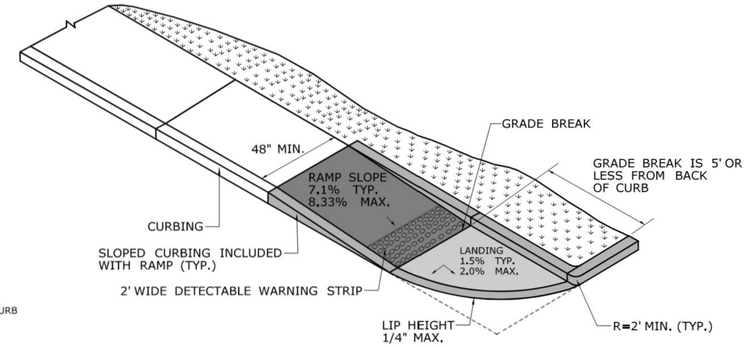
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VERTICAL: NAVD88

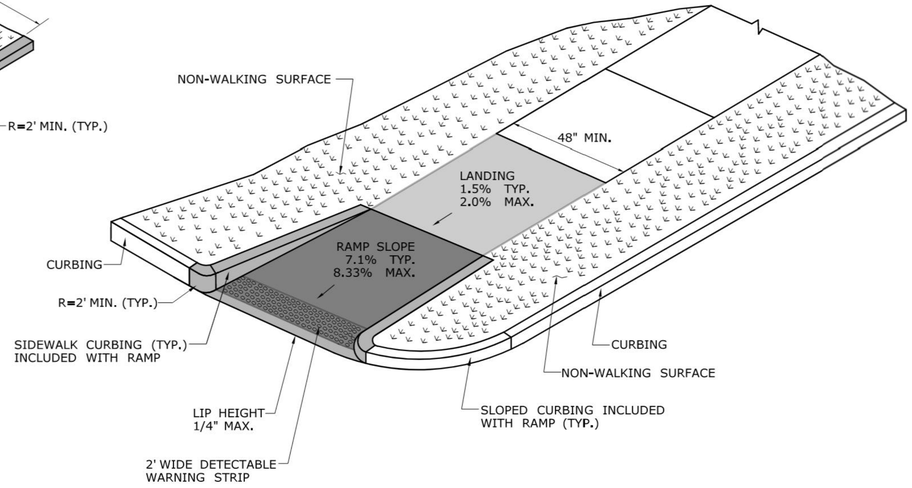
PROJECT 18006
DATE 11 / 16/ 2021
DRAWN EAN
CHECK BAA
SHEET 41 OF 44
SCALE: AS - NOTED



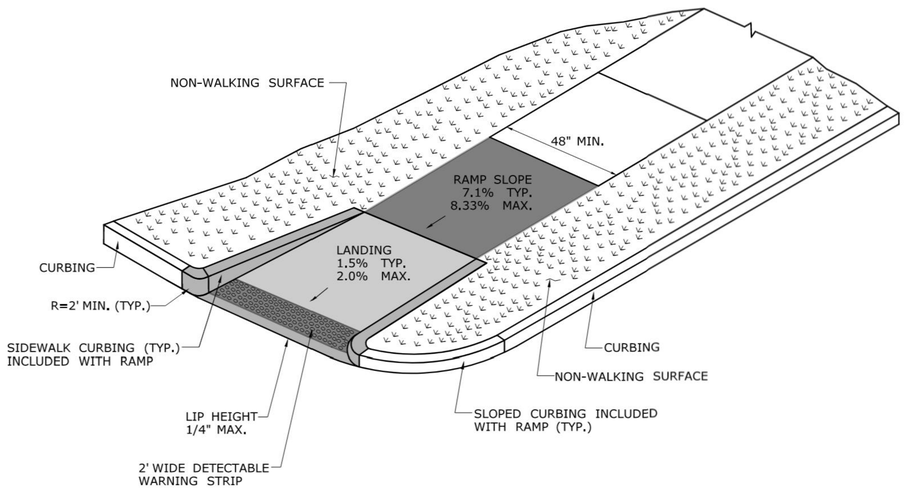

**SINGLE DIRECTION RAMP WITHOUT NON-WALKING SURFACE GRADE BREAK GREATER THAN 5' (TYPE 14)**



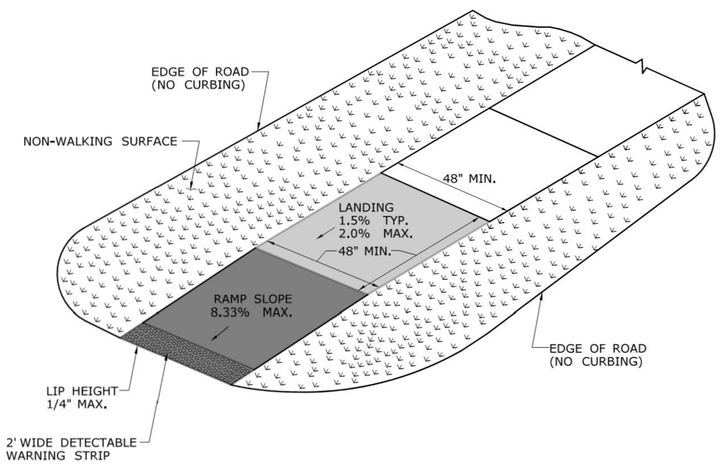

**SINGLE DIRECTION RAMP WITHOUT NON-WALKING SURFACE GRADE BREAK 5' OR LESS (TYPE 15)**




**SINGLE DIRECTION - RETURN CURB WITH NON-WALKING SURFACE (TYPE 16)**




**SINGLE DIRECTION - RETURN CURB WITH NON-WALKING SURFACE (TYPE 16A)**




**SINGLE DIRECTION - NO CURB WITH NON-WALKING SURFACE (TYPE 17)**

| REV. | DATE | REVISION DESCRIPTION | SHEET NO. |
|---|---|---|---|

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Plotted Date: 12/24/2020

DESIGNER/DRAFTER: -

CHECKED BY: -

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\CTDOT_HIGHWAY_GD [7-23-20].dgn

SIGNATURE/ BLOCK:
OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE: - - -

TOWN: - -

DRAWING TITLE:
CONCRETE SIDEWALK RAMPS SHEET 6

PROJECT NO. -

DRAWING NO.

SHEET NO.

REVISIONS:

DETAILS FOR
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

**DATUMS:**

HORIZONTAL: NAD 83

VERTICAL: NAVD88

PROJECT 18006

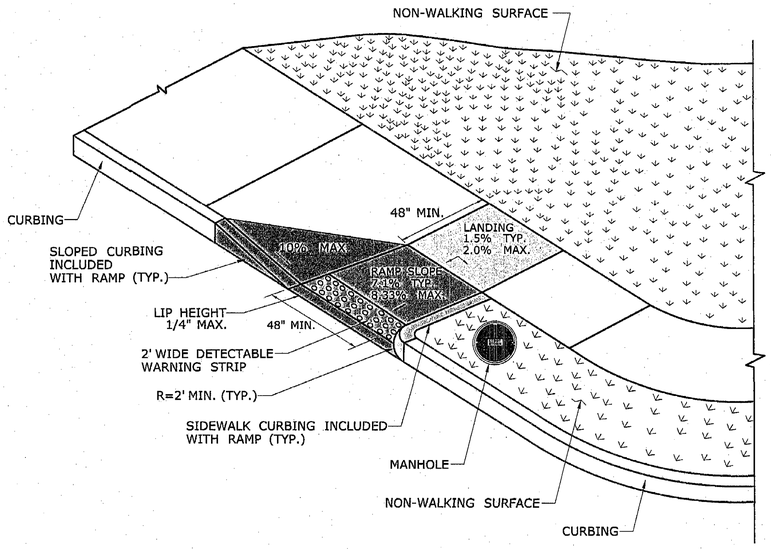
DATE 11 / 16/ 2021

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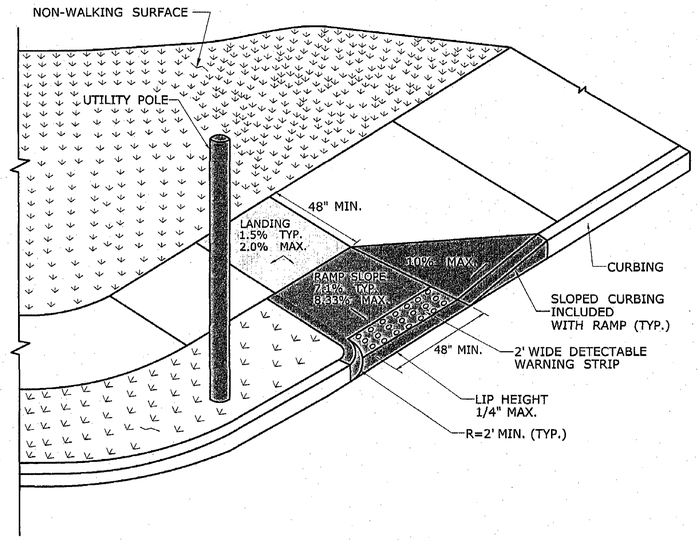
CHECK BAA

SHEET 42 OF 44

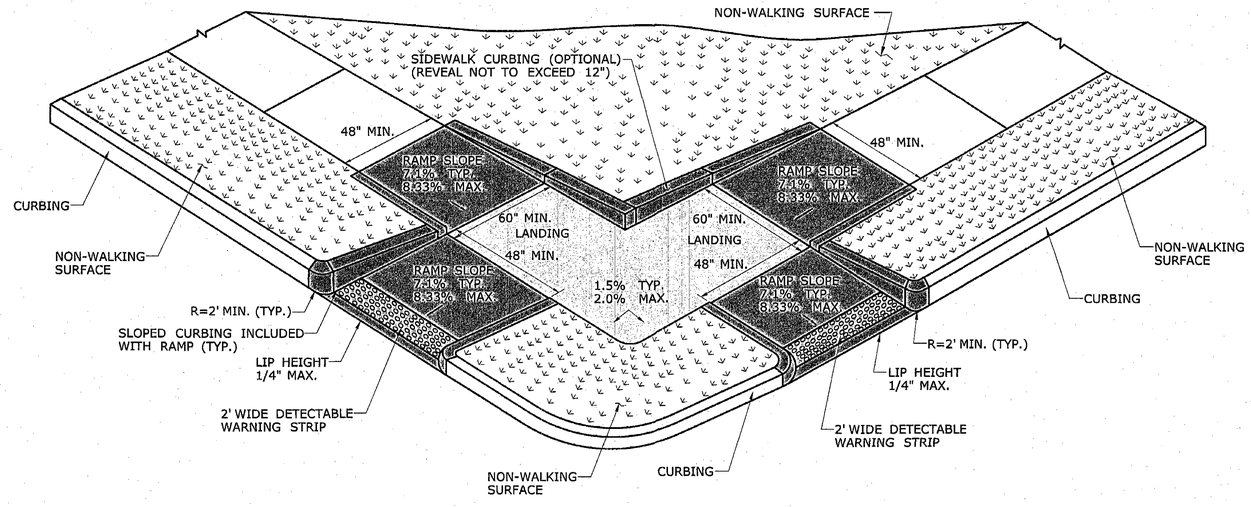
SCALE: AS - NOTED




**PERPENDICULAR RAMP**
**WITH NON-WALKING SURFACE**
**(TYPE 18 LEFT)**




**PERPENDICULAR RAMP**
**WITH NON-WALKING SURFACE**
**(TYPE 18 RIGHT)**




**PERPENDICULAR RAMP**
**WITH NON-WALKING SURFACE**
**(TYPE 19)**

| REV. | DATE | REVISION DESCRIPTION | SHEET NO. |
|---|---|---|---|

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: 1/30/2019

DESIGNER/DRAFTER: -
CHECKED BY: -

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\CTDOT_HIGHWAY_GD_[1-28-19].dgn

SIGNATURE/BLOCK: OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE: - - -

TOWN: - -

DRAWING TITLE: **CONCRETE SIDEWALK RAMPS SHEET 7**

PROJECT NO. -
DRAWING NO.
SHEET NO.

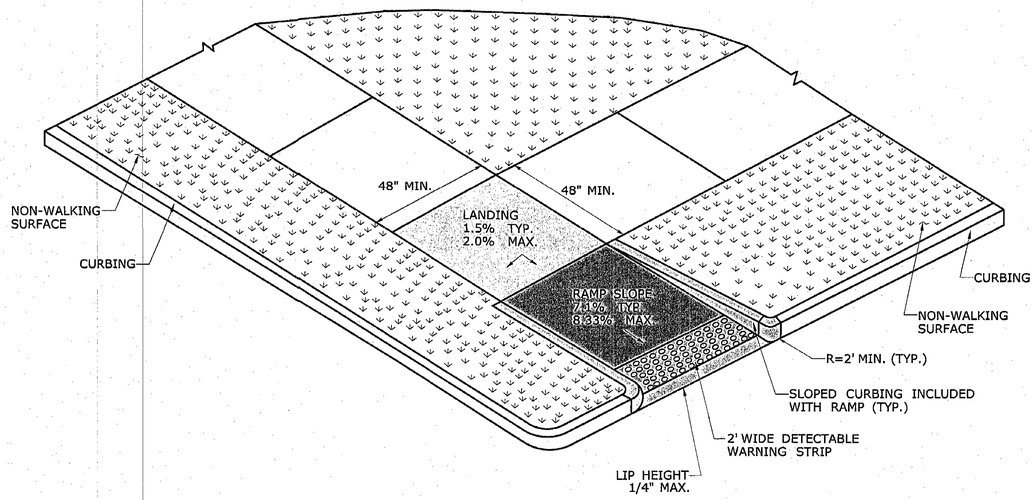
REVISIONS:

DETAILS FOR
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

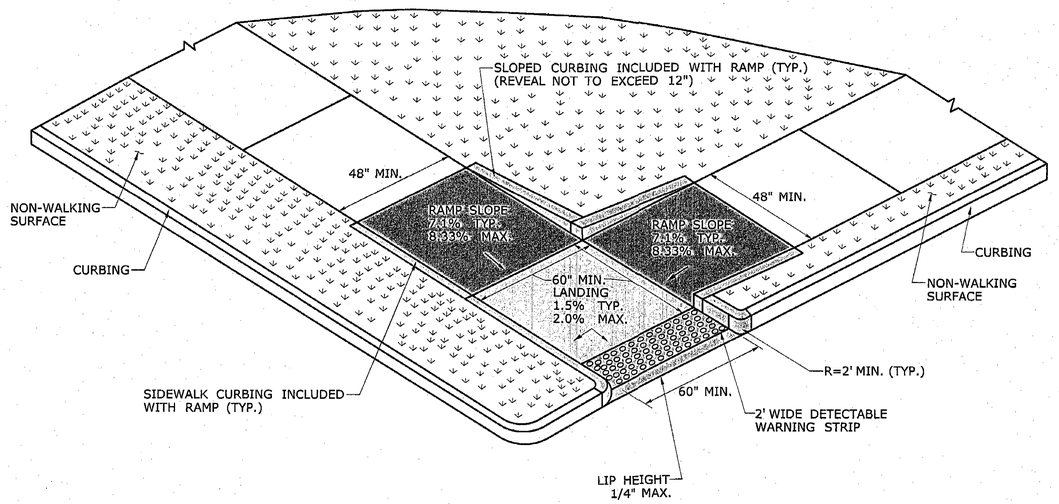
**DATUMS:**

HORIZONTAL: NAD 83
VERTICAL: NAVD88

PROJECT 18006
DATE 11 / 16/ 2021
DRAWN EAN
CHECK BAA
SHEET 43 OF 44
SCALE: AS - NOTED




**RESTRICTED PEDESTRIAN CROSSING SIDEWALK RAMP WITH NON-WALKING SURFACE (TYPE 20)**




**RESTRICTED PEDESTRIAN CROSSING WITH LANDING AT BOTTOM AND NON-WALKING SURFACE (TYPE 21)**

| REV. | DATE | REVISION DESCRIPTION | SHEET NO. |
|---|---|---|---|

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: 1/30/2019

DESIGNER/DRAFTER: -

CHECKED BY: -

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\CTDOT_HIGHWAY_GD_[1-28-19].dgn

SIGNATURE/ BLOCK:
OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE: - - -

TOWN: - -

DRAWING TITLE:
CONCRETE SIDEWALK RAMPS SHEET 8

PROJECT NO. -

DRAWING NO.

SHEET NO.

REVISIONS:

vhb

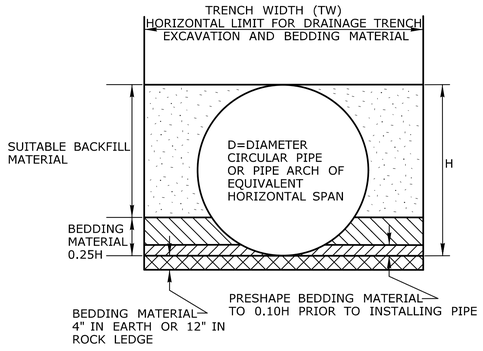
DETAILS FOR
COMPLETE STREETS PROJECT
MAPLE HILL AVENUE & ROBBINS AVENUE
PREPARED FOR
TOWN OF NEWINGTON
131 CEDAR STREET NEWINGTON, CT. 06111

**DATUMS:**

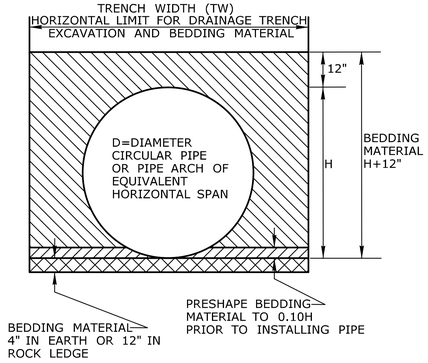
HORIZONTAL: NAD 83

VERTICAL: NAVD88

| | |
|---|---|
| PROJECT | 18006 |
| DATE | 11 / 16/ 2021 |
| DRAWN | EAN |
| CHECK | BAA |
| SHEET | 44 OF 44 |
| SCALE: | AS - NOTED |




**PIPE TRENCH FOR PIPES LESS THAN 48"**




**PIPE TRENCH FOR PIPES GREATER THAN OR EQUAL TO 48"**

## TRENCH WIDTH (TW) CHART

| PIPE, PIPE-ARCH, OR DRAINAGE STRUCTURE | TRENCH WIDTH |
|---|---|
| PIPE OR PIPE-ARCH WITH NOMINAL INSIDE HORIZONTAL SPAN LESS THAN 30" | 2' GREATER THAN NOMINAL INSIDE HORIZONTAL SPAN |
| PIPE OR PIPE-ARCH WITH NOMINAL INSIDE HORIZONTAL SPAN GREATER THAN OR EQUAL TO 30" | 3' GREATER THAN NOMINAL INSIDE HORIZONTAL SPAN |
| PIPE OR PIPE-ARCH FABRICATED FROM STRUCTURAL PLATES | 4' GREATER THAN NOMINAL INSIDE HORIZONTAL SPAN |
| DRAINAGE STRUCTURES | 2' BEYOND ALL EXTERIOR OR FOUNDATION WALLS |

NOT TO SCALE

####

SIGNATURE BLOCK:

OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

SUBMITTED BY:

Leo Fontaine, P.E.
2020.07.08
09:20:49-04'00'

APPROVED BY:

James Fallon, P.E.

Digitally signed by James Fallon, P.E.
DN: cn=James Fallon, P.E., o=Connecticut Department of Transportation, ou=Bureau of Engineering and Construction, c=State of Connecticut
Date: 2020.07.14 08:01:19 -04'00'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

CTDOT STANDARD SHEET

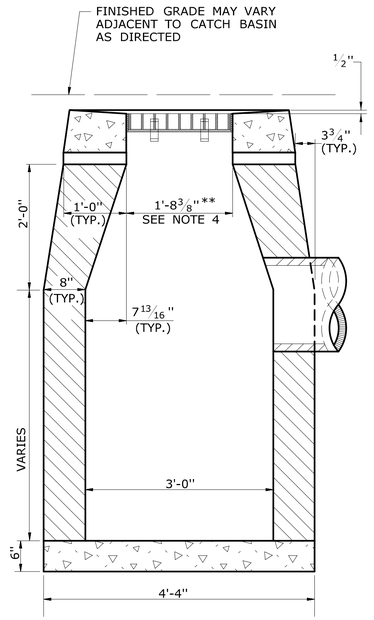
STANDARD SHEET TITLE:

**DRAINAGE TRENCH EXCAVATION**

STANDARD SHEET NO.:

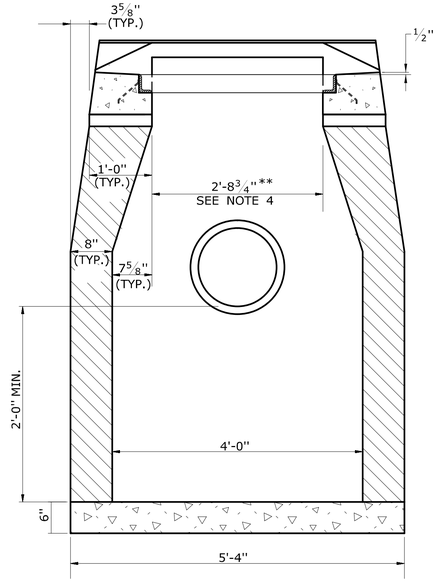
**HW-286_01**

**PLOTTED DATE:** 7/7/2020



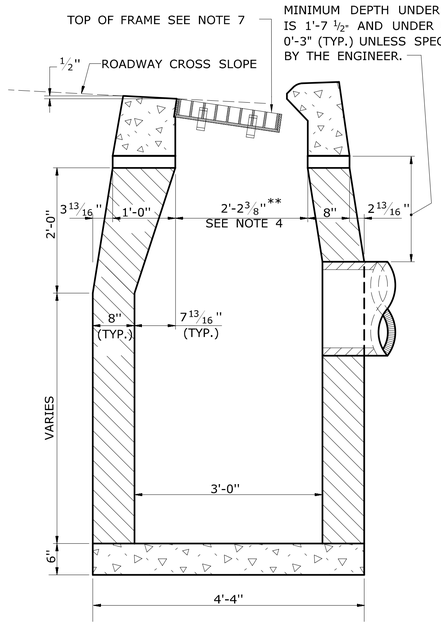

**SECTION B**

**TYPE "C-L" CATCH BASIN**




**SECTION A**

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

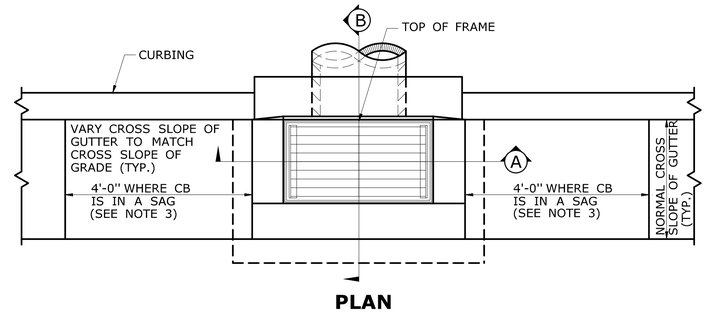



**SECTION B**

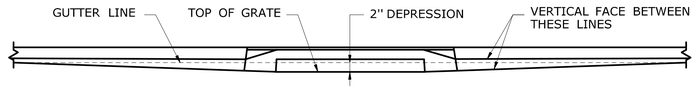
**TYPE "C" CATCH BASIN**

**GENERAL NOTES:**

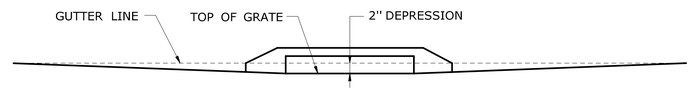
1. FOR CATCH BASIN TOPS, SEE SHEET NO. HW-586_07.
2. ALL FACES OF STRUCTURES IN CONTACT WITH CONCRETE PAVEMENT SHALL BE COVERED WITH A LAYER OF TAR PAPER OR APPROVED EQUAL.
3. USE 6'-0" ON UPGRADE SIDE (SEE PLAN VIEW) OF CONTINUOUS GRADE AND 1'-0" ON DOWNGRADE SIDE OF CONTINUOUS GRADE OR AS DIRECTED BY THE ENGINEER.
4. IF MASONRY UNITS ARE REQUIRED, THE BASIN SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE DIMENSIONS SHOWN. CORBELLING SHALL BE PERMITTED TO A MAXIMUM OF 3". NO PROJECTION SHALL EXTEND INSIDE THE LIMITS FOR THE CATCH BASIN OPENINGS SHOWN IN THE SECTION VIEWS **.
5. WALL THICKNESS OF ALL CATCH BASINS OVER 10' DEEP SHALL BE INCREASED TO 12" THICK. INSIDE DIMENSION SHALL REMAIN THE SAME. 12" THICKNESS SHALL START AFTER THE FIRST 10'.
6. SPACERS CAN BE EITHER CONCRETE MASONRY UNIT OR PRECAST WITH THE REQUIRED REINFORCING (RECOMMENDED BY THE MANUFACTURER) AS NEEDED TO PROVIDE THE PROPER GRADE SHOWN ON THE PLANS.
7. TOP OF FRAME ELEVATION SHALL BE MEASURED IN THE CENTER OF GRATE AT GUTTER LINE.



