

GEAUGA COUNTY ENGINEER'S OFFICE

RC-CHA-V-2026

THE RECONSTRUCTION AND ASPHALT RESURFACING OF VARIOUS ROADS

WINTERGREEN DRIVE TR-0395
CRESTRIDGE DRIVE TR-0396
NORTH/SOUTH WINTERGREEN DRIVE TR-0397
WOODVIEW DRIVE TR-0055
HAWTHORNE DRIVE TR-0529

CHARDON TOWNSHIP, GEAUGA COUNTY

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PROJECT DESCRIPTION

RECONSTRUCTION OF 0.78 MILES OF ROADWAY INCLUDING PAVEMENT EXCAVATION, CEMENT STABILIZATION, DRIVEWAY REMOVAL AND REPLACEMENT, 4" OF ASPHALT BASE, 2" OF ASPHALT INTERMEDIATE, AND 1.25" OF ASPHALT SURFACE

RESURFACING OF 0.25 MILES OF ROADWAY. INCLUDING 2" OF ASPHALT INTERMEDIATE, AND 1.25" OF ASPHALT SURFACE

2023 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT EXCEPT AS MODIFIED BY THE FOLLOWING DOCUMENTS PUBLISHED BY GEAUGA COUNTY:

2026 STANDARD CONTRACT PROVISIONS FOR IMPROVEMENT PROJECTS
2026 MODIFICATIONS TO OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION & MATERIAL SPECIFICATIONS

APPROVED BY CHARDON TOWNSHIP BOARD OF TRUSTEES

Michael Brown
MICHAEL BROWN

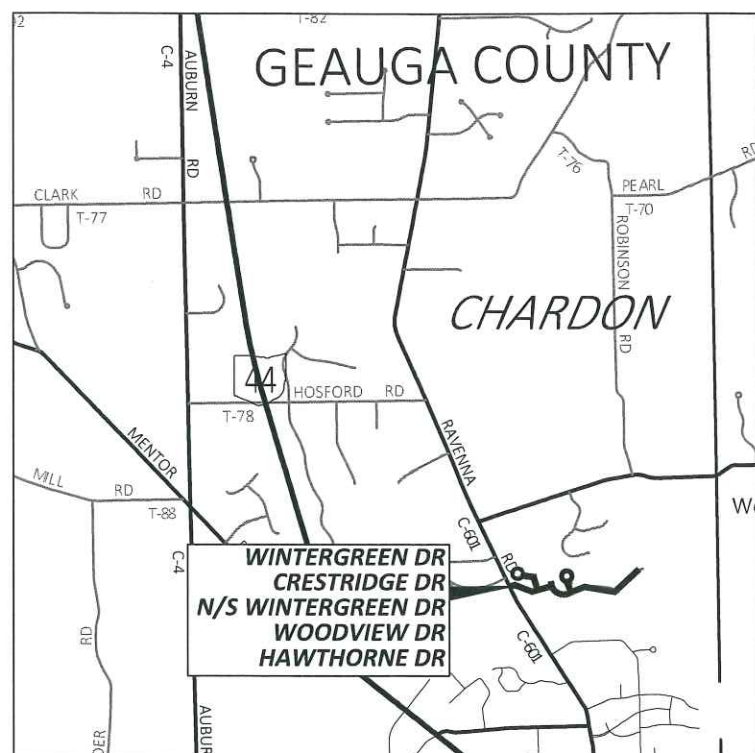
Jacob Cimperman
JACOB CIMPERMAN

Brian Valletto
BRIAN VALLETTO

04/29/2026
DATE

ENGINEER'S SEAL

Shane Haljar 4/22/26
SIGNED DATE



LOCATION MAP
LATITUDE: 41°35'51" LONGITUDE -81°12'21"



DESIGN DESIGNATION

| | WINTERGREEN | CRESTRIDGE | N/S WINTERGREEN | WOODVIEW | HAWTHORNE |
|---------------------|-------------|------------|-----------------|----------|-----------|
| LENGTH (MILE)..... | 0.23 | 0.17 | 0.38 | 0.08 | 0.17 |
| CURRENT ADT..... | 460 | 125 | 300 | 50 | 75 |
| DESIGN SPEED..... | 25 | 25 | 25 | 25 | 25 |
| LEGAL SPEED..... | 25 | 25 | 25 | 25 | 25 |
| CLASSIFICATION..... | 7 | 7 | 7 | 7 | 7 |

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig

OHIO811, 8-1-1, or 1-800-362-2764 (Non-members must be called directly)

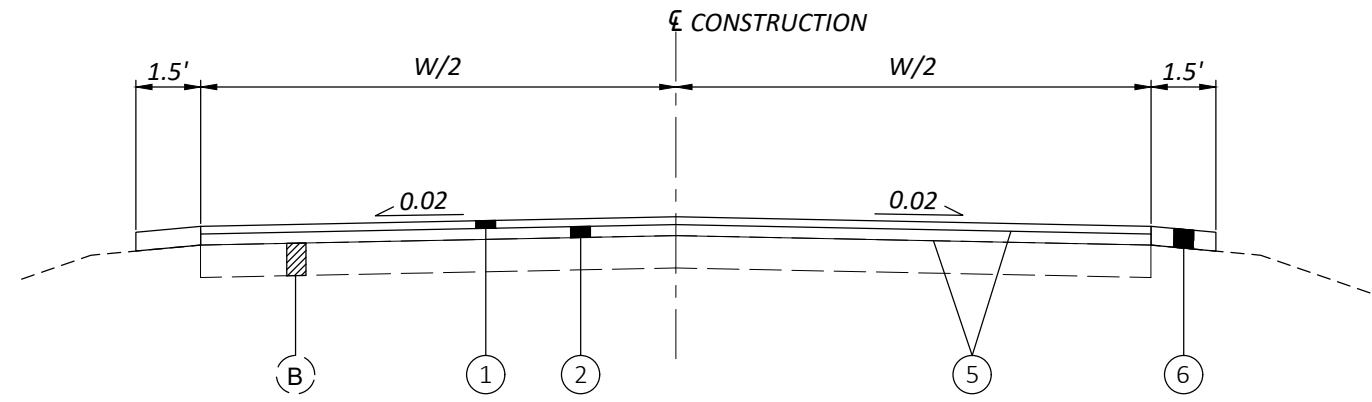
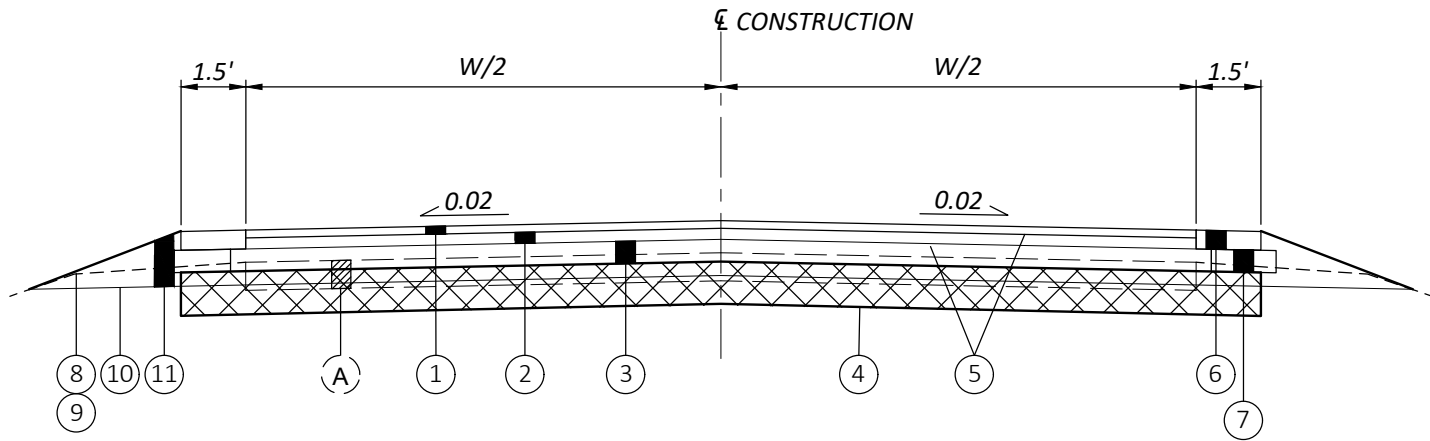
PLAN PREPARED BY:
GEAUGA COUNTY ENGINEER'S OFFICE
12665 MERRITT ROAD
CHARDON, OH 44024