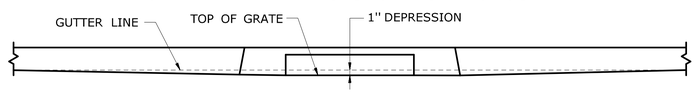

**PLAN**



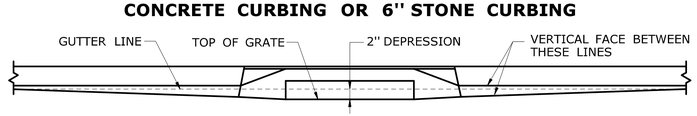

**CATCH BASINS IN A LINE WITH 4" CONCRETE PARK CURBING OR 4" BITUMINOUS CONCRETE PARK CURBING**



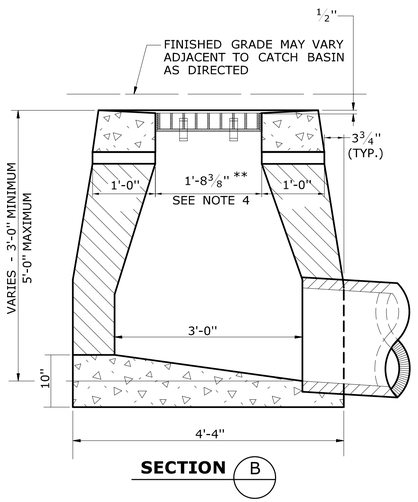

**CATCH BASINS WHERE NO CURBING OF ANY TYPE EXISTS OR IS PROPOSED**




**CATCH BASINS IN A LINE WITH 6" CONCRETE CURBING OR 6" STONE CURBING**

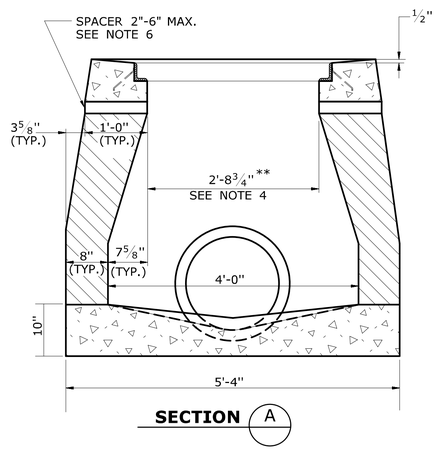



**CATCH BASINS IN A LINE WITH 6" BITUMINOUS CONCRETE LIP CURBING (MACHINE FORMED)**



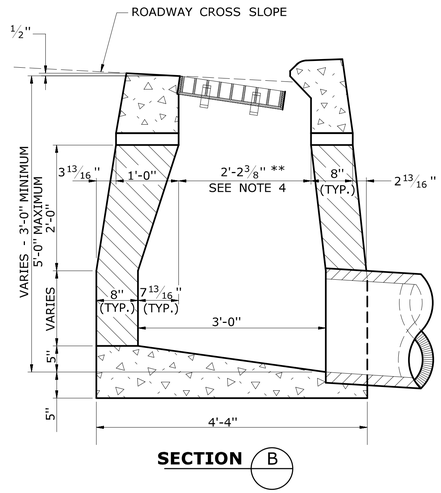

**SECTION B**

**TYPE "C-L" DROP INLET**




**SECTION A**

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



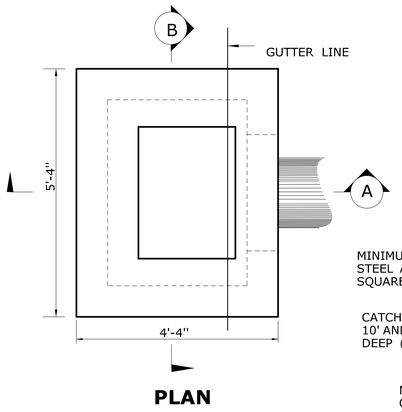

**SECTION B**

**TYPE "C" DROP INLET**

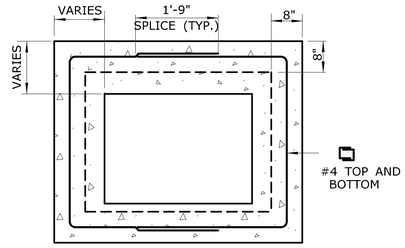
**DETAILS OF DEPRESSED GUTTER STRIP FOR TYPE "C" CATCH BASIN**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | NOT TO SCALE ### | SIGNATURE BLOCK: OFFICE OF ENGINEERING 2800 BERLIN TURNPIKE NEWINGTON, CT 06111 | SUBMITTED BY: Leo Fontaine, P.E. 2020.07.08 09:22:22-04'00' | APPROVED BY: James Fallon, P.E. | STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION | CTDOT STANDARD SHEET | STANDARD SHEET TITLE: CATCH BASIN AND DROP INLET TYPES "C" AND "C-L" | STANDARD SHEET NO.: HW-586_01 |

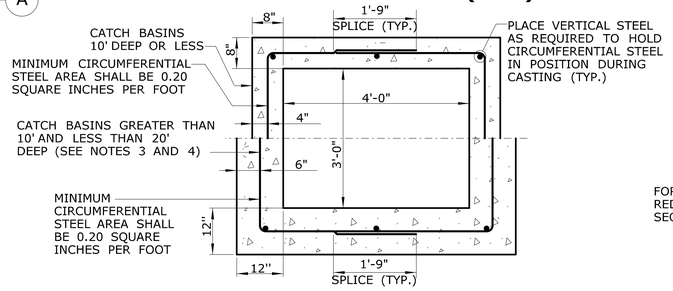
**PLOTTED DATE:** 7/7/2020



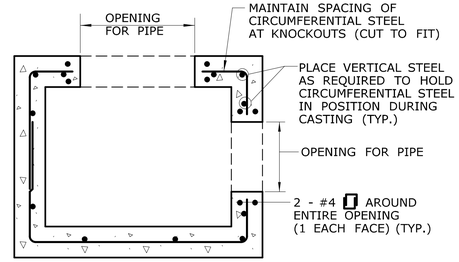

**PLAN**



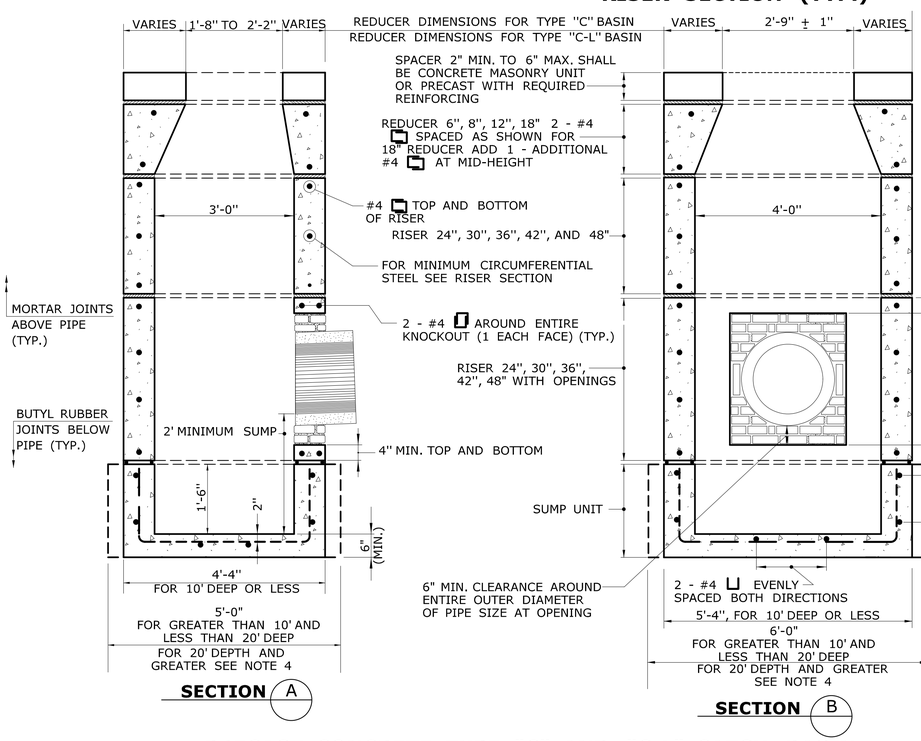

**REDUCER SECTION (TYP.)**



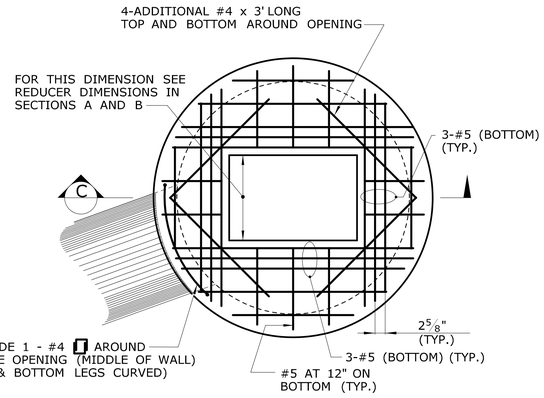

**RISER SECTION (TYP.)**



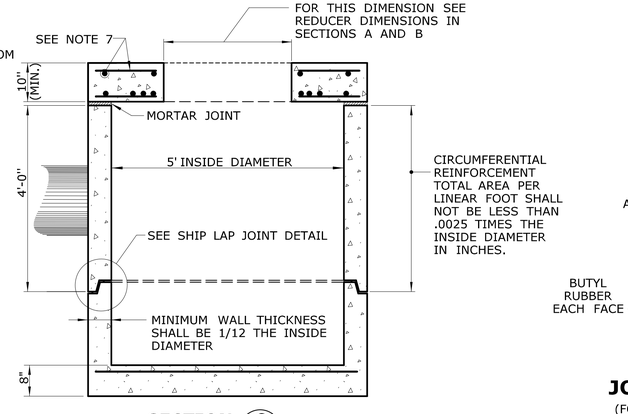

**TYPICAL SECTION THROUGH RISER WITH OPENING**




**PRECAST CONCRETE TYPE "C" AND "C-L" CATCH BASIN**
(UNDER 10' DEEP SHOWN)




**PLAN**
(SEE NOTE 9)



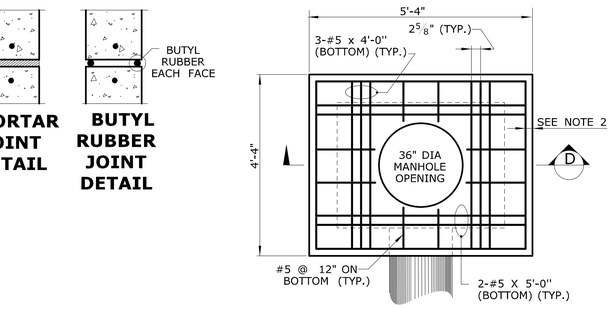

**SECTION C**

**PRECAST CONCRETE TYPE "C" AND "C-L" ROUND STRUCTURE**
(SEE NOTE 6)

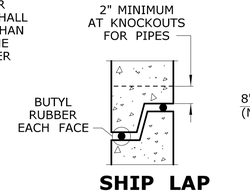



**MORTAR JOINT DETAIL**

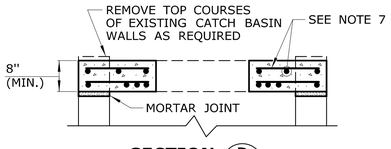
**BUTYL RUBBER JOINT DETAIL**




**PLAN**




**SHIP LAP JOINT DETAIL**
(FOR USE WITH ROUND STRUCTURES ONLY)




**SECTION D**

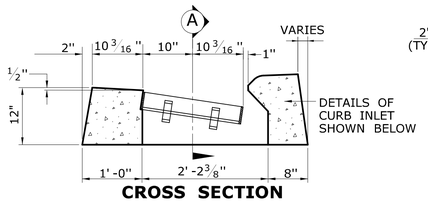
**TOP SLAB TO CONVERT CATCH BASIN TO MANHOLE**

## GENERAL NOTES:

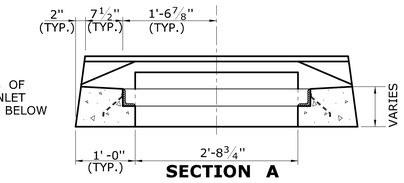
1. WELDED WIRE FABRIC WITH AN AREA EQUAL TO OR GREATER THAN THE REINFORCING SHOWN MAY BE SUBSTITUTED AS APPROVED BY THE ENGINEER.
2. ALL REINFORCEMENT SHALL HAVE A MINIMUM CLEAR COVER OF 2 INCHES, EXCEPT FOR BENEATH BOTTOM REINFORCEMENT IN TOP SLABS, WHERE THE MINIMUM MAY BE $1\frac{1}{2}$ INCHES.
3. WALL THICKNESS OF ALL CATCH BASINS OVER 10 FEET DEEP SHALL BE INCREASED TO 12 INCHES. INSIDE DIMENSIONS SHALL REMAIN THE SAME. THE 12 INCH THICKNESS SHALL START AFTER THE FIRST 10 FEET.
4. BASES AND RISERS AT A DEPTH OF 20 FEET AND GREATER SHALL BE DESIGNED BY THE CONTRACTOR AND WORKING DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.
5. RISERS MAY BE PREFABRICATED WITH PIPE OPENINGS IN ALL FOUR WALLS. ADEQUATE REINFORCING AROUND PIPE OPENINGS SHALL BE PROVIDED. RISERS USED WHERE A PIPE OPENING IS TO REMAIN IN PLACE MUST BE FORMED UP WITH BRICK AS DIRECTED BY THE ENGINEER.
6. RISERS SHALL NEVER HAVE CORNER PIPE ENTRIES. ROUND STRUCTURES SHALL BE USED WHEN PIPES CANNOT ALIGN WITH A RECTANGULAR STRUCTURE KNOCKOUT.
7. SHRINKAGE AND TEMPERATURE REINFORCEMENT SHALL BE PROVIDED IN THE TOPS OF SLABS. THE TOTAL AREA OF REINFORCEMENT PROVIDED SHALL BE AT LEAST 0.125 SQUARE INCHES PER FOOT IN EACH DIRECTION. THE MAXIMUM SPACING OF THIS REINFORCEMENT SHALL NOT EXCEED 18 INCHES.
8. THE DETAILS SHOWN IN THE PLAN VIEW FOR PRECAST CONCRETE ROUND STRUCTURES SHALL ALSO BE USED FOR CONVERTING MANHOLES TO CATCH BASINS.
9. FOR CATCH BASIN TOPS, SEE SHEET NO. HW-586_07 FOR RECTANGULAR OPENING OR SHEET NOS. HW-586_10a, HW-586_ 10b OR HW-586_ 10c FOR CIRCULAR OPENING.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | NOT TO SCALE<br>#### | SIGNATURE BLOCK:<br>OFFICE OF ENGINEERING<br>2800 BERLIN TURNPIKE<br>NEWINGTON, CT 06111 | SUBMITTED BY:<br>Leo Fontaine, P.E.<br>2020.07.08<br>09:23:30-04'00' | APPROVED BY:<br>James Fallon, P.E. | STATE OF CONNECTICUT<br>DEPARTMENT OF TRANSPORTATION | CTDOT<br>STANDARD SHEET | STANDARD SHEET TITLE:<br>PRECAST CATCH BASIN AND ROUND STRUCTURE | STANDARD SHEET NO.:<br>HW-586_04 |

**PLOTTED DATE:** 6/30/2020

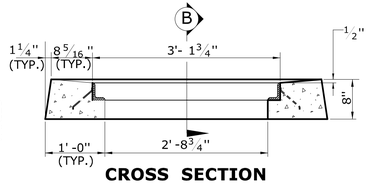



CROSS SECTION

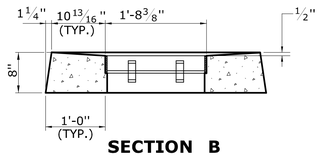



SECTION A

## TYPE "C" CATCH BASIN TOP




CROSS SECTION

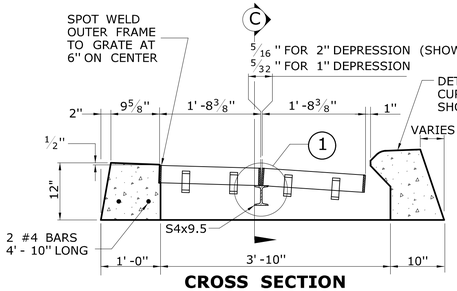



SECTION B

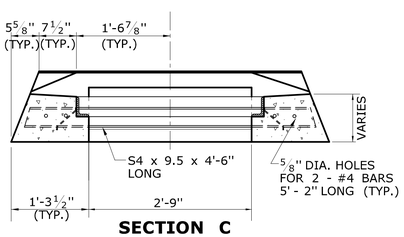
## TYPE "C-L" CATCH BASIN TOP

### GENERAL NOTES:

1. FOR DETAILS OF FRAMES AND GRATES, SEE SHEET NO. HW-586_08.
2. ALL BARS SHALL HAVE A MINIMUM 2" COVER.

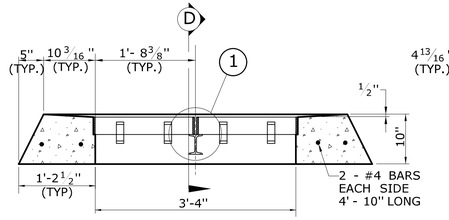



CROSS SECTION

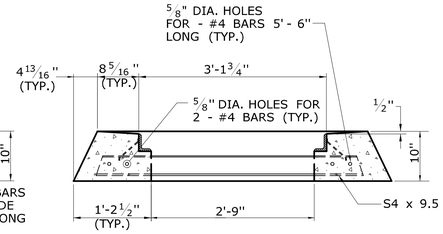



SECTION C

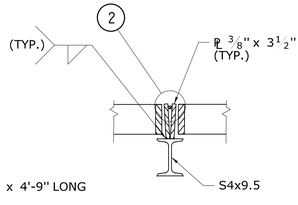
## TYPE "C" CATCH BASIN DOUBLE GRATE - TYPE I TOP



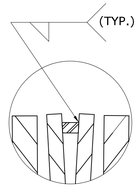

CROSS SECTION




SECTION D

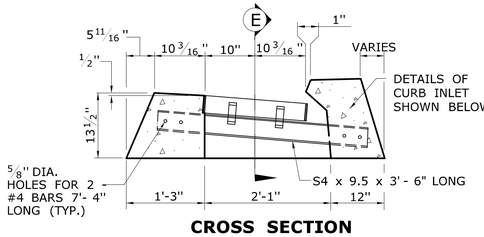



DETAIL "1"

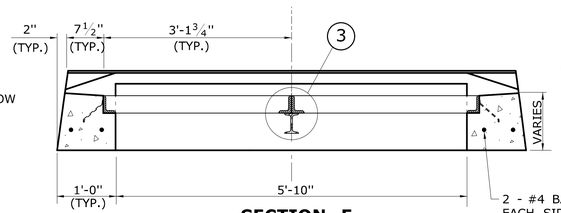



DETAIL "2"

## TYPE "C-L" CATCH BASIN DOUBLE GRATE - TYPE I TOP

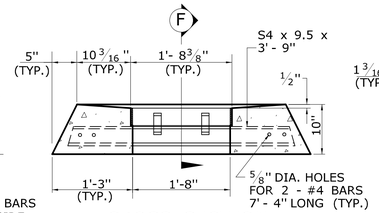



CROSS SECTION

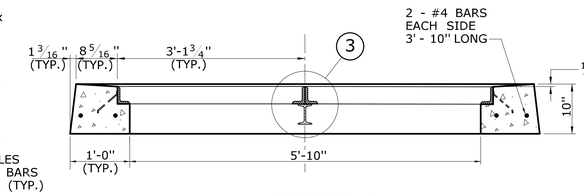



SECTION E

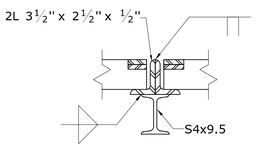
## TYPE "C" CATCH BASIN DOUBLE GRATE - TYPE II TOP




CROSS SECTION

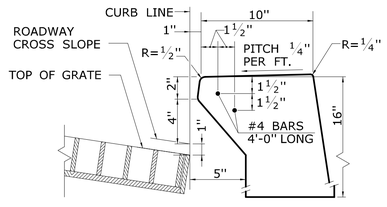



SECTION F

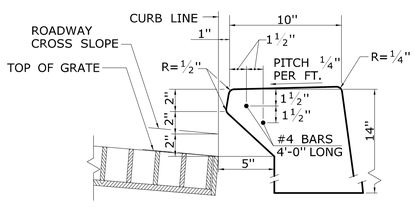



DETAIL "3"