| STANDARD CONSTRUCTION DRAWINGS | | SUPPLEMENTAL SPECIFICATIONS | | SPECIAL PROVISIONS |
|--------------------------------|------------|-----------------------------|------------|--------------------|
| BP-3.1 | 01/19/2024 | 800-2023 | 01/16/2026 | MAILBOX DETAIL |
| BP-4.1 | 07/19/2013 | | | |
| MT-97.12 | 01/16/2026 | | | |
| TC-71.10 | 01/16/2026 | | | |

| | |
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| DESIGNER | HEL |
| REVIEWER | D/M/YY |
| PROJECT ID | RC-CHA-V-2026 |
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THE RECONSTRUCTION AND ASPHALT RESURFACING OF VARIOUS ROADS
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TITLE SHEET



| RECONSTRUCTION SECTION | | | | | |
|------------------------|---------------|----------------|-------------|--------------|-------------------------|
| ROAD NAME | START STATION | END STATION | LENGTH (FT) | W WIDTH (FT) | STA. 0+00 LOCATION |
| WINTERGREEN DRIVE | 0+13 | 12+25 | 1212 | 20 | RAVENNA ROAD (CH-0601) |
| CRESTRIDGE DRIVE | 0+10 | 6+15 | 605 | 18 | WINTERGREEN DRIVE |
| CUL-DE-SAC | 6+15 | 900 | 295 | 18 | - |
| N/S WINTERGREEN DRIVE | -1+20 | 19+15 | 2035 | 19 | CL OF WINTERGREEN DRIVE |
| | | TOTAL = | 4147' | | |

| RESURFACING SECTION | | | | | |
|---------------------|---------------|----------------|-------------|--------------|--------------------|
| ROAD NAME | START STATION | END STATION | LENGTH (FT) | W WIDTH (FT) | STA. 0+00 LOCATION |
| WOODVIEW DRIVE | 0+10 | 1+95 | 185 | 18 | WINTERGREEN DRIVE |
| CUL-DE-SAC | 1+95 | 4+25 | 230 | 18 | - |
| HAWTHORN DRIVE | 0+10 | 9+20 | 910 | 21 | WINTERGREEN DRIVE |
| | | TOTAL = | 1325' | | |