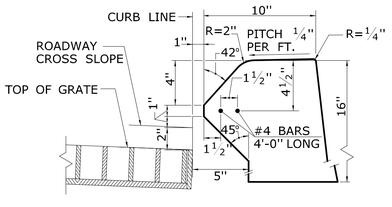
## TYPE "C-L" CATCH BASIN DOUBLE GRATE - TYPE II TOP



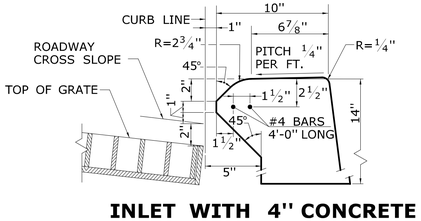

INLET WITH 6" CONCRETE OR STONE CURBING FOR TYPE "C" CB



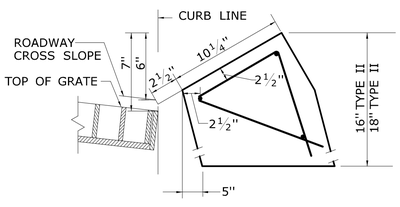

INLET WITH NO CURBING (PLAIN TYPE) FOR TYPE "C" CB



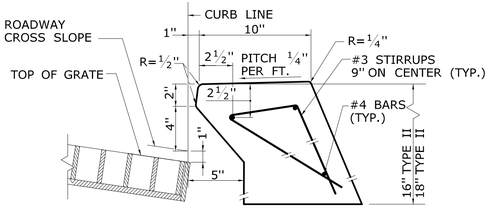

INLET WITH 6" BITUMINOUS CONCRETE LIP CURBING FOR TYPE "C" CB



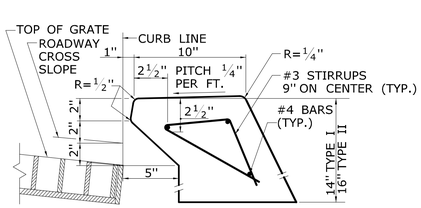

INLET WITH 4" CONCRETE PARK CURBING FOR TYPE "C" CB



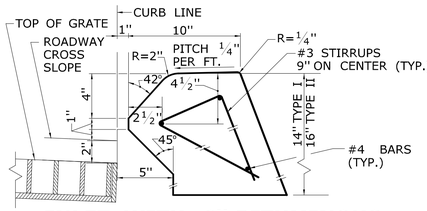

INLET WITH GRANITE SLOPE CURB FOR TYPE "C" CB



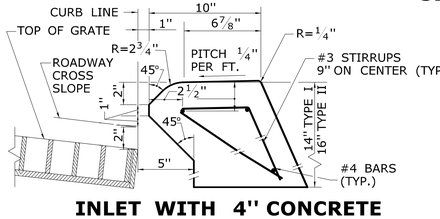

INLET WITH 6" CONCRETE OR STONE CURBING FOR TYPE "C" CB DOUBLE GRATE TYPE I & II



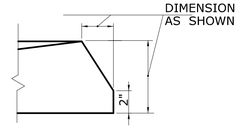

INLET WITH NO CURBING (PLAIN TYPE) FOR TYPE "C" CB DOUBLE GRATE TYPE I & II




INLET WITH 6" BITUMINOUS CONCRETE LIP CURBING FOR TYPE "C" CB DOUBLE GRATE TYPE I & II



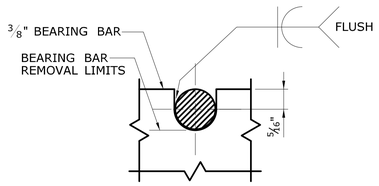

INLET WITH 4" CONCRETE PARK CURBING FOR TYPE "C" CB DOUBLE GRATE TYPE I & II




ALTERNATE CONSTRUCTION OF TYPE II TOP

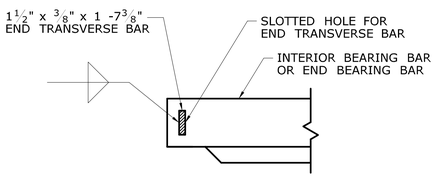
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | NOT TO SCALE ### | SIGNATURE BLOCK: OFFICE OF ENGINEERING 2800 BERLIN TURNPIKE NEWINGTON, CT 06111 | SUBMITTED BY: Leo Fontaine, P.E. 2020.07.08 09:24:52-04'00' | APPROVED BY: James Fallon, P.E. | STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION | CTDOT STANDARD SHEET | STANDARD SHEET TITLE: CATCH BASIN TOPS TYPE "C" AND "C-L" | STANDARD SHEET NO.: HW-586_07 |

PLOTTED DATE: 6/30/2020

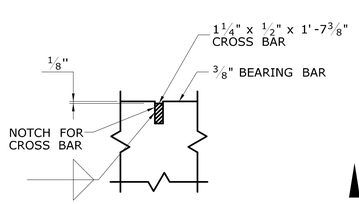



NOTE:
5/8" DIA. ROUND BAR SHALL CONTACT BEARING BAR AT BOTTOM AND BE FLUSH AT TOP.

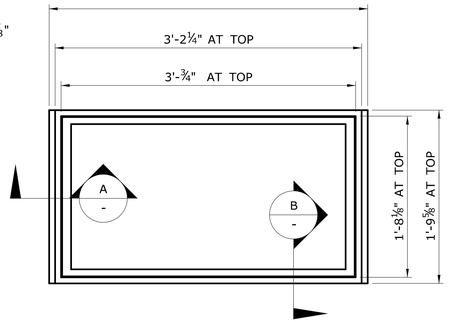
**ROUND BAR ATTACHMENT**
**CATCH BASIN GRATE TYPE A**




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



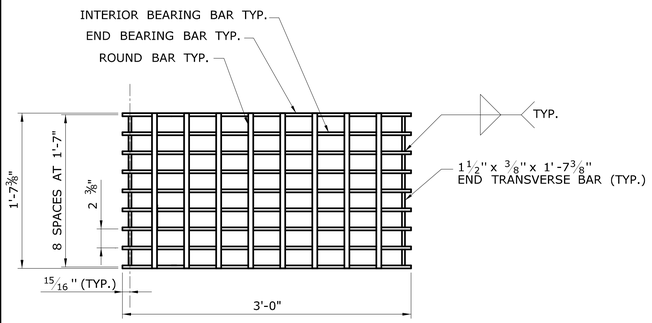

**CROSS BAR ATTACHMENT**
**CATCH BASIN GRATE TYPE B**



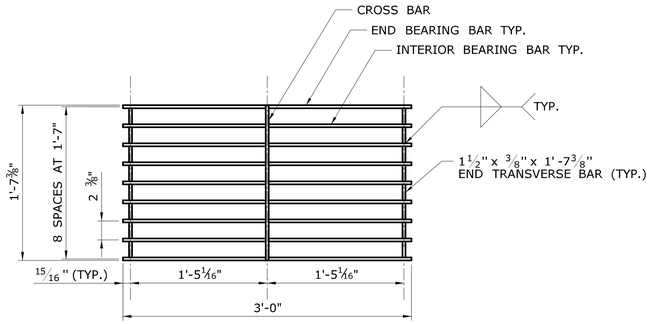

**PLAN**

## GENERAL NOTES:

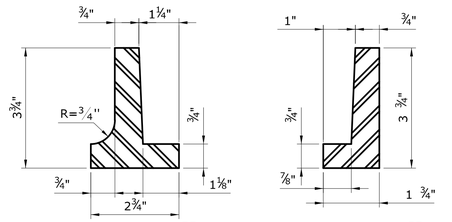
1. STEEL OR CAST IRON SHALL BE USED FOR FRAMES. STEEL SHALL BE USED FOR TYPE "A" AND "B" GRATES.
2. TYPE "A" GRATES SHALL BE USED ON ALL ROADWAYS WHERE BICYCLE TRAFFIC IS ALLOWED OR ON HEAVY DUTY LOCK DOWN TOPS AS DIRECTED BY THE ENGINEER.
3. TYPE "B" GRATES SHALL BE USED ON ALL LIMITED ACCESS HIGHWAYS, RAMPS AND WHERE BICYCLE TRAFFIC IS NOT ALLOWED OR AS DIRECTED BY THE ENGINEER.
4. DO NOT GALVANIZE CAST IRON FRAMES.
5. DIMENSIONAL TOLERANCES SHALL BE ± 1/16 INCH.
6. ALL STEEL BARS SHALL BE WELDED AT ALL INTERSECTIONS.




**PLAN**

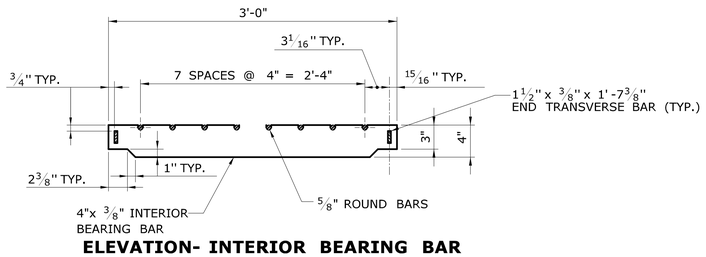



**PLAN**

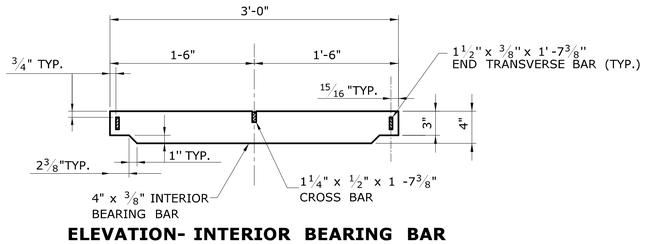



**SECTION A** (-) **SECTION B** (-)

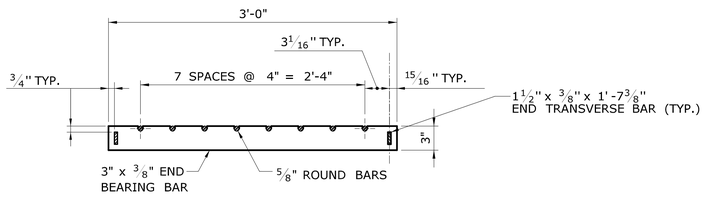
**CAST IRON FRAME ALTERNATE**



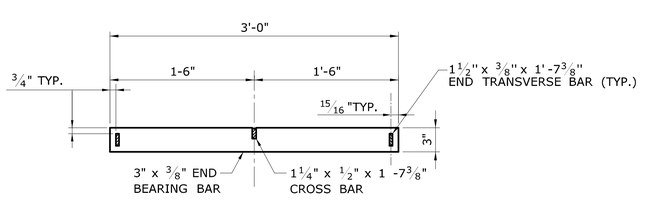

**ELEVATION- INTERIOR BEARING BAR**



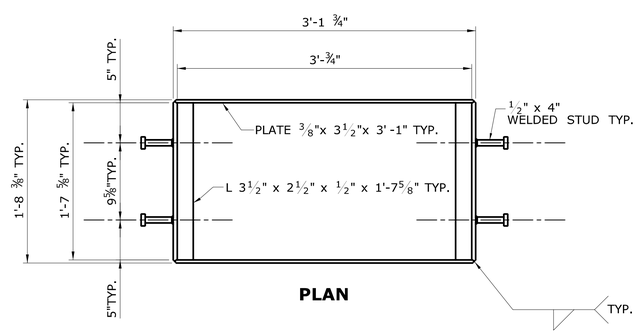

**ELEVATION- INTERIOR BEARING BAR**



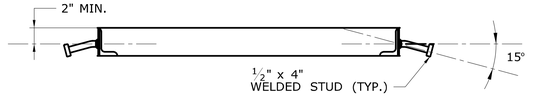

**ELEVATION- END BEARING BAR**
**CATCH BASIN GRATE TYPE A**




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




**PLAN**



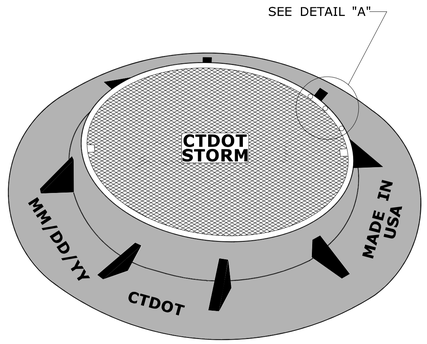

**WELDED STUD ANCHOR DETAILS**
**STEEL FRAME**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | NOT TO SCALE ### | SIGNATURE BLOCK: OFFICE OF ENGINEERING 2800 BERLIN TURNPIKE NEWINGTON, CT 06111 | SUBMITTED BY: Leo Fontaine, P.E. 2020.07.08 09:25:23-04'00' | APPROVED BY: James Fallon, P.E. | STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION | CTDOT STANDARD SHEET | STANDARD SHEET TITLE: CATCH BASIN FRAMES AND GRATES | STANDARD SHEET NO.: HW-586_08 |

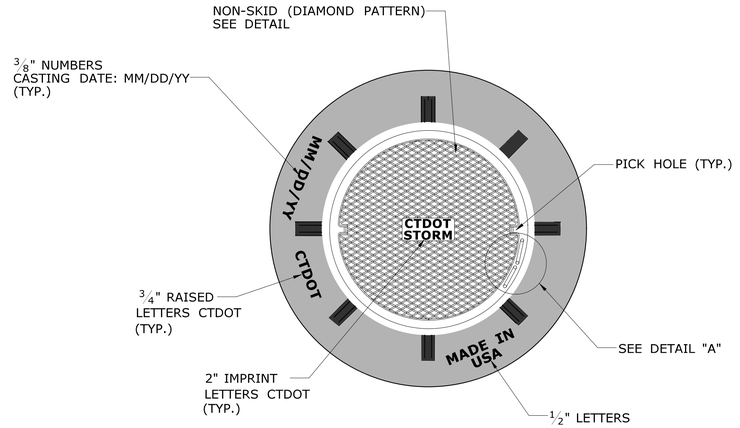
**PLOTTED DATE:** 6/30/2020

## GENERAL NOTES:

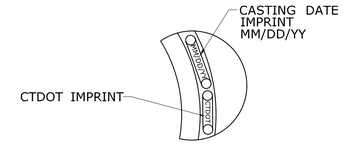
1. ALL DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.



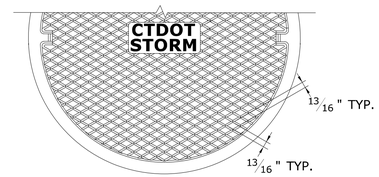

**MANHOLE FRAME AND COVER**



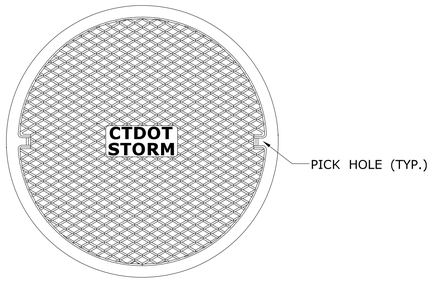

**PLAN**



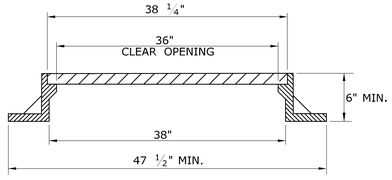

**DETAIL "A"**



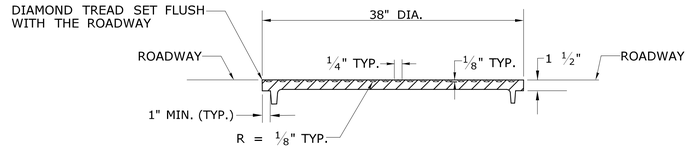

**DIAMOND PATTERN PLAN**




**MANHOLE COVER PLAN**




**MANHOLE FRAME AND COVER**



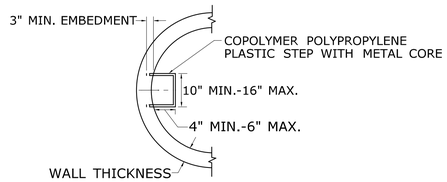

**MANHOLE COVER WITH DIAMOND PATTERN**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | NOT TO SCALE<br>#### | SIGNATURE BLOCK:<br>OFFICE OF ENGINEERING<br>2800 BERLIN TURNPIKE<br>NEWINGTON, CT 06111 | SUBMITTED BY:<br>Leo Fontaine, P.E.<br>2020.07.08<br>09:26:08-04'00' | APPROVED BY:<br>James Fallon, P.E.<br>Digitally signed by James Fallon, P.E.<br>DN: cn=James Fallon, P.E., o=Connecticut Department of Transportation, ou=Bureau of Engineering and Construction, st=State of Connecticut, c=US<br>Date: 2020.07.14 08:41:14 -04'00' | STATE OF CONNECTICUT<br>DEPARTMENT OF TRANSPORTATION | CTDOT<br>STANDARD SHEET | STANDARD SHEET TITLE:<br>MANHOLE FRAME AND COVER | STANDARD SHEET NO.:<br>HW-586_10a |

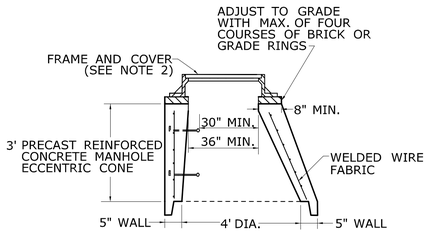
**PLOTTED DATE:** 6/30/2020

## GENERAL NOTES:

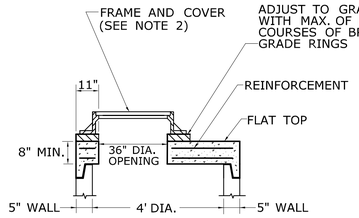
1. ALL DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCE.
2. SEE SHEET NO. HW-586_10a, OR HW-586_10b FOR MANHOLE FRAME, GRATE AND COVER DETAIL.



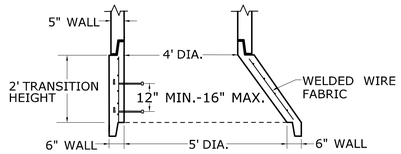

**STEP DETAIL**



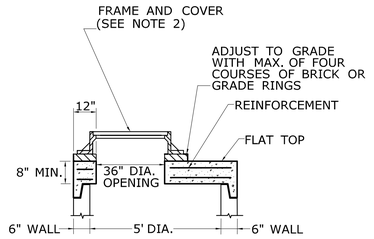

**ECCENTRIC CONE SECTION**



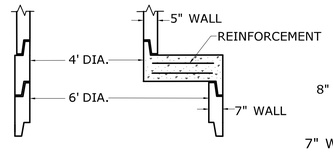

**FLAT SLAB TOP FOR RISER SECTION**



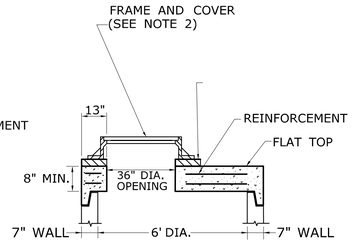

**TRANSITION SECTION**



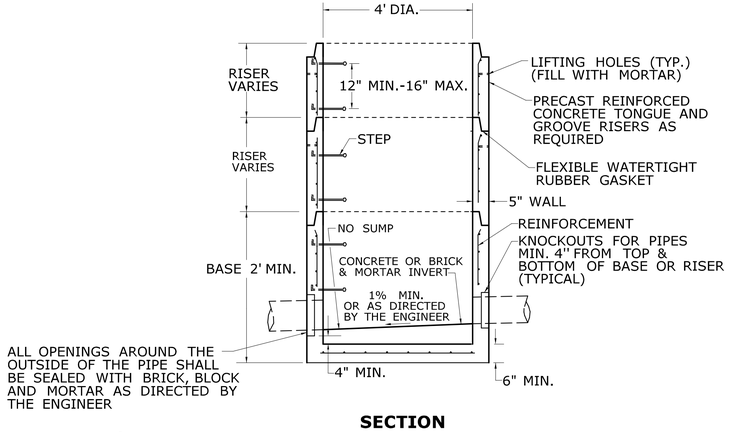

**FLAT SLAB TOP FOR RISER SECTION**



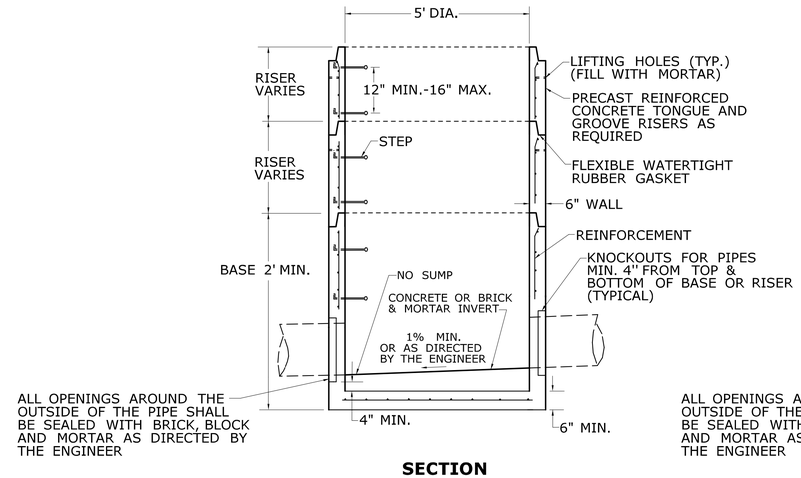

**REDUCER SECTION**



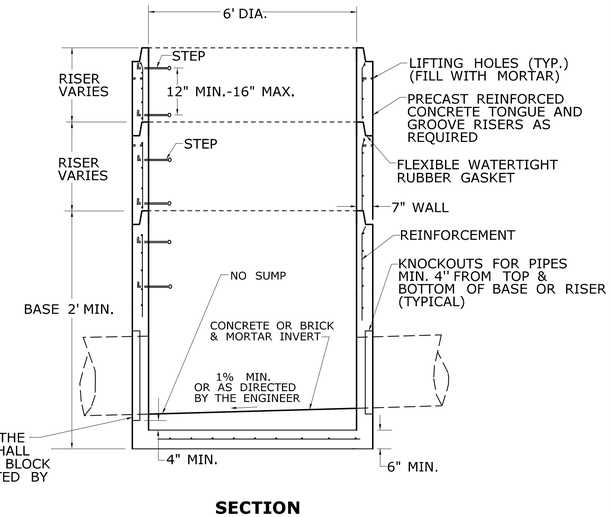

**FLAT SLAB TOP FOR RISER SECTION**




**SECTION**
**4' DIAMETER REINFORCED PRECAST CONCRETE MANHOLE**



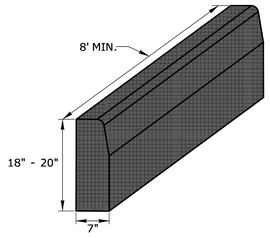

**SECTION**
**5' DIAMETER REINFORCED PRECAST CONCRETE MANHOLE**



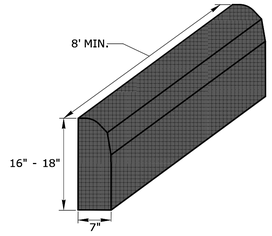

**SECTION**
**6' DIAMETER REINFORCED PRECAST CONCRETE MANHOLE**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | NOT TO SCALE<br>#### | SIGNATURE BLOCK:<br>OFFICE OF ENGINEERING<br>2800 BERLIN TURNPIKE<br>NEWINGTON, CT 06111 | SUBMITTED BY:<br>Leo Fontaine, P.E.<br>2020.07.08 09:26:52-04'00' | APPROVED BY:<br>James Fallon, P.E.<br>Digitally signed by James Fallon, P.E.<br>DN: cn=James Fallon, P.E., o=Connecticut Department of Transportation, ou=Bureau of Engineering and Construction, st=State of Connecticut, c=US<br>Date: 2020.07.14 08:41:39-04'00' | STATE OF CONNECTICUT<br>DEPARTMENT OF TRANSPORTATION | CTDOT STANDARD SHEET | STANDARD SHEET TITLE:<br>REINFORCED PRECAST CONCRETE MANHOLE | STANDARD SHEET NO.:<br>HW-586_10c |

**PLOTTED DATE:** 6/30/2020



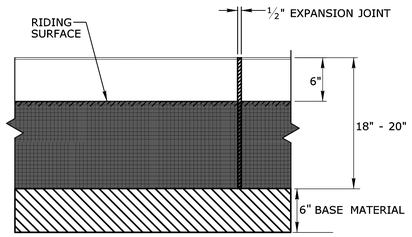

**CONCRETE CURBING (6" REVEAL)**



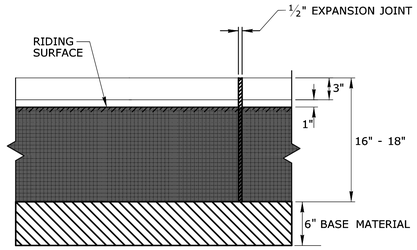

**CONCRETE PARK CURBING (4" REVEAL)**

## GENERAL NOTE:

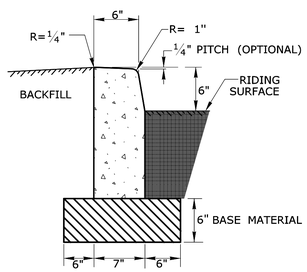
1. PRECAST CONCRETE CURBING MAY BE CAST BY THE MANUFACTURER WITH OPTIONAL LIFTING AND DOWEL BAR HOLES.



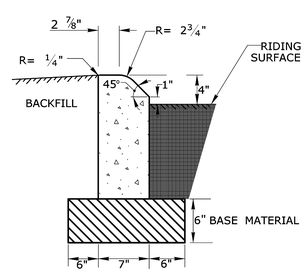

**FRONT ELEVATION**




**FRONT ELEVATION**



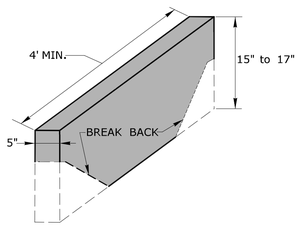

**SECTION**



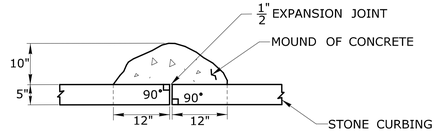

**SECTION**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | NOT TO SCALE<br>#### | SIGNATURE BLOCK:<br>OFFICE OF ENGINEERING<br>2800 BERLIN TURNPIKE<br>NEWINGTON, CT 06111 | SUBMITTED BY:<br>Leo Fontaine, P.E.<br>2020.07.15<br>14:21:26-04'00' | APPROVED BY:<br>James Fallon, P.E.<br>2020.07.15<br>14:24:21-04'00' | STATE OF CONNECTICUT<br>DEPARTMENT OF TRANSPORTATION | CTDOT STANDARD SHEET | STANDARD SHEET TITLE:<br>CONCRETE CURBING | STANDARD SHEET NO.:<br>HW-811_01 |

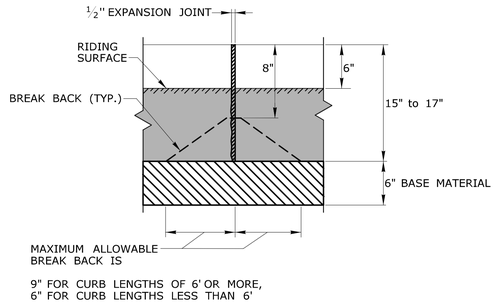
**PLOTTED DATE:** 7/15/2020



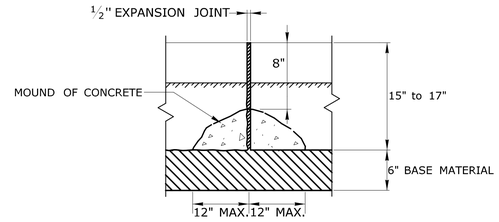

**STONE CURBING**




**PLAN**

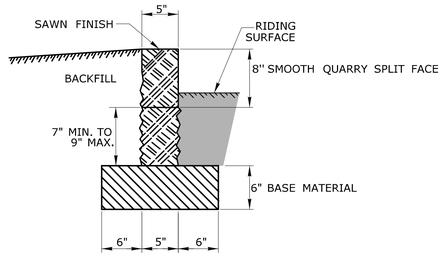



**FRONT ELEVATION**




**BACK ELEVATION**

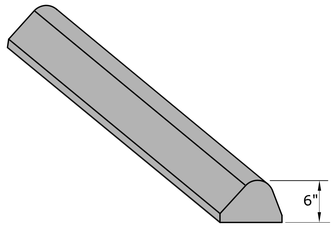
**MOUND OF CONCRETE AT ALL JOINTS FOR STONE CURBING**



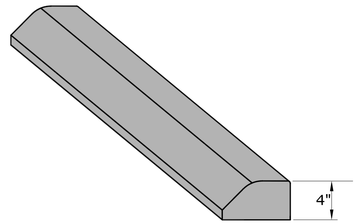

**SECTION**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | NOT TO SCALE<br>#### | SIGNATURE BLOCK:<br>OFFICE OF ENGINEERING<br>2800 BERLIN TURNPIKE<br>NEWINGTON, CT 06111 | SUBMITTED BY:<br>Leo Fontaine, P.E.<br>2020.07.08<br>09:33:33-04'00' | APPROVED BY:<br>James Fallon, P.E. | STATE OF CONNECTICUT<br>DEPARTMENT OF TRANSPORTATION | CTDOT STANDARD SHEET | STANDARD SHEET TITLE:<br>STONE CURBING | STANDARD SHEET NO.:<br>HW-813_02 |

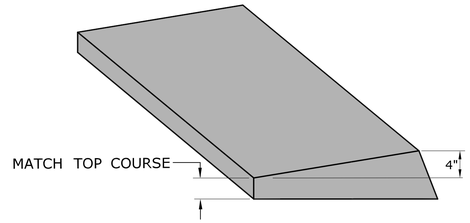
**PLOTTED DATE:** 7/1/2020



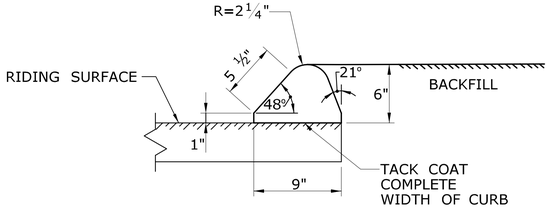

**BITUMINOUS CONCRETE LIP CURBING**
**(6" HIGH)**



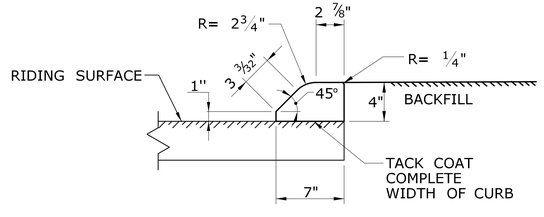

**BITUMINOUS CONCRETE PARK CURBING**
**(4" HIGH)**



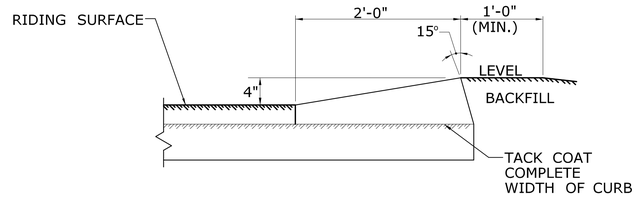

**BITUMINOUS CONCRETE BERM CURBING**
**(4" HIGH)**




**SECTION**



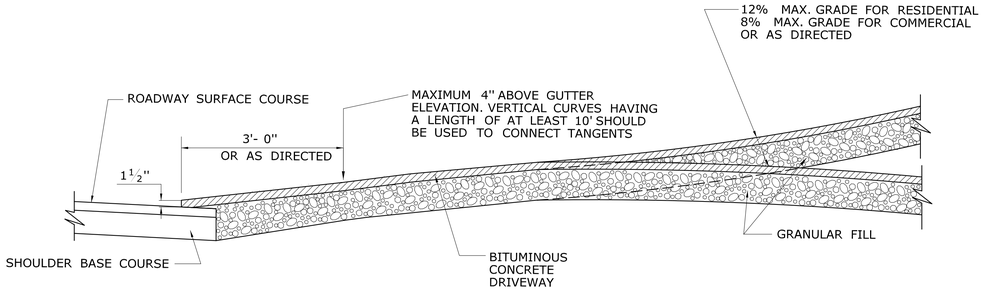

**SECTION**



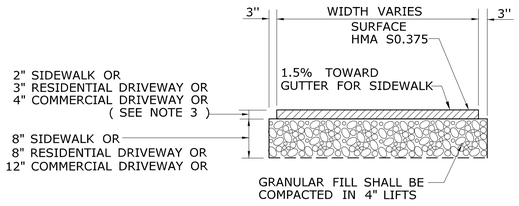

**SECTION**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | NOT TO SCALE<br>#### | SIGNATURE BLOCK:<br>OFFICE OF ENGINEERING<br>2800 BERLIN TURNPIKE<br>NEWINGTON, CT 06111 | SUBMITTED BY:<br>Leo Fontaine, P.E.<br>2020.07.08<br>09:34:54-04'00' | APPROVED BY:<br>James Fallon, P.E. | STATE OF CONNECTICUT<br>DEPARTMENT<br>OF<br>TRANSPORTATION | **CTDOT<br>STANDARD SHEET** | STANDARD SHEET TITLE:<br>**BITUMINOUS CONCRETE CURBING** | STANDARD SHEET NO.:<br>**HW-815_01** |

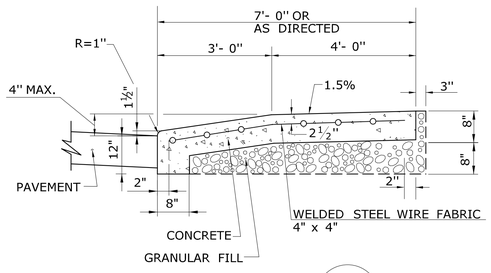
**PLOTTED DATE:** 7/7/2020



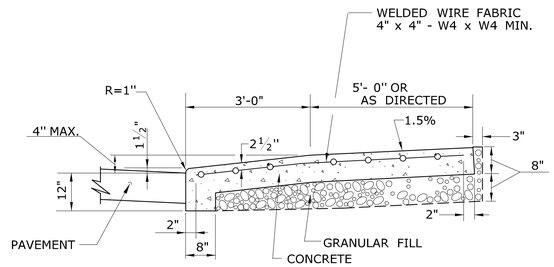

**SECTION A**



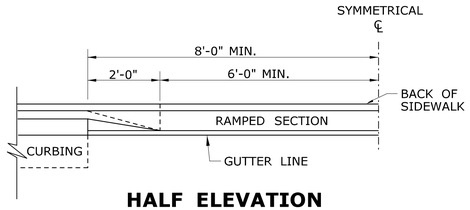

**TYPICAL SECTION**
**BITUMINOUS CONCRETE**
**SIDEWALK AND DRIVEWAY**



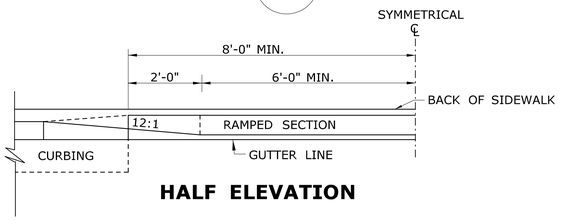

**SECTION B**



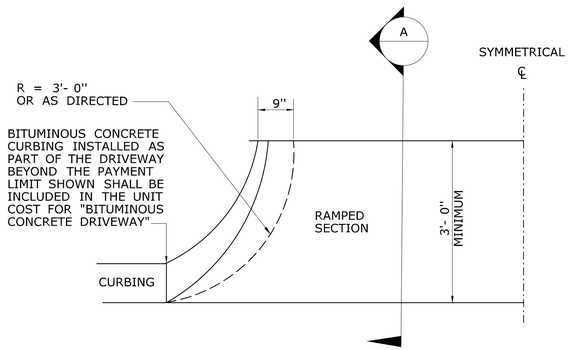

**SECTION C**



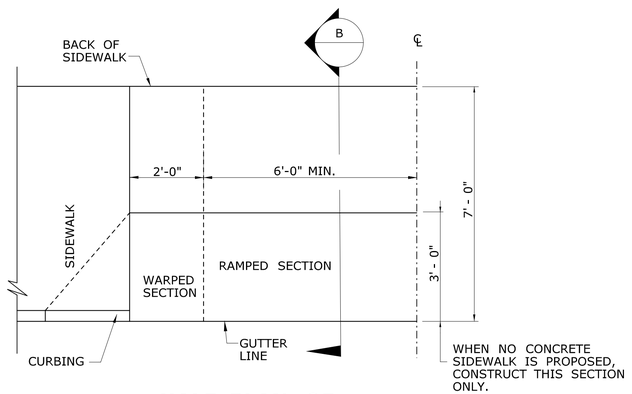

**HALF ELEVATION**



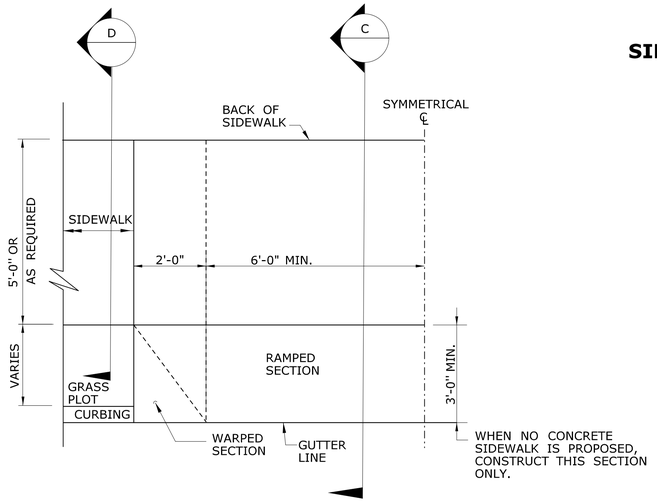

**HALF ELEVATION**




**HALF BITUMINOUS CONCRETE**
**DRIVEWAY PLAN**



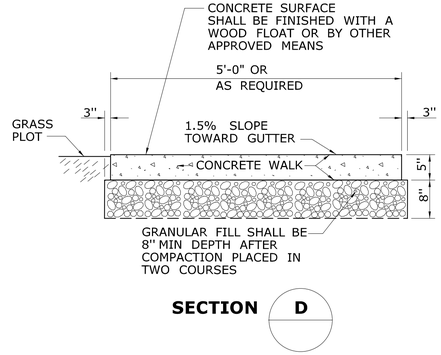

**HALF PLAN OF**
**CONCRETE DRIVEWAY RAMP WHERE**
**SIDEWALK ADJOINS CURBING**




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

## 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 D**

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | NOT TO SCALE<br>#### | SIGNATURE BLOCK:<br>OFFICE OF ENGINEERING<br>2800 BERLIN TURNPIKE<br>NEWINGTON, CT 06111 | SUBMITTED BY:<br>Leo Fontaine, P.E.<br>2020.07.08<br>10:32:47-04'00' | APPROVED BY:<br>James Fallon, P.E.<br>2020.07.15<br>12:16:04-04'00' | STATE OF CONNECTICUT<br>DEPARTMENT OF TRANSPORTATION | CTDOT<br>STANDARD SHEET | STANDARD SHEET TITLE:<br>DRIVEWAY RAMPS AND SIDEWALKS | STANDARD SHEET NO.:<br>HW-921_01 |

PLOTTED DATE: 7/1/2020

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.
MEGOHMETER: 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) MEGOHMETER 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 MEGOHMETER 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 ($L_{14/2}$).

LOOP INDUCTANCE (ENGLISH)

$L_{LOOP} = (P/4)\ (N^2 + N)$

LEAD-IN INDUCTANCE

$L_{14/2} = (0.24\,\mu h/FT)\ (D)$

LOOP INDUCTANCE (METRIC)

$L_{LOOP} = (3.28P/4)\ (N^2 + N)$

LEAD-IN INDUCTANCE

$L_{14/2} = (0.78\,\mu h/m)\ (D)$

WHERE:

$L_{LOOP}$ = INDUCTANCE OF INDIVIDUAL LOOP SEGMENTS IN MICROHENRIES ($\mu h$).
$L_{14/2}$ = 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.
$L_1, L_2, L_3$ = INDUCTANCE OF INDIVIDUAL LOOP SEGMENTS.

EXAMPLE: (IN ENGLISH)

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

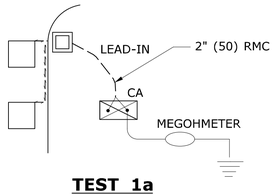
$L_{LOOP} = (24/4)\ (4^2 + 4)$
$L_{LOOP} = (6)\ (20)$
$L_{LOOP} = 120\ \mu h$

$L_{14/2} = (0.24\,\mu h/FT)\ (300)$
$L_{14/2} = (0.24)\ (300)$
$L_{14/2} = 72\ \mu h$

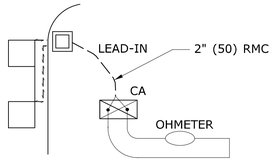
2b: MEASURE INDUCTANCE OF LOOP AND LEAD-IN AT CONTROLLER. USE INSTRUMENT DESIGNED TO MEASURE LOOP CIRCUIT INDUCTANCE.

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.




**TEST 1a**




**TEST 1b**

PROJECT:
TOWN:
LOCATION:

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

**LOOP CIRCUIT TEST DATA (EXAMPLE)**

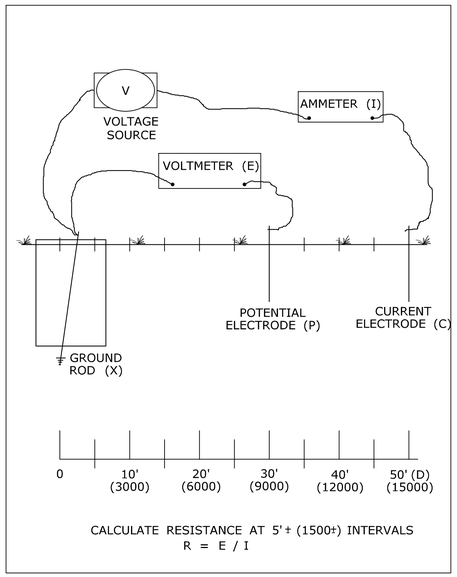
TEST PROCEDURE:

- 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.