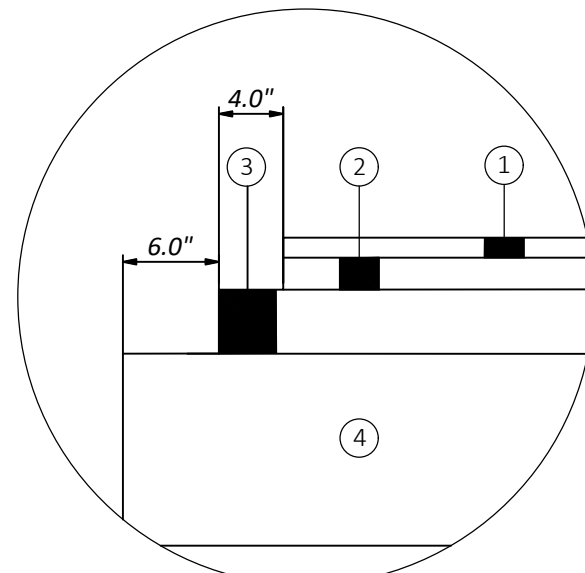
LEGEND

- ① ITEM 441 - 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
- ② ITEM 441 - 2.0" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), PG64-22
- ③ ITEM 301 - 4" ASPHALT CONCRETE BASE, PG64-22, (449)
- ④ ITEM 206 - 12" CEMENT STABILIZED SUBGRADE
- ⑤ ITEM 407 - NON-TRACKING TACK COAT
- ⑥ ITEM 617 - 3.25" COMPACTED AGGREGATE (RAP)
- ⑦ ITEM 617 - 4" COMPACTED AGGREGATE (304 LIMESTONE)
- ⑧ ITEM 653 - TOPSOIL FURNISHED AND PLACED
- ⑨ ITEM 659 - SEEDING AND MULCHING, CLASS 1
- ⑩ ITEM 203 - EXCAVATION
- ⑪ ITEM 203 - EMBANKMENT

- (A) 6"-9" OF EXISTING ASPHALT
- (B) 8"-12" OF EXISTING ASPHALT

NOTES:

EXCAVATION AT 4.25" TYPICALLY
SEE REFERENCES ELEVATION TABLES FOR EXCAVATION DETAILS



DETAIL

TYPICAL SECTIONS - ROAD NAME

| | |
|------------|---------------|
| DESIGNER | HEL |
| REVIEWER | SCO 04/15/26 |
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GENERAL

UTILITIES

THE CONTRACTOR SHALL CONTACT OHIO811 A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO COMMENCING ANY WORK. CALL 8-1-1 OR (800) 362-2764 OR GO TO [HTTPS://OUPS.ORG/](https://oups.org/). LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

GAS: DIVERSIFIED GAS & OIL
1823 OH-14
DEERFIELD, OH 44411
(330) 654-4343

ELECTRIC: ILLUMINATING COMPANY
7755 AUBURN ROAD
CONCORD, OH 44077
(440) 358-4944

GAS: ENBRIDGE GAS OHIO
320 SPRINGSIDE DR
SUITE 320
AKRON, OHIO 44333
(330) 664-2409

CABLE: CHARTER (SPECTRUM)
7820 DIVISION DRIVE
MENTOR, OH 44060
(440) 343-1530

CABLE: KINETIC (FORMERLY WINDSTREAM)
205 S. HAMB DEN STREET
CHARDON, OH 44024
PHONE: (440) 285+5474

SANITARY SEWER / WATER:
GEAUGA COUNTY DEPARTMENT OF WATER RESOURCES
12611 RAVENWOOD DRIVE, SUITE 390
CHARDON, OH 44024
(440) 279-1970

PRIOR TO MOBILIZATION, THE CONTRACTOR SHALL LOCATE EXISTING UTILITIES AS TO LINE AND GRADE WITHIN THE LIMITS OF PREGRIND/STABILIZATION. IF IT IS DETERMINED UTILITIES ARE IN CONFLICT WITHIN THE PREGRIND/STABILIZATION LIMITS THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO ANY WORK AND EXTRA CARE SHALL BE TAKEN WHILE WORKING AROUND THESE UTILITIES. ADDITIONAL DETAIL FOR ODOT ITEM 206 CEMENT STABILIZED SUBGRADE, AS PER PLAN IS PROVIDED.

LOCAL OFFICIALS

THE CONTRACTOR SHALL NOTIFY THE LOCAL FIRE DEPARTMENT, POLICE AND OTHER APPROPRIATE AGENCIES THAT MAY REQUIRE THE USE OF THE ROAD DURING EMERGENCY SITUATIONS. IF ANY AREA BECOMES INACCESSIBLE AT ANY TIME, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE AGENCIES OF THESE LOCATIONS. THE CONTRACTOR SHALL SCHEDULE HIS WORK AND COORDINATE WITH LOCAL SCHOOLS AS LISTED BELOW TO ACCOMMODATE THE PICK-UP AND DELIVERY OF SCHOOL STUDENTS IF APPLICABLE.