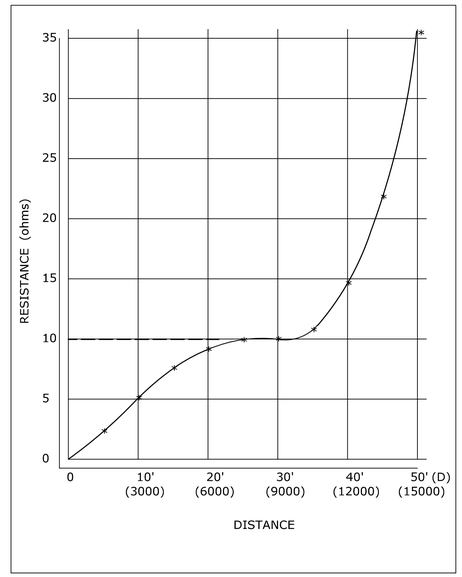
SUGGESTED CORRECTIVE ACTION:

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)**

**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**

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 COMMUNCATIONS 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. |

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: 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

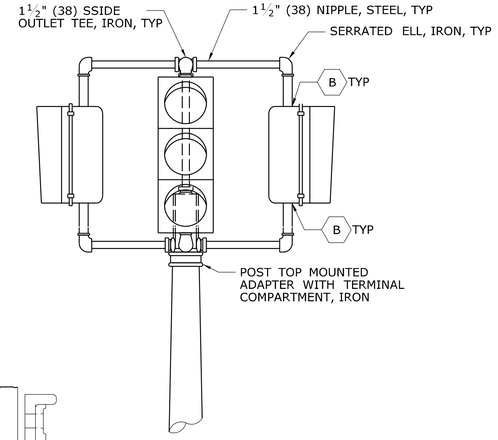
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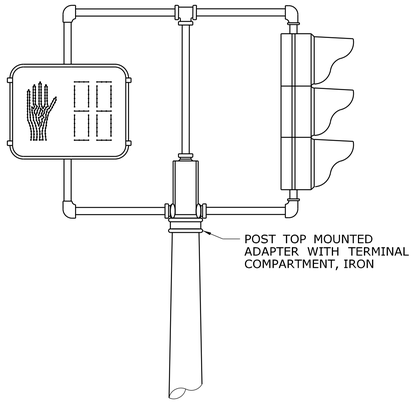
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APPROVED BY: NAME/DATE/TIME:
Charles S. Harlow 2014.01.08 09:02:11-05'00'

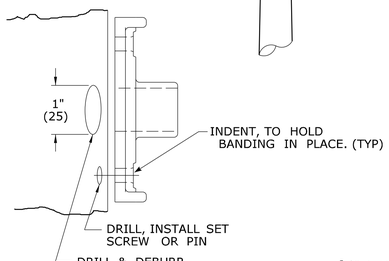
CTDOT STANDARD SHEET
OFFICE OF ENGINEERING

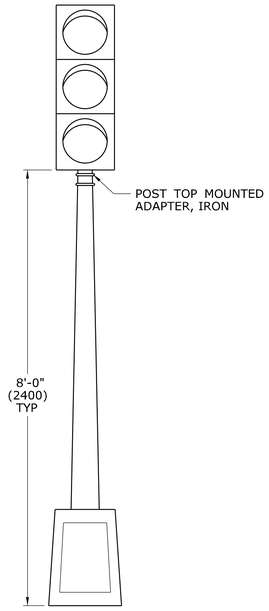
STANDARD SHEET TITLE:
**GENERAL CLAUSES (TEST PROCEDURES)**

STANDARD SHEET NO.:
**TR-1000_01**

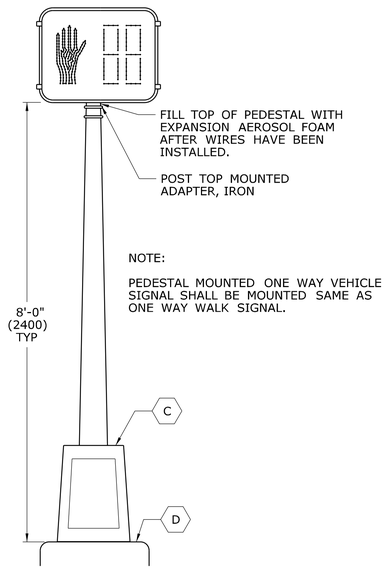


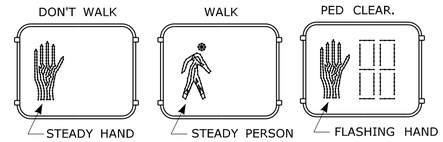

**ONE WAY TRAFFIC SIGNAL PEDESTAL MOUNTED**




NOTE:

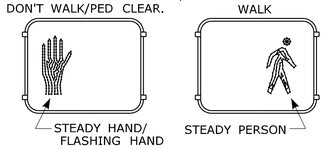
PEDESTAL MOUNTED ONE WAY VEHICLE SIGNAL SHALL BE MOUNTED SAME AS ONE WAY WALK SIGNAL.

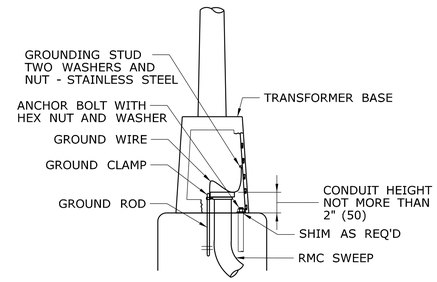
**ONE WAY WALK SIGNAL PEDESTAL MOUNTED**



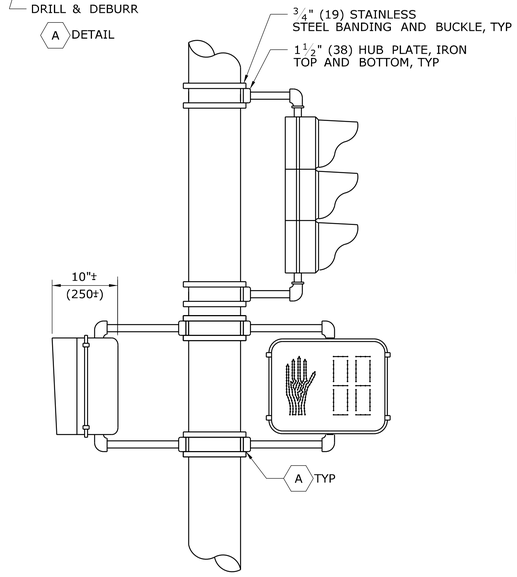

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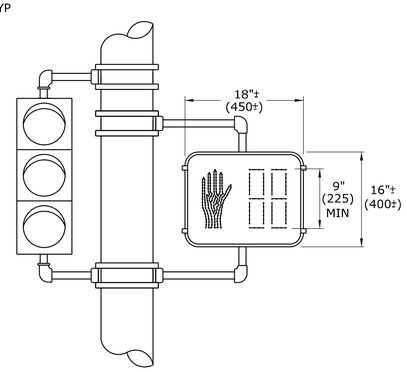
NON-COUNTDOWN DISPLAY, ONLY WHEN SHOWN ON PLAN.

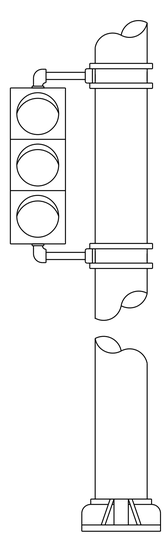


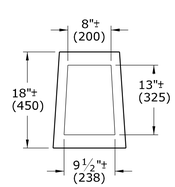

**ALUMINUM PEDESTAL INSTALLATION DETAIL**



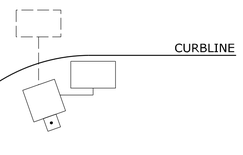



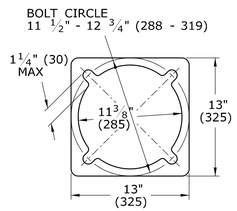
**ONE WAY TRAFFIC SIGNAL POLE MOUNTED**




**ALUMINUM PEDESTAL DOOR OPENING 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.




**PEDESTAL BASE PLAN**

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, WARRANTEED AT 5 YEAR LIFE.

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

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

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: 4/14/2012

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**

Filename: CTDOT_TRAFFIC_STD.dgn Model: TR-1102_01

SUBMITTED BY: NAME/DATE/TIME:
Tracy L. Fogarty 2012.05.01 12:55:27-04'00'

APPROVED BY: NAME/DATE/TIME:
Timothy M. Wilson 2012.05.09 10:24:58-04'00'

**CTDOT STANDARD SHEET**

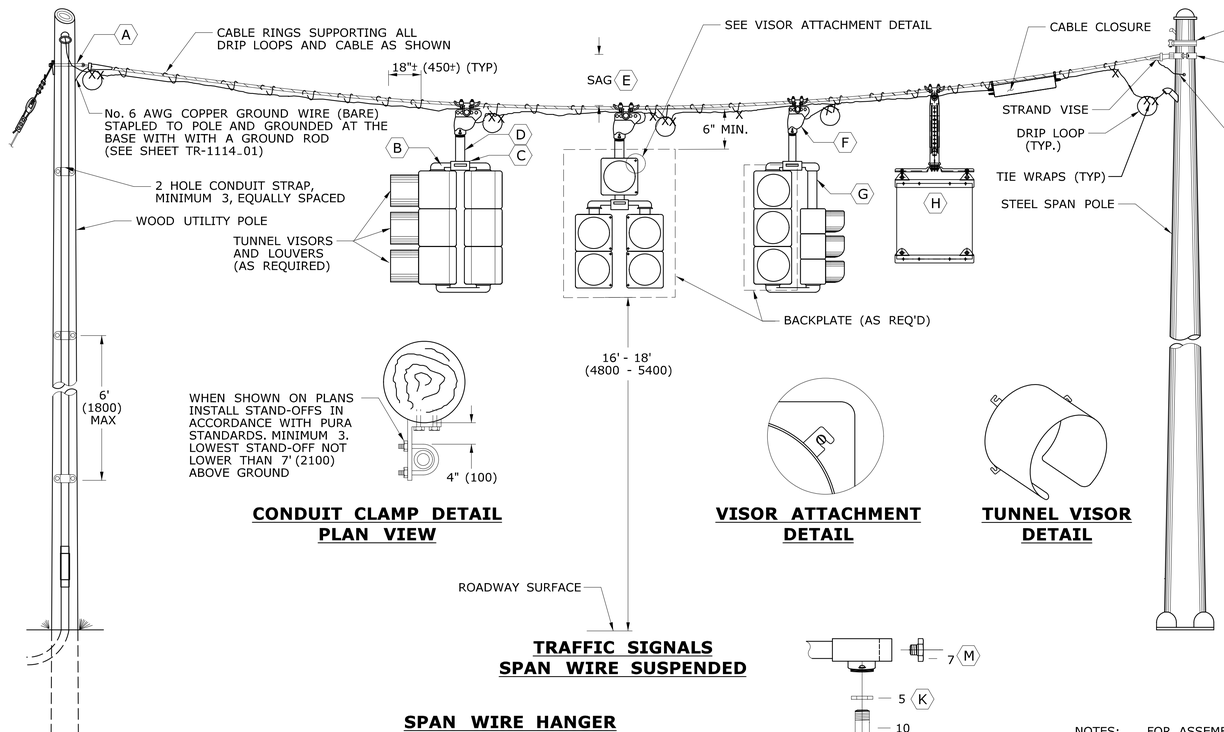
**OFFICE OF ENGINEERING**

STANDARD SHEET TITLE:

# PEDESTALS, PEDESTRIAN SIGNALS

STANDARD SHEET NO.:

**TR-1102_01**

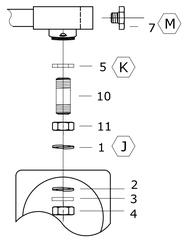



**CONDUIT CLAMP DETAIL PLAN VIEW**

**VISOR ATTACHMENT DETAIL**

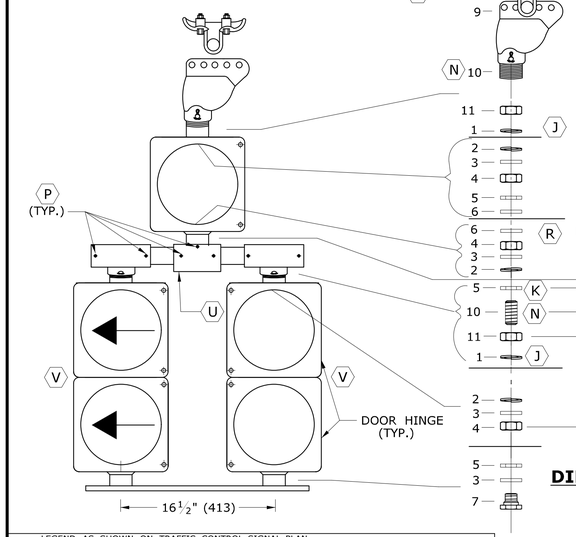
**TUNNEL VISOR DETAIL**

**TRAFFIC SIGNALS SPAN WIRE SUSPENDED**




**TWO WAY, THREE WAY & FOUR WAY NIPPLE DOWN ASSEMBLY DETAIL**

**SPAN WIRE HANGER ASSEMBLY DETAIL**




**UPPER CENTER SUPPORT DETAIL**

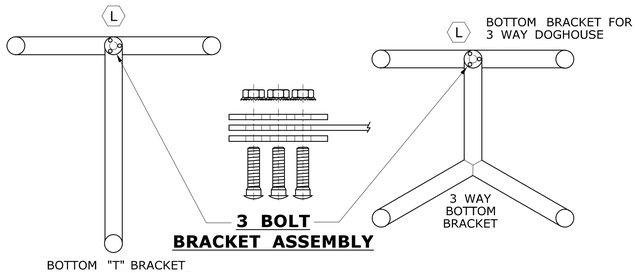
**DIRECT ASSEMBLY DETAIL**

ITEM DESCRIPTION, FOR ASSEMBLY DETAILS

1 - SERRATED TABBED LOCKRING, ALUMINUM (TAB MUST BE FULL WIDTH OF RING)
2 - GASKET, NEOPRENE
3 - WASHER, STEEL
4 - HEX NUT, STEEL
5 - CONDUIT LOCKNUT, STEEL
6 - BUSHING PLASTIC (ONLY IN JUNCTION BOX OR NIPPLED DOWN TRAFFIC SIGNAL)
7 - OCTAGONAL CAP, ALUMINIUM
8 - SPAN WIRE CLAMP
9 - WIRE OUTLET BODY, IRON, FEMALE ONLY
10 - NIPPLE, STEEL
11 - HEX NUT, STEEL, NOTCHED W/SETSCREWS

NOTES: FOR ASSEMBLY DETAILS

J APPLY SILICONE CAULK BETWEEN OR AROUND SERRATED LOCKRING AND HOUSING.
K OPTIONAL USE IF NIPPLE THREADS TOO FAR INTO ELBOW.
L DRILL HOLE IN CENTER OF 2 WAY BOTTOM BRACKET - INSTALL 3 BOLT BRACKET (SEE DETAIL).
M DO NOT INSERT ORNAMENTAL CAP PAST DOTTED LINE.
N ALL THREAD.
P SETSCREW (SQUARE OR ALLEN) ON ALL FITTINGS.
R CHASE NIPPLE CAN BE SUBSTITUTED FOR THE COMBINATION OF ITEMS 6, 5 AND 10.
S INSTALL STAINLESS STEEL WASHER ON INSIDE OF COTTER PIN. COTTER PIN AND WASHER SHALL BE ON SIDE OF HANGER AWAY FROM SIGNAL CABLES.
T CHASE NIPPLE CAN BE SUBSTITUTED FOR COMBINATION 4, 5, 10 AND 11.
U CENTER HUB SAME AS C EXCEPT TOP OPENING MAY BE THREADED.
V DOOR HINGE ON OUTSIDE OF SIDE BY SIDE ASSEMBLY.




**3 BOLT BRACKET ASSEMBLY**

TRAFFIC SIGNAL CABLE COLOR ASSIGNMENTS

| SIGNAL ASSEMBLY & CABLE USED | SIGNAL FUNCTION | ARTERY 1 | ARTERY 2 | SIDE STREET 1 | SIDE STREET 2 |
|---|---|---|---|---|---|
| 2 - WAY 9 CONDUCTOR | RED | RED | | BLACK | |
| | YELLOW | ORANGE | | WHITE \ BLACK | |
| | GREEN | GREEN | | BLUE | |
| | SPARE | GREEN\BLACK | | RED \ BLACK | |
| | NEUTRAL | WHITE | | | |
| 3 - WAY 12 CONDUCTOR | RED | RED | RED \ BLACK | BLACK | |
| | YELLOW | ORANGE | ORANGE \ BLACK | WHITE \ BLACK | |
| | GREEN | GREEN | GREEN \ BLACK | BLUE | |
| | SPARE | BLUE\BLACK | BLACK \ WHITE | | |
| | NEUTRAL | WHITE | | | |
| 4 - WAY 15 CONDUCTOR | RED | RED | RED \ BLACK | BLACK | RED \ WHITE |
| | YELLOW | ORANGE | ORANGE \ BLACK | WHITE \ BLACK | BLACK \ WHITE |
| | GREEN | GREEN | GREEN \ BLACK | BLUE | GREEN \ WHITE |
| | SPARE | BLUE\BLACK | | BLUE \ WHITE | |
| | NEUTRAL | WHITE | | | |

PEDESTRIAN SIGNAL CABLE COLOR ASSIGNMENTS

| SIGNAL ASSEMBLY & CABLE USED | SIGNAL FUNCTION | WIRE COLOR |
|---|---|---|
| WALK SIGNAL W/ PUSHBUTTON 7 CONDUCTOR | DON'T WALK | RED |
| | WALK | GREEN |
| | NEUTRAL FOR WALK SIGNAL | WHITE |
| | PEDESTRIAN PUSHBUTTON | BLACK |
| | NEUTRAL FOR PUSHBUTTON | ORANGE |
| | SPARE CONDUCTOR | WHITE \ BLACK |
| | SPARE CONDUCTOR * | BLUE \ BLACK |
| WALK SIGNAL W/ PUSHBUTTON 7 CONDUCTOR | RED | RED |
| | YELLOW | ORANGE |
| | GREEN | GREEN |
| | NEUTRAL FOR TRAFFIC SIGNAL | WHITE |
| | PEDESTRIAN PUSHBUTTON | BLACK |
| | NEUTRAL FOR PUSHBUTTON | WHITE \ BLACK |
| | SPARE CONDUCTOR * | BLUE \ BLACK |

* IF 14/7 FEEDS MORE THAN ONE BUTTON, SPLIT THE BUTTONS AND USE BLUE WITH BLACK TRACER FOR THE ADDITIONAL BUTTON.

TABLE NOTES:

1. INSTALL SEPARATE CABLE BETWEEN CLOSURE AND EACH TRAFFIC SIGNAL ASSEMBLY. WIRE EACH TRAFFIC SIGNAL SECTION SEPARATELY BACK TO CABLE CLOSURE. JUMPERS BETWEEN TERMINALS ARE NOT ALLOWED EXCEPT ON NEUTRAL CONDUCTORS.
2. WIRE ALL SIGNALS, SAME DIRECTION FROM CONTROLLER, SEPARATELY WITH CONDUCTORS IN 21 CONDUCTOR CABLE, EVEN IF INDICATIONS ARE IDENTICAL.
3. CABLES THAT FEED PEDESTRIAN INDICATIONS, PUSH BUTTONS, AND DETECTORS BYPASS CABLE CLOSURE.
4. REFER TO STANDARD SHEET TR-1113_01 FOR CABLE CLOSURE - TYPE A.

NOTES:

SERVICE CONDUCTORS: THW, THWN OR XHHW. INDIVIDUAL WIRES MAY BE USED IN LIEU OF MULTI-CONDUCTOR CABLE.

ALL WORK ON UTILITY POLES MUST COMPLY WITH CURRENT PURA REGULATIONS AND NESC RULES.

A ATTACH SPAN AT LEAST 12" (300) BELOW LOWEST POWER COMPANY ATTACHMENT, AND AT LEAST 40" (1000) ABOVE HIGHEST COMMUNICATIONS ATTACHMENT, UNLESS OTHERWISE DIRECTED ON PLANS.
B ELBOW OR "T" FITTING MUST HAVE NOTCH FOR SERRATED TABBED LOCKRING.
C TOP BRACKET CENTER HUB SHALL BE MIN 4" (100) ROUND AND 3" (75) DEEP OR EQUAL VOLUME. SERRATION CAST IN HUB OR TABBED OR SERRATED LOCKRING, TOP OPENING NOT THREADED.
D NIPPLE LENGTH DEPENDS ON SPAN HEIGHT.
E SAG OF SPAN TO BE 5%± LENGTH, UNLESS OTHERWISE ALLOWED BY ENGINEER.
F FACE ALL ENTRANCE FITTINGS TOWARD CABLE CLOSURE.
G INSTALL EXTENSION NIPPLE ON TOP OF SIGNAL HOUSING SO BOTTOM OF ALL SIGNALS ARE EVEN.
H REFER TO TR-GS_01 "SIGN FACE SHEET ALUMINUM, R-SERIES SIGNS TYPICAL DETAILS", AND TO TR-1114_01 FOR SIGN HANGER ASSEMBLY. MAXIMUM SIGN SIZE 36" X 36" (900 X 900). ALL STAINLESS STEEL HARDWARE.

SECURE LOUVERS TO TUNNEL VISORS WITH 3 STAINLESS STEEL SCREWS.

LEGEND AS SHOWN ON TRAFFIC CONTROL SIGNAL PLAN:
PROPOSED WOOD SPAN POLE
EXISTING WOOD SPAN POLE
PROPOSED STEEL SPAN POLE
EXISTING STEEL SPAN POLE
PROPOSED UTILITY POLE
EXISTING UTILITY POLE
POLE ANCHOR & GUY
CABLE CLOSURE
SPAN MOUNTED SIGN
SPAN MOUNTED TRAFFIC SIGNAL

| REV. | DATE | REVISION DESCRIPTION |
|---|---|---|
| 4 | 1-2018 | REVISED GROUNDING NOTE FOR SPAN AND OTHER MINOR REVISIONS. |
| 3 | 3-2015 | REMOVED STRAIN INSULATOR. |
| 2 | 5-2013 | MINOR REVISIONS. |
| 1 | 4-2012 | MINOR REVISIONS. |

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: 5/22/2018

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

Filename: CTDOT_TRAFFIC_STD_2018-05-21.dgn Model: TR-1105_01

SUBMITTED BY: NAME/DATE/TIME:
Tracy L. Fogarty, P.E. 2018.08.16 12:13:06-04'00'

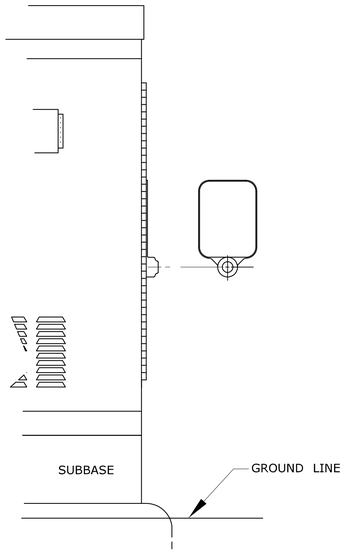
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CTDOT STANDARD SHEET

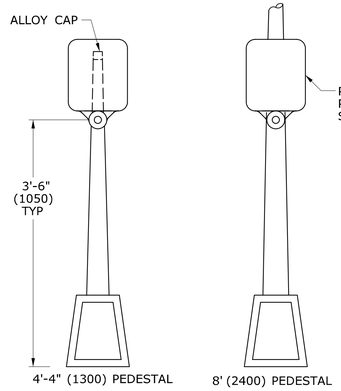
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
**TRAFFIC SIGNALS & CABLE ASSIGNMENTS**

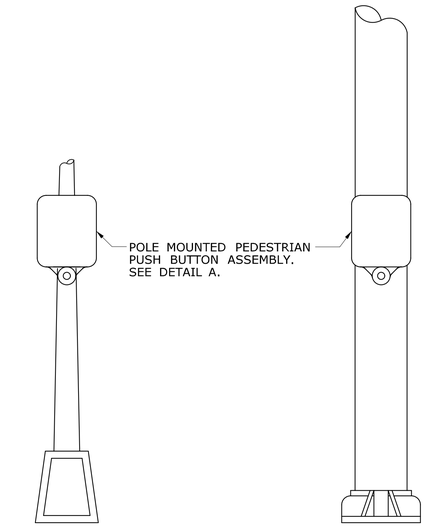
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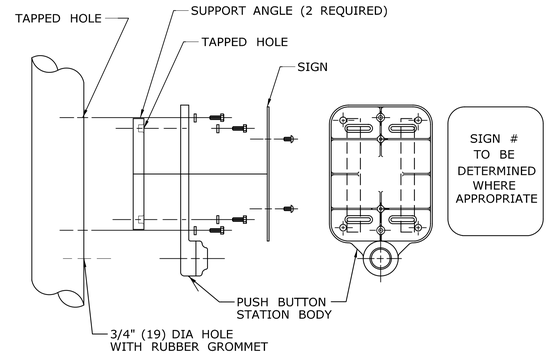

**SURFACE MOUNTED**



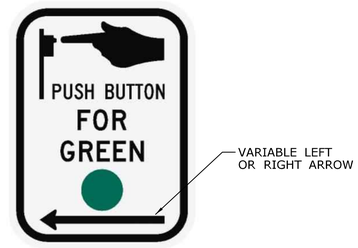

**PEDESTAL MOUNTED**




**SPAN POLE/MAST ARM MOUNTED**




**DETAIL A**




SIGN # 31-0833
USE APPROPRIATE LEFT OR RIGHT ARROW

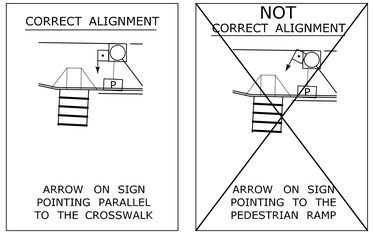



SIGN # 31-0835

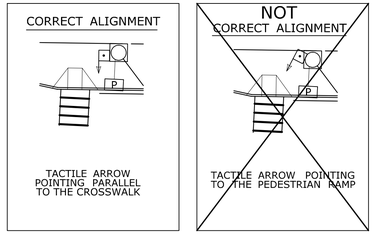
**FOR CROSSING WITH SIDE STREET GREEN**

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.

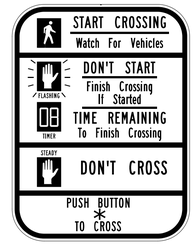



PEDESTRIAN PUSH BUTTON ALIGNMENT




ACCESSIBLE PEDESTRIAN SIGNAL AND DETECTOR

**EXAMPLE ALIGNMENTS FOR EXCLUSIVE PEDESTRIAN PHASE**




✱USE APPROPRIATE ARROW UNLESS OTHERWISE NOTED ON PLAN.

FOR NEW PUSHBUTTON HOUSING, USE 9" x 15" SIGN NO. 31-0856.

FOR EXISTING PUSHBUTTON HOUSING, WITH 9" x 12" SIZE, USE SIGN NO. 31-0845.

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 |
|---|---|---|
| 3 | 8-2018 | UPDATED PEDESTRIAN SIGN LEGENDS AND NOTES. |
| 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: 8/9/2018

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

Filename: CTDOT_TRAFFIC_STD_2018-01-25.dgn Model: TR-1107_01

SUBMITTED BY: NAME/DATE/TIME:
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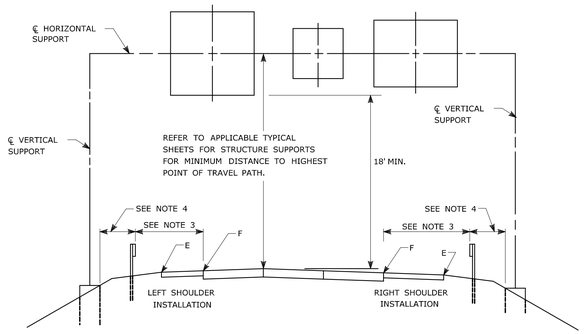
APPROVED BY: NAME/DATE/TIME:
Mark F. Carlino, P.E. 2018.08.21 07:46:57-04'00'

CTDOT STANDARD SHEET

OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
**PEDESTRIAN PUSH BUTTONS**

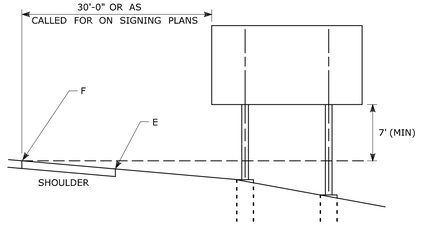
STANDARD SHEET NO.:
**TR-1107_01**




## TYPICAL PLACEMENT OF OVERHEAD SIGNS ON SIGN SUPPORTS

NOTES:

1) FOR PLACEMENT OF CANTILEVER SIGN SUPPORT USE APPLICABLE PORTION OF ABOVE DETAIL.
2) BARRIER SYSTEMS MAY BE REQUIRED FOR BOTH SIDES OF SUPPORTS IN MEDIANS.
3) IMPACT PROTECTION SHALL BE PROVIDED FOR THE SIGN SUPPORTS LOCATED WITHIN CLEAR ZONE.
4) SIGN SUPPORT FOUNDATIONS SHALL BE LOCATED OUTSIDE OF BARRIER SYSTEMS DEFLECTION AREA.
5) ALL SIGNS ARE TO BE LEVEL, REGARDLESS OF CAMBER IN SUPPORT.




## TYPICAL PLACEMENT OF SIDE MOUNTED SIGNS ON STRUCTURAL STEEL BREAKAWAY SIGN SUPPORTS

NOTES:

1) MIN. VERTICAL CLEARANCE ABOVE SIDEWALKS SHALL BE 7'.
2) WHERE GUIDE RAIL IS USED, THE OFFSET TO THE NEAR EDGE OF SIGN FACE SHALL BE AS SHOWN ELSEWHERE IN THE CONTRACT PLANS.
3) ON INTERSECTING ROADS AT RAMP TERMINI, THE OFFSET TO THE NEAR EDGE OF OF SIGN FACE SHALL BE 6' MIN. FROM POINT "E".
4) IF 30'-0" MIN. CANNOT BE MET, PLEASE CONTACT THE ENGINEER.

FOR MAXIMUM EFFECTIVENESS, POSITION SIDE MOUNTED SIGNS ON STRUCTURAL STEEL BREAKAWAY SIGN SUPPORTS AS FOLLOWS:

ON A TANGENT SECTION, POSITION THE SIGN SO THE VERTICAL AXIS IS PLUMB AND THE HORIZONTAL AXIS IS AT AN ANGLE OF 90° WITH THE TRAFFIC LANE WHICH THE SIGN SERVES. SIGNS LOCATED 30 FT OR MORE FROM THE EDGE OF THE ROAD SHALL BE TURNED APPROXIMATELY 3° TOWARD THE ROAD.

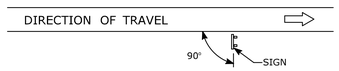



**DIAGRAM "A"**

ON A HORIZONTAL CURVE SECTION, POSITION THE SIGN SO THE VERTICAL AXIS IS PLUMB AND THE HORIZONTAL AXIS IS AT AN ANGLE OF 90° WITH A STRAIGHT LINE BETWEEN THE SIGN AND THE POINT AT WHICH THE SIGN SHALL BE READ.

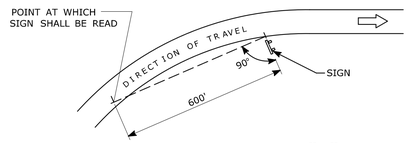
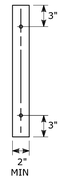


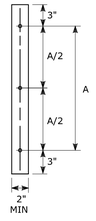

**DIAGRAM "B"**

## SIGN ORIENTATION DETAILS FOR SIDE MOUNTED SIGNS ON STRUCTURAL STEEL BREAKAWAY SIGN SUPPORTS

RETROREFLECTIVE STRIPS 48" LONG OR LESS:




RETROREFLECTIVE STRIPS OVER 48" LONG:

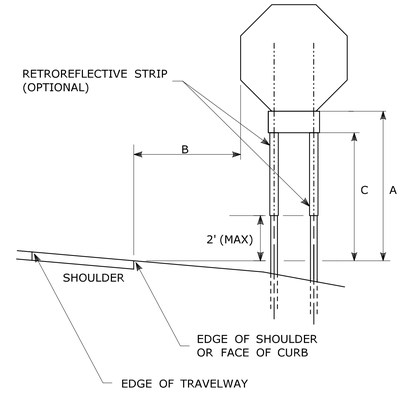


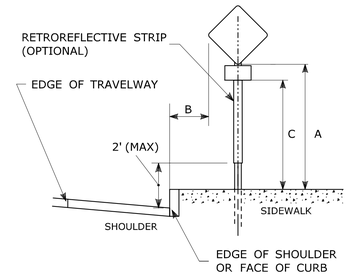

## RETROREFLECTIVE STRIP DETAIL

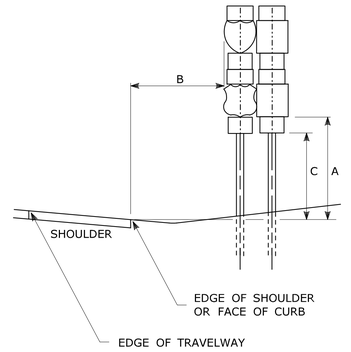
NOTES:

RETROREFLECTIVE STRIPS WHICH ARE 48 IN LONG OR LESS SHALL BE ATTACHED USING 2 BOLTS AND RETROREFLECTIVE STRIPS OVER 48 IN LONG SHALL BE ATTACHED USING 3 BOLTS AS SHOWN ON THE DETAILS ABOVE.
REFER TO STANDARD SHEET No. TR-1208_02 "METAL SIGN POSTS AND SIGN MOUNTING DETAILS" FOR MOUNTING DETAILS.

RETROREFLECTIVE STRIP COLOR SHALL MATCH THE BACKGROUND COLOR OF THE SIGN, EXCEPT THAT THE COLOR OF THE STRIP FOR "YIELD" AND "DO NOT ENTER" SIGNS SHALL BE RED.




## TYPICAL SIGN PLACEMENT DETAIL

NOTES:

ALL SIGNS AND SHIELDS ON DIRECTIONAL ASSEMBLIES SHALL ABUT VERTICALLY.

REFER TO STANDARD SHEET No. TR-1208_02 "METAL SIGN POSTS AND SIGN MOUNTING DETAILS" FOR SIGN POSTS AND SIGN MOUNTING.

IF A RETFOREFLECTIVE STRIP IS USED ON SIGN SUPPORT, IT SHALL BE PLACED FOR THE FULL LENGTH OF THE SUPPORT FROM THE BOTTOM OF THE SIGN TO WITHIN 2 FT ABOVE THE EDGE OF THE ROADWAY.

PARKING SIGNS TYPICALLY USE 45° MOUNTING BRACKET.

| DIM."A" MIN SIGN HEIGHT | DIM."B" MIN LATERAL OFFSET ① | DIM."C" MIN PLAQUE HEIGHT ① | ASSEMBLY LOCATION |
|---|---|---|---|
| 7' ② | 6' 12' ③ | 5' | SIGNS ON FREEWAYS AND EXPRESSWAYS EXCEPT CHEVRON ALIGNMENT SIGNS, ONE-DIRECTION LARGE ARROW SIGNS, DO NOT ENTER SIGNS, AND WRONG WAY SIGNS |
| 5' | 2' | 4' | • SIGNS IN RURAL AREAS<br>• DO NOT ENTER AND WRONG WAY SIGNS ALONG EXIT RAMPS<br>• DO NOT ENTER AND WRONG WAY SIGNS ON LIMITED ACCESS HIGHWAYS |
| 5' | 2' | N/A | • CHEVRON ALIGNMENT SIGNS LOCATED ON FREEWAYS, EXPRESSWAYS, RAMPS, AND IN RURAL AREAS<br>• ONE-DIRECTION LARGE ARROW SIGNS LOCATED ON FREEWAYS, EXPRESSWAYS, RAMPS, AND IN RURAL AREAS |
| 4' | 6' 12' ③ | N/A | INCIDENT MANAGEMENT SIGNS AND MILE POST MARKER ASSEMBLIES LOCATED ON FREEWAYS AND EXPRESSWAYS |
| 4' | 2' | 4' | CENTRAL ISLANDS OF ROUNDABOUTS |
| 7' | 2' ④ | 6' | BUSINESS & RESIDENTIAL AREAS WHERE PARKING OR OTHER OBSTRUCTIONS LIMIT VISIBILITY |
| 7' | 2' ④ | 7' | SIDEWALKS ⑤ |

① OR AS DIRECTED BY THE ENGINEER

② 8 FT MINIMUM HEIGHT REQUIRED IF A SUPPLEMENTAL PLAQUE IS SUBMOUNTED BELOW THE MAJOR SIGN.

③ 6 FT FROM EDGE OF SHOULDER, WHEN SHOULDER IS OVER 6 FT WIDE
12 FT FROM EDGE OF TRAVELWAY, WHEN SHOULDER IS LESS THAN 6 FT WIDE.

④ A LATERAL OFFSET OF AT LEAST 1 FT FROM THE FACE OF THE CURB MAY BE USED WHERE SIDEWALK WIDTH IS LIMITED OR WHERE EXISTING UTILITY POLES ARE CLOSE TO THE CURB.

⑤ A CLEAR PATH OF NOT LESS THAN 4 FT SHALL BE PROVIDED IN SIDEWALK AREAS.

| REV. | DATE | REVISION DESCRIPTION |
|---|---|---|
| 3 | 8-2018 | INCLUDED INCIDENT MANAGEMENT AND MILE MARKER SIGNS. |
| 2 | 4-2017 | MINOR REVISIONS. |
| 1 | 2-2011 | MINOR REVISIONS. |

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Plotted Date: 8/10/2018

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: TR_1208_01_1_2018.dgn Model: TR-1208_01

SUBMITTED BY: NAME/DATE/TIME:
Mark F. Makuch, P.E. 2018.08.17 09:06:06-04'00'

APPROVED BY: NAME/DATE/TIME:
Mark F. Carlino, P.E. 2018.08.21 07:48:06-04'00'

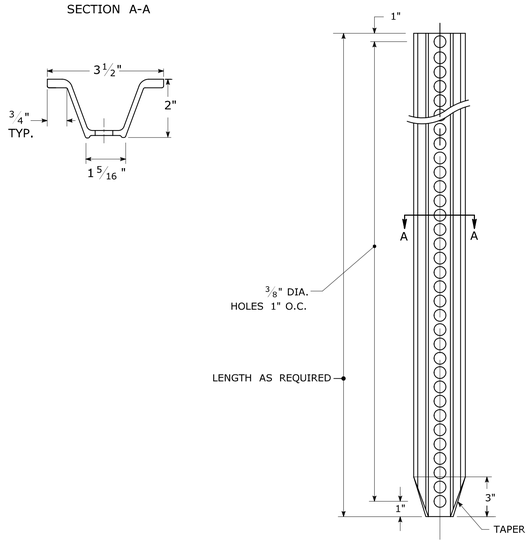
CTDOT STANDARD SHEET

OFFICE OF ENGINEERING

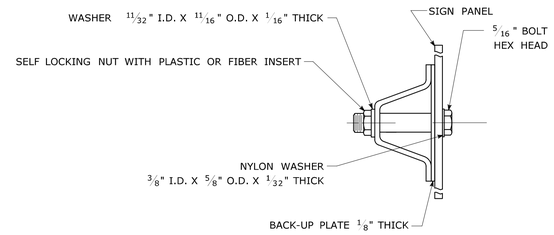
STANDARD SHEET TITLE:
SIGN PLACEMENT AND RETROREFLECTIVE STRIP DETAILS

STANDARD SHEET NO.:
TR-1208_01

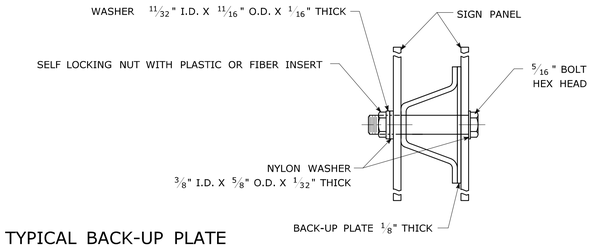
## TYPICAL METAL SIGN POSTS



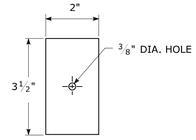

## TYPICAL SIGN PANEL ATTACHMENT




## TYPICAL BACK TO BACK SIGN PANEL ATTACHMENT



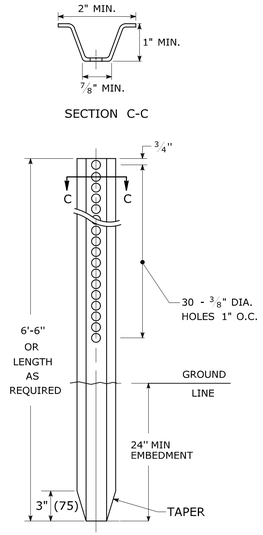

## TYPICAL BACK-UP PLATE




BOLTS - STAINLESS STEEL CONFORMING TO ASTM F593, ALLOY GROUP 1 OR 2 (ALLOY TYPES 304 OR 316).
SELF LOCKING NUTS - STAINLESS STEEL CONFORMING TO ASTM F594, ALLOY GROUP 1 OR 2 (ALLOY TYPES 304 OR 316).
WASHERS - STAINLESS STEEL CONFORMING TO ASTM A240, (ALLOY TYPES 304 OR 316).

## METAL DELINEATOR POST

WT./FT. = 1.12 LBS./FT. MIN.

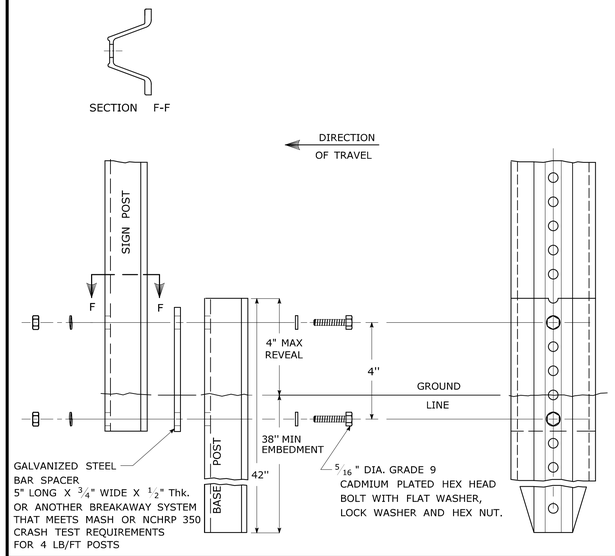



## GENERAL NOTES:

1. STEEL FOR DELINEATOR POSTS SHALL BE ASTM A36 STEEL. STEEL FOR ALL OTHER POSTS SHALL CONFORM TO THE MECHANICAL REQUIREMENTS OF ASTM A 499 GRADE 80 AND TO THE CHEMICAL REQUIREMENTS OF ASTM A1 CARBON STEEL TEE RAIL HAVING NOMINAL WEIGHT (MASS) OF 91 LBS. OR GREATER PER LINEAR YARD.
2. AFTER FABRICATION, ALL STEEL POSTS, STRAPS AND PLATES SHALL BE GALVANIZED TO MEET THE REQUIREMENTS OF ASTM A123.
3. WASHERS FOR BREAKAWAY INSTALLATIONS SHALL MEET ASTM F436, TYPE 1.
4. SPACER BAR FOR BREAKAWAY INSTALLATION SHALL CONFORM TO THE MECHANICAL REQUIREMENTS OF ASTM A36.
5. ALL BOLTS, NUTS, AND WASHERS FOR BREAKAWAY INSTALLATIONS SHALL BE GALVANIZED TO MEET THE REQUIREMENTS OF ASTM A153.
6. ALL SIGN POSTS SHALL HAVE BREAKAWAY FEATURES THAT MEET AASHTO REQUIREMENTS CONTAINED IN THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS." THE BREAKAWAY FEATURES SHALL BE STRUCTURALLY ADEQUATE TO CARRY THE SIGNS SHOWN IN THE PLANS AT 60 mph WIND LOADINGS. INSTALLATIONS SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
7. SIGN POSTS SHALL BE 4 LBS./FT.

## BREAKAWAY INSTALLATION

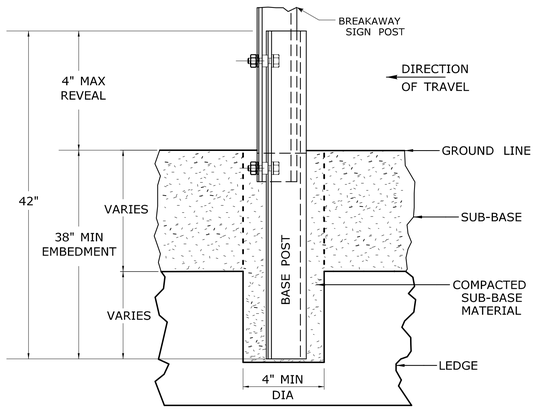
FOR 4 LBS./FT. POSTS



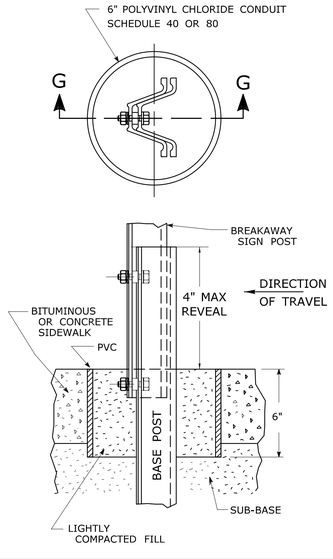

## TYPICAL SIGN POST INSTALLATION IN LEDGE

LEDGE SHALL BE REMOVED TO DRIVE THE BASE POST TO A DEPTH OF 38".

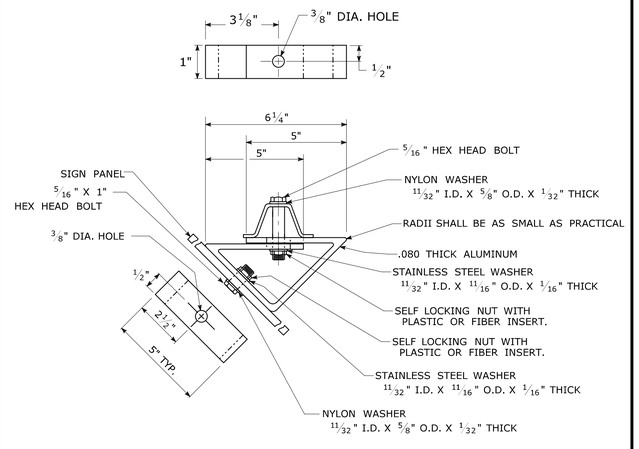
HOLE SHALL BE FILLED WITH SUB-BASE MATERIAL AND COMPACTED WITH A TAMPING BAR, OR TECHNIQUE APPROVED BY THE ENGINEER, PRIOR TO BASE POST INSTALLATION.