GEAUGA COUNTY SHERIFF STATE HIGHWAY PATROL
12450 MERRITT ROAD 530 CENTER STREET
CHARDON, OH 44024 CHARDON, OH 44024
(440) 279-2009 (440) 286-6612

GEAUGA TRANSIT THE METZENBAUM CENTER
12555 MERRITT ROAD 8200 CEDAR ROAD
CHARDON, OH 44024 CHESTERLAND, OH 44026
(440) 279-2150 (440) 729-9406

USPS - CHARDON CHARDON LOCAL
150 CENTER STREET SCHOOL DISTRICT
CHARDON, OH 44024 428 NORTH STREET
(440) 286-5601 CHARDON, OH 44024
(440) 285-4052

CHARDON TOWNSHIP CHARDON FIRE DEPT.
ROAD DEPT. 110 SOUTH
9949 MENTOR ROAD HAMB DEN STREET
CHARDON, OH 44024 CHARDON, OH 44024
(440) 285-9002 (440) 285-4665

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE CONTRACTORS MONTHLY INVOICES.

PRECONSTRUCTION MEETING

A PRE-CONSTRUCTION CONFERENCE WILL BE SCHEDULED BY THE ENGINEER WITH THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT A DETAILED SCHEDULE OF OPERATIONS FOR APPROVAL 24 HOURS PRIOR TO THE PRE-CONSTRUCTION MEETING. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST SEVEN (7) DAYS IN ADVANCE OF THE BEGINNING OF CONSTRUCTION, SO THE ENGINEER MAY SCHEDULE THE INSPECTION.

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON THIS PROJECT. SEE SHEET 12, 14, AND 16 OF THE PLANS FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING.

PRIMARY PROJECT CONTROL

POSITIONING METHOD: STATIC GNSS
MONUMENT TYPE: A

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: GEOID18(CONUS)

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83(2011) (EPOCH 2010.0)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: ODOT LOW DISTORTION MAP
PROJECTION-GEAUGA
ORIGIN OF COORDINATE SYSTEM: 0,0

USE THE POSITIONING METHOD AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 823.

UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.280833333 U.S. SURVEY FEET.

GENERAL NOTES

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|------------|---------------|
| DESIGNER | HEL |
| REVIEWER | SCO 04/15/26 |
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SEQUENCE OF CONSTRUCTION

UNLESS APPROVED BY THE ENGINEER, THE CONTRACTOR SHALL PLAN AND PROSECUTE THE WORK IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION:

1. SUBGRADE MATERIAL TESTING
2. PRE-CONSTRUCTION MEETING
3. CONSTRUCTION LAYOUT STAKES AND SURVEYING
4. TRAFFIC MAINTENANCE INSTALL / MOBILIZATION
5. TEMPORARY MAILBOX RELOCATION
6. PAVEMENT REMOVED DRIVEWAYS
7. PRE-GRIND / EXCAVATION / SUBGRADE PREPARATION
8. TEST ROLLING
9. CEMENT STABILIZATION
10. PROOF ROLLING
11. PAVEMENT REPAIRS
12. ASPHALT CONCRETE BASE COURSE
13. DRIVEWAY APRONS (BASE ASPHALT)
14. COMPACTED AGGREGATE BERM (304 LIMESTONE)
15. ASPHALT CONCRETE INTERMEDIATE COURSE
16. DRIVEWAY APRONS (SURFACE COURSE)
17. ASPHALT CONCRETE SURFACE COURSE
18. COMPACTED AGGREGATE BERM (RAP)
19. FINAL MAILBOX ADJUSTMENT
20. TOPSOIL AND SEEDING/MULCHING
21. INCIDENTALS / PUNCH LIST

ROADWAY

ITEM 201 - CLEARING AND GRUBBING

THIS ITEM SHALL INCLUDE ALL COSTS ASSOCIATED WITH THE CLEARING AND GRUBBING WITHIN THE PROJECT CONSTRUCTION LIMITS, GENERALLY THREE (3) FEET FROM THE EXISTING EDGE OF PAVEMENT. EXISTING GRASS, TOPSOIL, BRUSH, OVERHANGING BRANCHES, AND OTHER ORGANIC MATERIAL WITHIN THE WORK LIMITS SHALL BE REMOVED FROM SITE BY THE CONTRACTOR. ANY REMAINING STUMPS OR PORTIONS OF STUMPS, ROOTS, TOPSOIL, OR OTHER ORGANIC MATERIAL SHALL BE REMOVED BY THE CONTRACTOR.

ANY LANDSCAPING, FLOWER BEDS, ROCK GARDENS, PLANTERS, MASONRY PAVERS, AND OTHER ORNAMENTAL OBJECTS IN DIRECT CONFLICT WITH THE WORK SHALL BE REMOVED FROM THE CONSTRUCTION LIMITS INCLUDING ALONG DRIVEWAY APRONS.

ITEM 202 - PAVEMENT REMOVED (DRIVEWAYS)

THE CONTRACTOR SHALL REMOVE PAVEMENT AT LOCATIONS MARKED BY THE ENGINEER. A FULL-DEPTH SAW-CUT SHALL BE MADE AT THE REMOVAL LIMITS FOR ASPHALT DRIVEWAYS AND A FULL DEPTH DOUBLE SAW-CUT SHALL BE MADE AT THE REMOVAL LIMITS FOR CONCRETE DRIVEWAYS. CARE SHALL BE TAKEN TO NOT DAMAGE ADJACENT PAVEMENT. THE TRENCH LEFT BY THE REMOVAL OPERATION SHALL BE TEMPORARILY FILLED WITH SUITABLE MATERIAL IN ORDER TO MAINTAIN ACCESS. PAVEMENT REMOVAL LIMITS WILL BE CLEARLY MARKED BY THE ENGINEER.

THE COST TO SAWCUT, REMOVE ASPHALT AND SUBGRADE MATERIALS TO THE PROPER DEPTH, REMOVE WASTE MATERIALS, SUBGRADE COMPACTION, TEMPORARY MATERIALS FOR ACCESS RAMPS AND MAINTENANCE SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM. INSTALL ACCESS RAMPS AT THE TIME OF THE REMOVAL OF THE ASPHALT.

ITEM 202 - WEARING COURSE, AS PER PLAN

BUTT JOINTS, PER ODOT SCD BP-3.1, THE EXACT LOCATIONS OF ALL BUTT JOINTS WILL BE MARKED IN THE FIELD BY THE ENGINEER. THE EXISTING PAVEMENT SHALL BE GROUND TRANSVERSELY, USING A SELF-PROPELLED GRINDER AS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL REMOVE ALL GRINDINGS FROM THE JOB SITE AND THOROUGHLY SWEEP THE ROADWAY BEFORE OPENING IT UP TO TRAFFIC.

ITEM 202 - MONUMENT ASSEMBLY REMOVED

THE CONTRACTOR SHALL REMOVE EXISTING MONUMENTS WITHIN THE PROJECT LIMITS. PRIOR TO REMOVAL OF THE MONUMENT, THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR VERIFICATION THAT ALL MONUMENTS HAVE BEEN PROPERLY REFERENCED TO BE RESET (BY OTHERS).

ITEM 203 - EXCAVATION

THIS ITEM SHALL CONSIST OF EXCAVATING ALL MATERIALS TO THE LINES AND GRADES SHOWN IN THE PLANS. THIS WORK IS PRIMARILY EXCAVATION OF THE PREGROUND MAINLINE PAVEMENT AND ADJACENT SUBGRADE. ALL SUITABLE MATERIAL EXCAVATED FROM THE SITE SHALL BE RETAINED AND USED FOR ITEM 203 EMBANKMENT. THIS ITEM SHALL INCLUDE TEMPORARY STOCKPILING OF MATERIAL UNTIL IT CAN BE PLACED IN EMBANKMENT AREAS. IF STOCKPILING IS REQUIRED, THE MATERIAL SHALL BE PROPERLY HANDLED TO AVOID PONDING WATER OR SEDIMENT LADEN RUNOFF.