## TYPICAL SLEEVE FOR PAVED AREAS




## 45° MOUNTING BRACKET FOR INSTALLATION OF PARKING SIGNS




| REV. | DATE | REVISION DESCRIPTION |
|---|---|---|
| 2 | 6-2017 | SIGN POST REVISIONS. |
| 1 | 2-2011 | MINOR REVISIONS. |

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Plotted Date: 6/6/2017

NOT TO SCALE

**STATE OF CONNECTICUT**
**DEPARTMENT OF TRANSPORTATION**

Filename: TR-1208_02_May_2017_Revision.dgn Model: TR-1208_02

| SUBMITTED BY: | NAME/DATE/TIME: |
|---|---|
| Mark Makuch | Mark F. Makuch, P.E. 2017.06.07 07:30:30-04'00' |
| Mary E. Baker | Mary E. Baker, P.E. 2017.06.13 15:28:14-04'00' |
| APPROVED BY: | NAME/DATE/TIME: |
| | Gregory M. Dorosh, P.E. 2017.06.15 09:27:29-04'00' |

**CTDOT STANDARD SHEET**

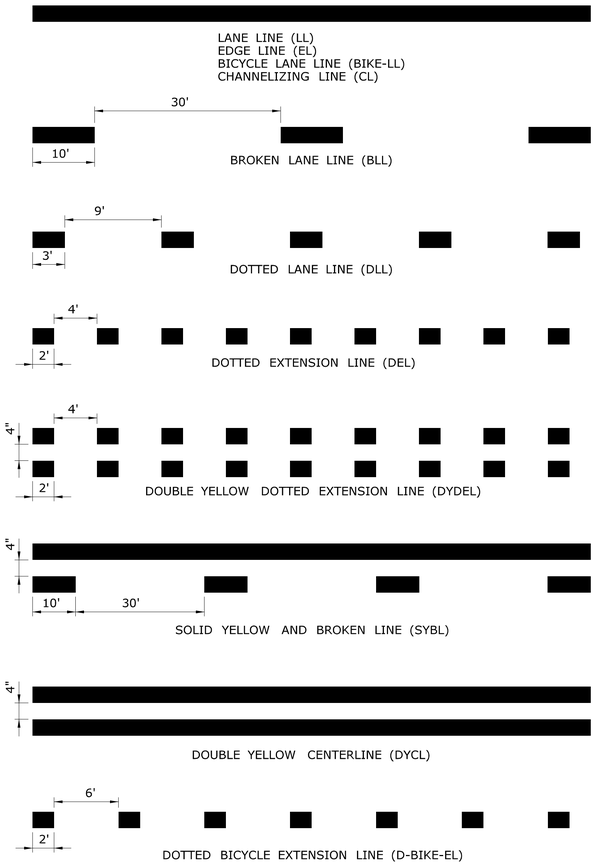
**OFFICE OF ENGINEERING**

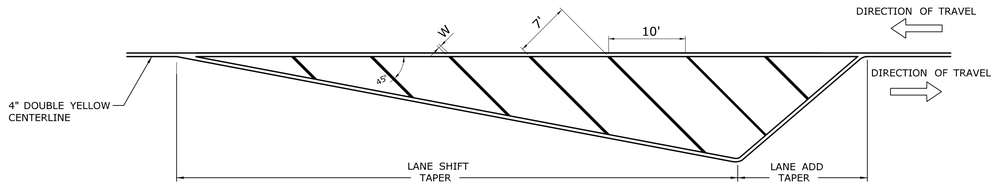
STANDARD SHEET TITLE:

# METAL SIGN POSTS AND SIGN MOUNTING DETAILS

GUIDE SHEET NO.:

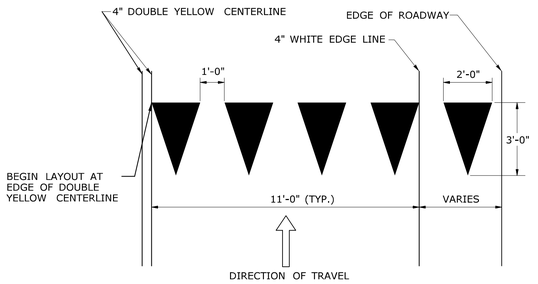
**TR-1208_02**



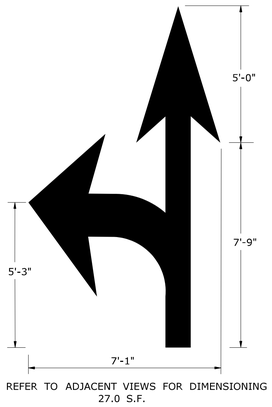




CROSS HATCHED ISLAND DETAIL
(YELLOW)

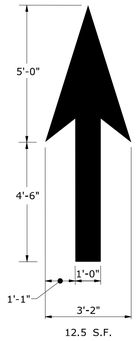
W IS TO BE 6" WHEN POSTED SPEED ≤ 45 MPH
W IS TO BE 12" WHEN POSTED SPEED > 45 MPH
CROSS HATCHED ISLANDS ARE TO BE INSTALLED WHERE CALLED FOR ON THE PLANS



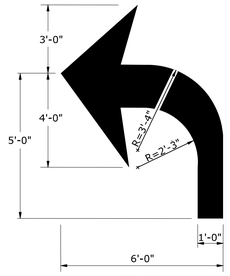

YIELD LINE DETAIL
(WHITE)




REFER TO ADJACENT VIEWS FOR DIMENSIONING
27.0 S.F.




12.5 S.F.



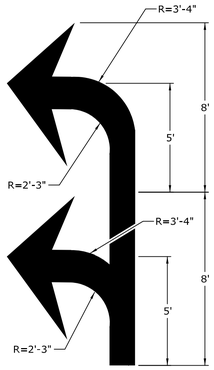

15.5 S.F.



27.0 S.F.
LEFT & RIGHT
ARROW COMBO

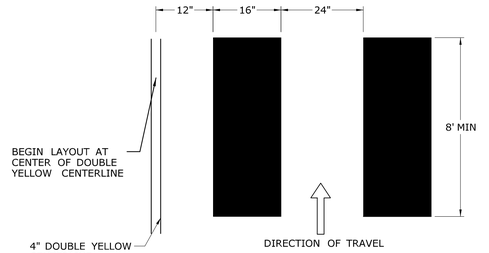


38.5 S.F.
3 WAY ARROW
COMBO




35 S.F.
DOUBLE LEFT
ARROW

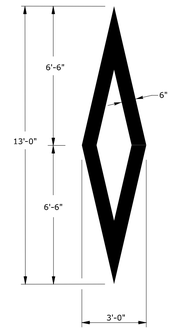
PAVEMENT ARROW DETAILS
(WHITE)
ARROWS SHALL BE CENTERED IN TRAVEL LANE



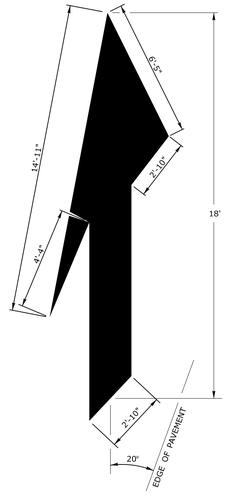

CROSSWALK DETAIL
(WHITE)

NOTES :

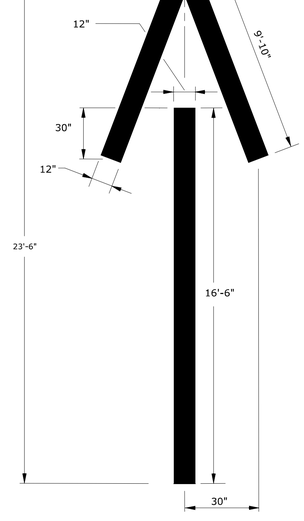
1. AREA OF PAVEMENT MARKINGS AS INDICATED IS APPROXIMATE.
2. RIGHT TURN PAVEMENT MARKING ARROWS ARE MIRROR IMAGE OF LEFT TURN PAVEMENT MARKING ARROWS.




WHITE PREFERENTIAL
LANE SYMBOL
13.0 S.F.




WHITE LANE
REDUCTION ARROW
41.8 S.F.




WHITE WRONG WAY
PAVEMENT ARROW
36.2 S.F.

| REV. | DATE | REVISION DESCRIPTION |
|---|---|---|
| 1 | 8-2018 | REMOVED ROUNDABOUT MARKINGS. |

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Plotted Date: 8/10/2018

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: TR-1210_04.dgn Model: CT_Civil_2D_Sheet

SUBMITTED BY: NAME/DATE/TIME:
Mark F. Makuch, P.E.
2018.08.17 09:07:44-04'00'

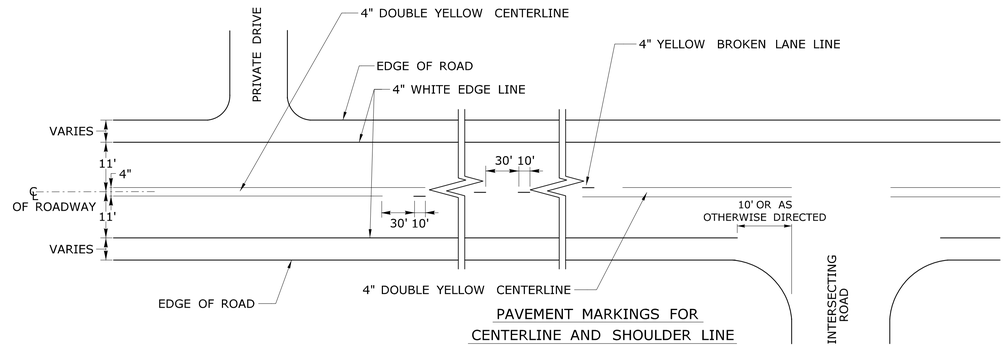
APPROVED BY: NAME/DATE/TIME:
Mark F. Carlino, P.E.
2018.08.21 07:48:45-04'00'

CTDOT
STANDARD SHEET

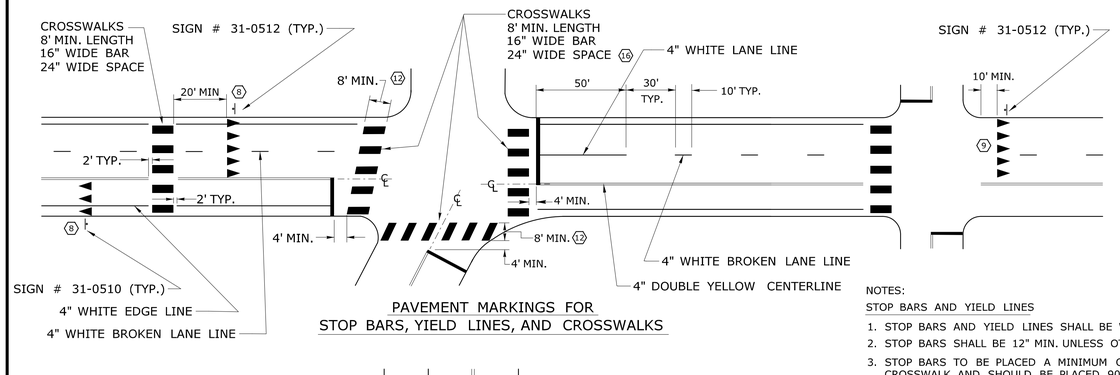
OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
PAVEMENT MARKING
LINES AND SYMBOLS

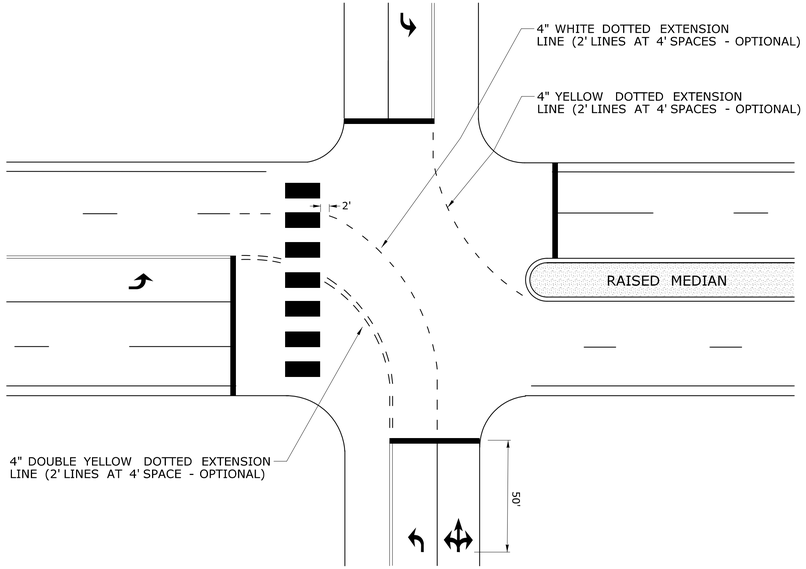
STANDARD SHEET NO.:
TR-1210_04




PAVEMENT MARKINGS FOR
CENTERLINE AND SHOULDER LINE




PAVEMENT MARKINGS FOR
STOP BARS, YIELD LINES, AND CROSSWALKS




TURNING EXTENSIONS

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. TO
4. IN THE ABSENCE OF A MARKED CROSSWALK THE STOP BAR SHOULD BE PLACED 90° 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 RAMPS SEE DETAILS "R", "S", "T", & "U" AND NOTES ON TRAFFIC STANDARD SHEET TR-1210 07 "PAVEMENT MARKINGS FOR DIVIDED HIGHWAYS EXIT RAMPS".
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 SHALL BE INSTALLED AND SHOULD BE LOCATED 20 TO 50 FEET IN ADVANCE OF THE NEAREST CROSSWALK LINE OR AS DIRECTED BY THE ENGINEER.
WHERE A YIELD LINE EXISTS ON AN APPROACH TO A CROSSWALK, THE APPROAPRIATE "YIELD TO PEDESTRIANS" SIGN 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.

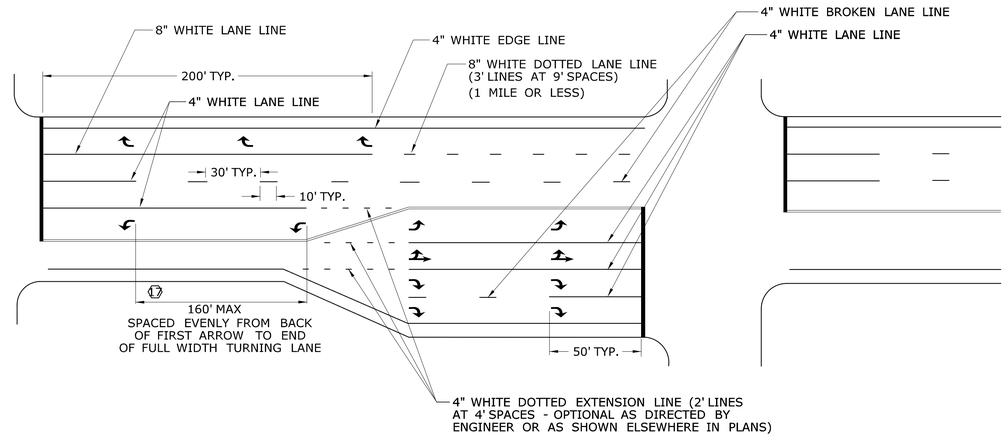
(12) AT LOCATIONS WHERE THE CROSSWALK IS SKEWED, BARS TO BE PARALLEL TO ℄ AND ENDS OF BARS TO BE PARALLEL. THE LENGTH OF THE BARS WILL VARY DEPENDING ON THE ANGLE OF SKEW.

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.

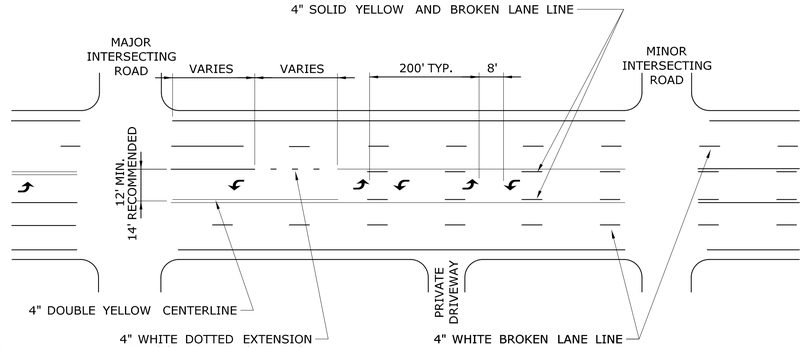
(16) 24" WIDE SPACE TO BE CENTERED ON YELLOW CENTERLINE.

PAVEMENT MARKINGS FOR TURNING LANES

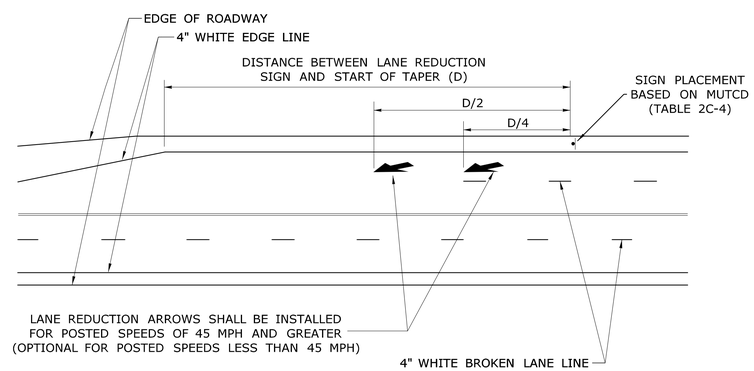
(17) INSTALL AT LEAST TWO ARROWS PER LANE WHERE STORAGE LENGTH IS GREATER THAN 150 FEET.




PAVEMENT MARKINGS FOR TURNING LANES
AND ROAD LANE-DROP




TWO-WAY LEFT-TURN MARKINGS APPLICATIONS




LANE REDUCTION TRANSITIONS

| REV. | DATE | REVISION DESCRIPTION |
|---|---|---|
| 1 | 8-2018 | REVISED YIELD LINE SIGNAGE AND NOTES. |

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: 8/10/2018

NOT TO SCALE

**STATE OF CONNECTICUT**
**DEPARTMENT OF TRANSPORTATION**

Filename: TR-1210_08.DGN Model: TR-1210_05

| SUBMITTED BY: | NAME/DATE/TIME: |
|---|---|
| Mark Makuch | Mark F. Makuch, P.E. 2018.08.17 09:10:18-04'00' |
| APPROVED BY: | NAME/DATE/TIME: |
| | Mark F. Carlino, P.E. 2018.08.21 07:49:18-04'00' |

**CTDOT STANDARD SHEET**

**OFFICE OF ENGINEERING**

STANDARD SHEET TITLE:

# PAVEMENT MARKINGS FOR NON FREEWAYS

STANDARD SHEET NO.:

**TR-1210_08**

## E5 - SERIES

ES-1

EXIT

COPY & BORDER - WHITE
BACKGROUND - GREEN

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | | | | |
| | 16.0 | 48 | 51-6147 | 2 |

## 16 - SERIES

CONSTRUCTION AHEAD
ROAD USE RESTRICTED
STATE LIABILITY LIMITED
GENERAL STATUTES SEC 13a-115, 13a-145
COMMISSIONER OF TRANSPORTATION

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| 16-M | 5.0 | 30X24 | 80-1613 | 1 |
| 16-H | 17.5 | 60X42 | 80-1608 | 2 |
| 16-E | 35.0 | 84X60 | 80-1605 | 2 |

CONSTRUCTION AHEAD
SIDEWALK USE RESTRICTED
STATE LIABILITY LIMITED
GENERAL STATUTES SEC 13a-115, 13a-145
COMMISSIONER OF TRANSPORTATION

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| 16-S | 10.0 | 48X30 | 80-1619 | 2 |

## G20 - SERIES

G20-2a

END
ROAD WORK

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 8.0 | 48X24 | 80-9612 | 2 |

ROAD WORK
NEXT 0 MILE(S)
BE PREPARED
TO STOP

VARIABLE MILEAGE

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 90.0 | 120X108 | 80-9728 | |

WORK AREA
BE PREPARED
TO STOP

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 9.0 | 36 | 80-9711 | 1 |
| | 16.0 | 48 | 80-9712 | 2 |

NEXT 0 MILES

VARIABLE MILEAGE

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 7.0 | 72X14 | 80-9720 | |

BUSINESS ACCESS

VARIABLE ARROW
COPY & BORDER - WHITE
BACKGROUND - BLUE

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 9.0 | 36 | 50-5934 | 2 |

## M4 - SERIES

M4-8

DETOUR

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 2.0 | 24X12 | 80-9707 | 1 |

M4-8a

END
DETOUR

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 3.0 | 24X18 | 80-9708 | 1 |

M4-10

(R) DETOUR
(L) DETOUR

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 6.0 | 48X18 | 80-9701R | 2 |
| | 6.0 | 48X18 | 80-9702L | 2 |

DETOUR

VARIABLE ARROW

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 5.0 | 30X24 | 80-9710 | 1 |

M4-9b

DETOUR

VARIABLE ARROW

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 5.0 | 30X24 | 80-9703 | 1 |

M4-9b

DETOUR

VARIABLE ARROW

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 6.25 | 24X18 | 80-9706 | 1 |

## R4 - SERIES

R4-7

COPY & BORDER - BLACK
BACKGROUND - WHITE

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 5.0 | 24X30 | 31-1526 | 1 |

R4-9

STAY IN LANE

COPY & BORDER - BLACK
BACKGROUND - WHITE

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 5.0 | 24X30 | 31-1517 | 1 |
| | 12.0 | 36X48 | 31-1518 | 1 |
| | 20.0 | 48X60 | 31-1519 | 2 |

## R1 - SERIES

R1-1

STOP

COPY & BORDER - WHITE
BACKGROUND - RED

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 5.19 | 30 | 31-0552 | 1 |
| | 13.30 | 48 | 31-0557 | 2 |

R1-2

YIELD

COPY & BORDER - RED
BACKGROUND - WHITE

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 3.90 | 36 | 31-0523 | 1 |
| | 10.83 | 60 | 31-0528 | 2 |

## R9 & R11 - SERIES

R9-9

SIDEWALK CLOSED

COPY & BORDER - BLACK
BACKGROUND - WHITE

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 3.75 | 30X18 | 80-9076 | 1 |

R9-11

SIDEWALK CLOSED AHEAD
CROSS HERE

VARIABLE ARROW
COPY & BORDER - BLACK
BACKGROUND - WHITE

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 3.0 | 24X18 | 80-9074 | 1 |

R9-11a

SIDEWALK CLOSED
CROSS HERE

VARIABLE ARROW
COPY & BORDER - BLACK
BACKGROUND - WHITE

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 2.0 | 24X12 | 80-9075 | 1 |

R11-2

ROAD CLOSED

COPY & BORDER - BLACK
BACKGROUND - WHITE

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 10.0 | 48X30 | 80-9080 | 2 |

R11-3a

ROAD CLOSED
00 MILES AHEAD
LOCAL TRAFFIC ONLY

VARIABLE MILEAGE
COPY & BORDER - BLACK
BACKGROUND - WHITE

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 12.5 | 60X30 | 80-9077 | 2 |

R11-3b

BRIDGE CLOSED
00 MILES AHEAD
LOCAL TRAFFIC ONLY

VARIABLE MILEAGE
COPY & BORDER - BLACK
BACKGROUND - WHITE

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 12.5 | 60X30 | 80-9078 | 2 |

R11-3b

ROAD CLOSED TO THRU TRAFFIC

COPY & BORDER - BLACK
BACKGROUND - WHITE

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 12.5 | 60X30 | 80-9081 | 2 |

R11-3b

ROAD WORK AHEAD
FINES DOUBLED

COPY & BORDER - BLACK
BACKGROUND - WHITE

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 14.0 | 48X42 | 31-1906 | 2 |
| | 22.5 | 60X54 | 31-1907 | 2 |

## W1 - SERIES

W1-4

(L) (R)

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 9.0 | 36 | 80-9432L | 1 |
| | 9.0 | 36 | 80-9431R | 1 |
| | 16.0 | 48 | 80-9452L | 2 |
| | 16.0 | 48 | 80-9451R | 2 |

W1-6

(L or R)

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 8.0 | 48X24 | 80-9424 | 2 |
| | 12.5 | 60X30 | 80-9423 | 2 |

W1-8

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 3.0 | 18X24 | 80-9401 | 1 |
| | 5.0 | 24X30 | 80-9403 | 1 |
| | 7.5 | 30X36 | 80-9404 | 1 |

BOTH LANES SHIFT LEFT
AHEAD (L)

BOTH LANES SHIFT RIGHT
AHEAD (R)

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 16.0 | 48 | 80-9433L | 2 |
| | 16.0 | 48 | 80-9435R | 2 |

BOTH LANES SHIFT LEFT
(L)

BOTH LANES SHIFT RIGHT
(R)

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 16.0 | 48 | 80-9434L | 2 |
| | 16.0 | 48 | 80-9436R | 2 |

AHEAD (L) AHEAD (R)

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 25.0 | 60 | 80-9443L | 2 |
| | 25.0 | 60 | 80-9445R | 2 |

W1-4b

(L) (R)

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 25.0 | 60 | 80-9444L | 2 |
| | 25.0 | 60 | 80-9446R | 2 |

AHEAD (L) AHEAD (R)

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 25.0 | 60 | 80-9483L | 2 |
| | 25.0 | 60 | 80-9485R | 2 |

W1-4c

AHEAD (L) AHEAD (R)

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 25.0 | 60 | 80-9484L | 2 |
| | 25.0 | 60 | 80-9486R | 2 |

## W3 - SERIES

W3-1

OCTAGON - RED W/ WHITE BORDER
ARROW & BORDER - BLACK
BACKGROUND - FLUORESCENT ORANGE

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 9.0 | 36 | 80-9050 | 1 |
| | 16.0 | 48 | 80-9051 | 2 |

W3-2

TRIANGLE - RED W/ WHITE BORDER
ARROW & BORDER - BLACK
BACKGROUND - FLUORESCENT ORANGE

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 9.0 | 36 | 80-9054 | 1 |
| | 16.0 | 48 | 80-9055 | 2 |

W3-3

TOP CIRCLE - RED
MIDDLE CIRCLE - YELLOW
BOTTOM CIRCLE - GREEN
COPY & BORDER - BLACK
BACKGROUND - FLUORESCENT ORANGE

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 9.0 | 36 | 80-9052 | 1 |
| | 16.0 | 48 | 80-9053 | 2 |

## W4-W6 - SERIES

W4-2

(L) (R)

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 16.0 | 48 | 80-9918L | 2 |
| | 16.0 | 48 | 80-9917R | 2 |

W6-3

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 16.0 | 48 | 80-9945 | 2 |

## W8-W9 - SERIES

W8-1

BUMP

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 9.0 | 36 | 80-9901 | 1 |
| | 16.0 | 48 | 80-9902 | 2 |

BUMP AHEAD

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 9.0 | 36 | 80-9801 | 1 |
| | 16.0 | 48 | 80-9802 | 2 |

W9-2

LANE ENDS MERGE LEFT (L) LANE ENDS MERGE RIGHT (R)

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 16.0 | 48 | 80-9910L | 2 |
| | 16.0 | 48 | 80-9911R | 2 |

## W13 - SERIES

W13-1

00 M.P.H.

SUBPLATE
VARIABLE SPEED

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 4.0 | 24 | 80-9569 | 1 |
| | 6.25 | 30 | 80-9567 | 1 |

REDUCE SPEED TO 00 MPH

VARIABLE SPEED

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 9.0 | 36 | 80-9506 | 1 |
| | 16.0 | 48 | 80-9508 | 2 |

W3-5

SPEED LIMIT 00

VARIABLE SPEED

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 9.0 | 36 | 80-9520 | 1 |
| | 16.0 | 48 | 80-9521 | 2 |

## W16 - SERIES

W16-15P

NEW

COPY & BORDER - BLACK
BACKGROUND - ORANGE

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 2.0 | 24X12 | 80-9049 | |

## W20 - SERIES

W20-1

ROAD WORK AHEAD

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 6.25 | 30 | 80-9602 | 1 |
| | 9.0 | 36 | 80-9603 | 1 |
| | 16.0 | 48 | 80-9604 | 2 |

W20-1

ROAD WORK 0000 FT

VARIABLE DISTANCE

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 9.0 | 36 | 80-9614 | 1 |
| | 16.0 | 48 | 80-9615 | 2 |

W20-2

DETOUR 1000 FT

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 9.0 | 36 | 80-9805 | 1 |
| | 16.0 | 48 | 80-9806 | 2 |

ONE LANE ROAD AHEAD

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 9.0 | 36 | 80-9834 | 1 |
| | 16.0 | 48 | 80-9835 | 2 |

LEFT LANES CLOSED (L) RIGHT LANES CLOSED (R)

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| (L) | 16.0 | 48 | 80-9836 | 2 |
| (R) | 16.0 | 48 | 80-9839 | 2 |

LEFT TWO LANES CLOSED AHEAD (L) RIGHT TWO LANES CLOSED AHEAD (R)

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| (L) | 16.0 | 48 | 80-9837 | 2 |
| (R) | 16.0 | 48 | 80-9838 | 2 |

LEFT LANE CLOSED AHEAD (L) RIGHT LANE CLOSED AHEAD (R)

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| (L) | 16.0 | 48 | 80-9847 | 2 |
| (R) | 16.0 | 48 | 80-9848 | 2 |

LEFT LANE CLOSED (L) RIGHT LANE CLOSED (R)

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| (L) | 16.0 | 48 | 80-9846 | 2 |
| (R) | 16.0 | 48 | 80-9849 | 2 |

W20-7a

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 9.0 | 36 | 80-9803 | 1 |
| | 16.0 | 48 | 80-9804 | 2 |

SLOW MOVING TRUCKS AHEAD

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 32.0 | 96X48 | 80-9815 | 2 |

W16-9P

AHEAD

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 2.0 | 24X12 | 80-9870 | |
| | 3.75 | 30X18 | 80-9871 | |

W16-3aP

1 MILE

VARIABLE MILEAGE

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 2.5 | 30X12 | 80-9872 | |
| | 4.5 | 36X18 | 80-9873 | |

## W21 - SERIES

W21-6

SURVEY CREW

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 9.0 | 36 | 80-9607 | 1 |

## W22 - SERIES

W22-1

BLASTING ZONE 1000 FT

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 9.0 | 36 | 80-9620 | 1 |
| | 16.0 | 48 | 80-9625 | 2 |

W22-2

TURN OFF 2-WAY RADIO AND CELL PHONE

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 10.5 | 42X36 | 80-9623 | 2 |

W22-3

END BLASTING ZONE

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 10.5 | 42X36 | 80-9621 | 2 |

(VARIABLE LEGEND)

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 4.17 | 60X10 | 80-9913 | 2 |
| | 12.0 | 96X18 | 80-9914 | 2 |
| | 3.33 | 48X10 | 80-9916 | 2 |

BLANK OR
VARIABLE LEGEND

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 9.0 | 36 | 80-9933 | 1 |
| | 16.0 | 48 | 80-9934 | 2 |

USE SHOULDER

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 16.0 | 48 | 80-9956 | 2 |

(VARIABLE LEGEND)

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 12.5 | 60X30 | 80-9928 | 2 |
| | 24.0 | 72X48 | 80-9929 | 2 |

SHOULDER CLOSED AHEAD (1) SHOULDER CLOSED (2)

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| (1) | 16.0 | 48 | 80-9957 | 2 |
| (2) | 9.0 | 36 | 80-9958 | 1 |
| (2) | 16.0 | 48 | 80-9959 | 2 |

## STOP-SLOW PADDLE

SIDE A STOP SIDE B SLOW

SIDE A
BACKGROUND - RED
COPY & BORDER - WHITE
SIDE B
BACKGROUND - ORANGE
COPY & BORDER - BLACK PLAIN

| | AREA (SQ. FT) | SIZE (INCHES) | CONN. D.O.T. # | POSTS |
|---|---|---|---|---|
| | 2.25 | 18 | 80-9950 | PADDLE |

NOTES:
1. R1-SERIES SIGN THE LEGEND "O.S.T.A." SHALL APPEAR.
2. POSTS - SEE STANDARD SHEET TR-1208_02 - "METAL SIGN POSTS AND SIGN MOUNTING DETAILS".
3. POSTS SHALL BE 4 LBS./FT.
4. ALL POSTS NOTED ARE FOR LONG TERM INSTALLATION. SEE STANDARD SHEET TR-1208_02.
5. FOR TEMPORARY SUPPORTS SEE STANDARD SHEET TR-1220_02 - "CONSTRUCTION SIGN SUPPORTS AND CHANNELIZING DEVICES".
6. FOR SPECIFIC SIGN DESIGN, CONTACT CONN. D.O.T., DIVISION OF TRAFFIC ENGINEERING. FOR BOLT HOLE PATTERN REFER TO FHWA PUBLICATION "STANDARD HIGHWAY SIGNS". SIGNS OF DIFFERENT DIMENSIONS TO BE ERECTED ON THE SAME POSTS, OR SPAN/MAST ARM MOUNTED, MAY REQUIRE SPECIAL BOLT HOLE PATTERNS.
7. ALL CONSTRUCTION SIGNS TO BE PAID FOR UNDER THE CONSTRUCTION SIGNS ITEM IN THE CONTRACT.
8. MATERIALS & COLORS SHALL CONFORM TO STATE SPECIFICATIONS.

MATERIALS:
SIGNS AND THEIR PORTABLE SUPPORTS SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 2 DEVICES. ALUMINUM THICKNESS FOR POST MOUNTED SIGNS SHALL BE .100" EXCEPT SIGN #s. 80-1605, 80-9914, 80-9815, 80-9728, 80-9519, & 51-6147 (L OR R) WHICH SHALL BE .125", PLYWOOD THICKNESS FOR POST MOUNTED SIGNS SHALL BE 1/2" EXTERIOR GRADE A-C OR BETTER. SIGN BLANKS SHALL HAVE ONE COAT OF PRIMER PAINT PRIOR TO APPLICATION OF RETROREFLECTIVE SHEETING & COPY.

COLORS:
BACKGROUND - FLUORESCENT ORANGE - EXCEPT AS NOTED.
LEGEND - BLACK - EXCEPT AS NOTED.
ALL SIGNS WITH FLUORESCENT ORANGE BACKGROUND TO USE TYPE VIII RETROREFLECTIVE SHEETING.
ALL OTHER SIGNS TO USE TYPE IX RETROREFLECTIVE SHEETING.

| REV. | DATE | REVISION DESCRIPTION |
|---|---|---|
| 6 | 8-2018 | REVISED POST REQUIREMENTS AND SHEETING TYPE. |
| 5 | 8-2015 | UPDATED PER MUTCD AND FORM 816 JAN 2015 REVISION. |
| 4 | 6-2012 | REVISED NOTE #1 TO REFERENCE "O.S.T.A." |
| 3 | 4-2012 | REVISED NEW SIGNAL SIGN(S) TO CONFORM TO 2009 MUTCD. |
| 2 | 2-2011 | MINOR REVISIONS. |
| 1 | 3-2010 | REMOVED OBSOLETE SIGNS (50-5925, 50-5935). |

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: 8/10/2018

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: TR-1220_01_1_2018.dgn Model: TR-1220_01

SUBMITTED BY: Mark F. Makuch, P.E. NAME/DATE/TIME: 2018.08.17 09:11:08-04'00'

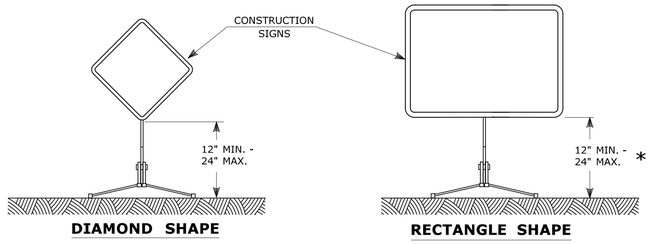
APPROVED BY: Mark F. Carlino, P.E. NAME/DATE/TIME: 2018.08.21 07:49:34-04'00'

CTDOT STANDARD SHEET

OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS

STANDARD SHEET NO.:
TR-1220_01

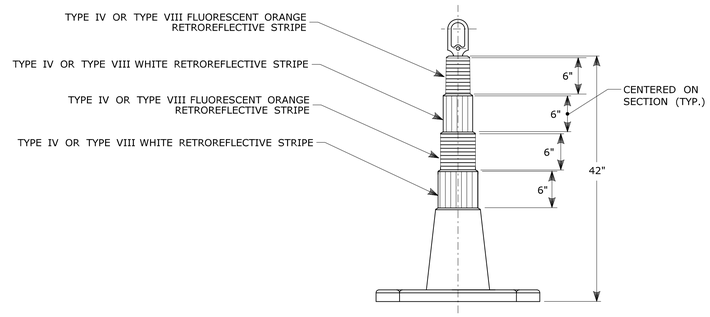



## PORTABLE CONSTRUCTION SIGNS

NOTES FOR PORTABLE SIGN SUPPORTS:

1. SIGNS AND THEIR PORTABLE SUPPORTS SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 2 DEVICES AND THE LATEST EDITION OF THE MUTCD.
2. MOUNTING HEIGHT OF SIGNS SHALL BE A MINIMUM OF 12" AND A MAXIMUM OF 24". SIGNS SHALL BE MOUNTED HIGHER AS NEEDED TO MEET FIELD CONDITIONS OR AS DIRECTED BY THE ENGINEER.
3. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY SUPPORT DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
4. PORTABLE SIGN SUPPORTS SHALL BE STABILIZED IN A MANNER THAT WILL NOT AFFECT THEIR COMPLIANCE WITH NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 2 DEVICES.
5. PORTABLE CONSTRUCTION SIGN SUPPORTS SHOULD NOT BE USED FOR DURATION OF MORE THAN 3 DAYS EXCEPT FOR R9-8 THROUGH R9-11a SERIES, R11 SERIES, W1-6 THROUGH W1-8 SERIES, M4-10, AND E5-1. SEE STANDARD SHEET TR-1220_01 - "SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS" FOR SIGN DETAILS.

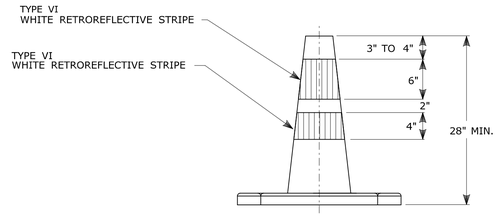
* FOR E5-1 (EXIT SIGNS) USE MIN 48".




## 42" TRAFFIC CONE

NOTES:

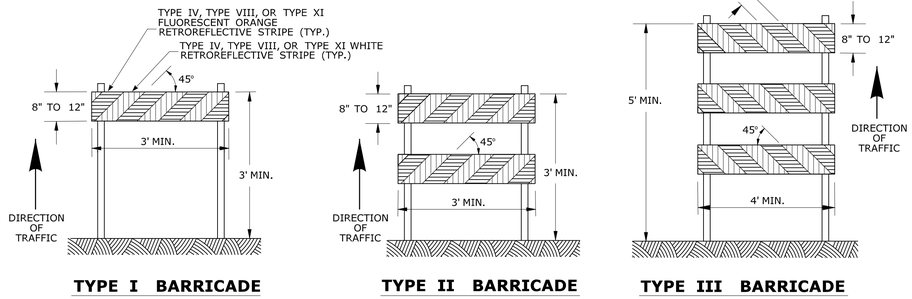
1. TRAFFIC CONES SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 1 DEVICES AND THE LATEST EDITION OF THE MUTCD.
2. IF RUBBER CONES ARE USED, THEY SHALL HAVE INTERIOR RIBS FOR RIGIDITY.
3. IF PLASTIC CONES ARE USED, THEY SHALL BE COLOR IMPREGNATED.
4. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY CONE DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
5. THE ENTIRE AREA OF FLUORESCENT ORANGE AND WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS.
6. THE SECTIONS OF CONES NOT COVERED WITH RETROREFLECTIVE STRIPES SHALL BE ORANGE.




## TRAFFIC CONE

NOTES:

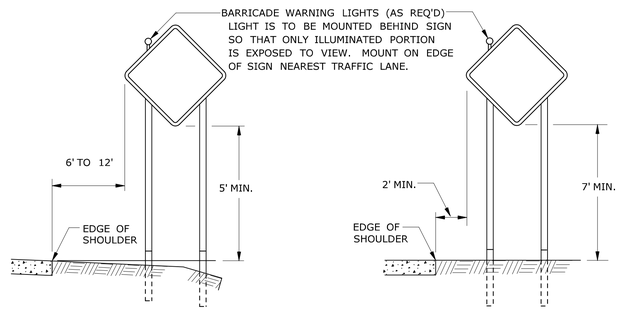
1. TRAFFIC CONES SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 1 DEVICES AND THE LATEST EDITION OF THE MUTCD.
2. IF RUBBER CONES ARE USED, THEY SHALL HAVE INTERIOR RIBS FOR RIGIDITY.
3. IF PLASTIC CONES ARE USED, THEY SHALL BE COLOR IMPREGNATED.
4. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY CONE DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
5. THE ENTIRE AREA OF WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS.
6. TRAFFIC CONES NOT USED AT NIGHT MAY UTILIZE TYPE III SHEETING.
7. THE SECTIONS OF CONES NOT COVERED WITH RETROREFLECTIVE STRIPES SHALL BE ORANGE.




## CONSTRUCTION BARRICADES

NOTES:

1. CONSTRUCTION BARRICADES SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH AND THE LATEST EDITION OF THE MUTCD.
2. MARKINGS FOR BARRICADE RAILS SHALL BE ALTERNATE FLUORESCENT ORANGE AND WHITE STRIPES SLOPING DOWNWARD IN THE DIRECTION TRAFFIC IS TO PASS. 6" WIDE STRIPES SHALL BE USED.
3. THE ENTIRE AREA OF FLUORESCENT ORANGE AND WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS. THE SIDES OF BARRICADES FACING TRAFFIC SHALL HAVE RETROREFLECTIVE RAIL FACES.
4. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY BARRICADE DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
5. CORNERS OF BARRICADE RAILS SHALL BE ROUNDED.
6. SIGNS MAY ONLY BE INSTALLED ON TYPE III BARRICADES AND SHALL BE PLACED SO AS TO COVER NO MORE THAN ONE BARRICADE RAIL.

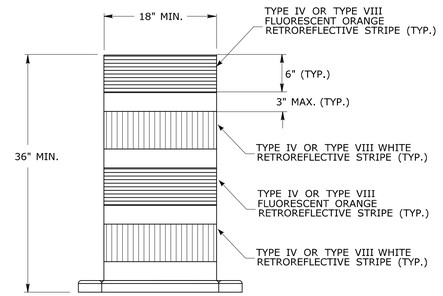



## PLACEMENT OF CONSTRUCTION SIGNS
## TYPICAL LONG TERM INSTALLATION

NOTES:

SUPPORTS SHALL BE METAL SIGN POSTS AND HAVE BREAK-AWAY FEATURES.

REFER TO STANDARD SHEETS:
TR-1208.01 - "SIGN PLACEMENT AND RETROREFLECTIVE STRIP DETAILS."
TR-1208.02 - "METAL SIGN POSTS AND SIGN MOUNTING DETAILS."




## TRAFFIC DRUM
## FRONT VIEW

NOTES:

1. TRAFFIC DRUM SHALL CONFORM TO THE REQUIREMENTS OF NCHRP REPORT 350 (TL-3) OR THE AASHTO MASH FOR CATEGORY 1 DEVICES AND THE LATEST EDITION OF THE MUTCD.
2. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY DRUM DEEMED UNSUITABLE FOR THE PURPOSE INTENDED.
3. THE ENTIRE AREA OF FLUORESCENT ORANGE AND WHITE STRIPES SHALL BE RETROREFLECTIVE SHEETING AS REQUIRED IN THE SPECIFICATIONS.
4. THE SECTIONS OF DRUMS NOT COVERED WITH RETROREFLECTIVE STRIPES SHALL BE ORANGE.

| REV. | DATE | REVISION DESCRIPTION |
|---|---|---|
| 3 | 8-2018 | UPDATED SHEETING TYPE AND COLOR. |
| 2 | 8-2015 | UPDATED PER MUTCD AND FORM 816 JAN 2015 REVISION. |
| 1 | 2-2011 | MINOR REVISIONS. |

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Plotted Date: 8/10/2018

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: TR-1220_02_3_2018.dgn Model: TR-1220_02

SUBMITTED BY: NAME/DATE/TIME:
Mark F. Makuch, P.E. 2018.08.17 09:12:43-04'00'

APPROVED BY: NAME/DATE/TIME:
Mark F. Carlino, P.E. 2018.08.21 07:49:51-04'00'

CTDOT STANDARD SHEET

OFFICE OF ENGINEERING

STANDARD SHEET TITLE:
# CONSTRUCTION SIGN SUPPORTS AND CHANNELIZING DEVICES

STANDARD SHEET NO.:
TR-1220_02