FOR THE BRIDGE LOCATED ROUGHLY FROM STATION 1+00 TO STATION 1+25 ON WINTERGREEN DRIVE, THE CONTRACTOR SHALL FULLY EXPOSE THE TOP OF THE BRIDGE DECK. CONTRACTOR SHALL PROVIDED A MINIMUM PERIOD OF FORTY-EIGHT (48) HOURS TO ALLOW THE ENGINEER'S OFFICE TO INSPECT THE CONDITION AND PERFORM ANY WORK ON THE BRIDGE DECK PRIOR TO ANY CEMENT STABILIZATION WORK AROUND THE BRIDGE

THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE OF THE ROADWAY THROUGHOUT EARTHWORK OPERATIONS. THIS INCLUDES CUTTING WIDE WEEP SLOTS AT REGULAR INTERVALS ALONG THE SHOULDER, SO RUNOFF DRAINS INTO THE DITCHES.

THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ANY EXCAVATED MATERIAL THAT IS NOT SUITABLE FOR USE AS EMBANKMENT, AS DIRECTED BY THE ENGINEER. ALL HAULING AND HANDLING COSTS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR EXCAVATION.

ITEM 203 - EMBANKMENT

THIS ITEM SHALL CONSIST OF PLACING AND COMPACTING SUITABLE EMBANKMENT MATERIAL IMPORTED AND GENERATED DURING EXCAVATION TO THE LINE AND GRADES SHOWN IN THE PLANS. ALL COSTS ASSOCIATED WITH COMPACTION TESTING SHALL BE INCLUDED IN THIS LINE ITEM.

ITEM 204 - EXCAVATION OF SUBGRADE, AS PER PLAN

MATERIAL IDENTIFIED AS UNSUITABLE SHALL BE EXCAVATED AND DISPOSED OF. THE EXCAVATION SHALL BE PROPERLY QUANTIFIED PRIOR TO BACKFILLING WITH AN ENGINEER APPROVED MATERIAL (304 OR NO. 1 & 2 STONE). ALL COSTS FOR THE MATERIAL, LABOR, EQUIPMENT, REMOVAL, DISPOSAL, BACKFILL AND COMPACTION NECESSARY TO PERFORM THIS WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THIS ITEM.

IF SO DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL INSTALL UNDERDRAINS AND PROVIDE POSITIVE DRAINAGE TO THE NEAREST STORM PIPE, DITCH, OR DRAINAGE STRUCTURE. THIS WORK WILL BE PAID UNDER ITEM 605 4" BASE PIPE UNDERDRAIN.

ITEM 206 - SUBGRADE PREPARATION, AS PER PLAN

PRIOR TO BEGINNING THE CEMENT STABILIZATION OPERATION, THE CONTRACTOR SHALL PRE-GRIND THE EXISTING ROADWAY AND BASE MATERIAL AT A MINIMUM DEPTH OF TWELVE INCHES (12"). THE CONTRACTOR SHALL SCARIFY THE EXISTING ROAD SURFACE, BASE AND SUBBASE AT THE DEPTH SPECIFIED AND DISTRIBUTE THE MATERIAL GENERATED TO GRADES, WIDTHS AND DEPTHS PROVIDED IN THE PLANS. THE CONTRACTOR MAY BE REQUIRED TO USE SCARIFYING OR OTHER GRINDING-TYPE EQUIPMENT TO PROPERLY LOOSEN MATERIAL OF THE EXISTING ROAD SURFACE AND BASE FOR THE GRADING WORK. THIS WORK SHALL BE PERFORMED ONE LANE AT A TIME IN ORDER TO MAINTAIN RESIDENTIAL TRAFFIC.

THIS WORK MAY REQUIRE THE MOVING OF MATERIALS FOR A DISTANCE UP TO ONE-QUARTER MILE AS DESCRIBED IN THE DESCRIPTION OF WORK. THE EXISTING SUBGRADE SHALL BE GRADED TO THE TOLERANCES SPECIFIED IN ODOT 203.08 IN CONJUNCTION WITH THE EXCAVATION AND EMBANKMENT WORK. PRE-GRIND WORK WILL USUALLY REQUIRE A SEPARATE MOBILIZATION IN ADDITION TO THE MOBILIZATION REQUIRED TO PERFORM THE SUBGRADE PREPARATION AND STABILIZATION WORK.

ITEM 206 - PORTLAND CEMENT

THE CONTRACTOR SHALL PERFORM CEMENT STABILIZED SUBGRADE BY PLACING CEMENT AT THE RATIOS ESTABLISHED BY THE MIXTURE DESIGN AND TEST ROLLING. CEMENT SHALL BE MIXED, SHAPED, COMPACTED, FINE GRADED, AND FINISHED TO THE PROPOSED STABILIZED SUBGRADE ELEVATIONS. THE ENGINEER HAS ESTIMATED THE CEMENT QUANTITY FOR THIS PROJECT BASED UPON USING SIX (6) PERCENT OF PURE PORTLAND CEMENT MIXED INTO THE SOIL WEIGHING ONE HUNDRED TWENTY POUNDS (120 LBS.) PER CUBIC FOOT. THE AVERAGE DEPTH OF THE CEMENT-STABILIZED SUBGRADE IS TWELVE INCHES (12") WITH SOME AREAS UP TO TWENTY-FOUR INCHES (24").

GENERAL NOTES

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| REVIEWER | SCO 04/15/26 |
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ITEM 206 - CEMENT STABILIZED SUBGRADE, AS PER PLAN

AS APPROVED BY THE ENGINEER AND AFTER TWENTY-FOUR (24) HOURS OF WRITTEN NOTICE TO RESIDENTS, THE ROADWAY MAY BE CLOSED ALONG SHORT SECTIONS TO COMPLETE THE CEMENT STABILIZATION WORK. BOTH LANES SHALL BE COMPLETED AT THE SAME TIME TO ENSURE PROPER GRADING. AT ALL TIMES THE CONTRACTOR SHALL KEEP RESIDENTS NOTIFIED OF CLOSURE LOCATIONS AND KEEP THE DUST TO A MINIMUM. THE SUBGRADE SHALL BE RESHAPED TO THE PLAN LINES PRIOR TO THE MIXTURE OF CEMENT TO PERMIT THE CONSTRUCTION OF A UNIFORM COMPACTED COURSE OF CEMENT TREATED SOIL. THE CEMENT SHALL THEN BE MIXED, SHAPED, COMPACTED, FINE GRADED, AND FINISHED TO THE PROPOSED STABILIZED SUBGRADE ELEVATIONS. PERFORM CEMENT STABILIZATION WORK AT THE THICKNESS AND CROSS SECTION SLOPE TO THE GRADE AS SHOWN ON THE TYPICAL SECTION, ELEVATION TABLES, CULDESAC DETAILS, AND INTERSECTION DETAILS. THE COMPACTED CEMENT MIXED SUBGRADE SHALL BE SHAPED TO PLAN LINES WITHIN THE TOLERANCES FOR SUBGRADE AS PER ODOT 203.08. A ROAD GRADER SHALL BE USED FOR FINAL GRADING TO MEET LONGITUDINAL AND CROSS SLOPE REQUIREMENTS. A BULLDOZER MAY ONLY BE USED TO ESTABLISH ROUGH GRADING NOT FINAL GRADE.

FOLLOWING THE INITIAL CEMENT SUBGRADE MIXING, THE CONTRACTOR SHALL RE-MIX THE SUBGRADE AND INTRODUCE WATER TO BRING THE CEMENT MIXED SUBGRADE TO OPTIMUM MOISTURE. THE MIXTURE SHALL THEN BE SHAPED AND COMPACTED TO THE GRADE AS SHOWN ON THE TYPICAL SECTION, ELEVATION TABLES, CULDESAC DETAILS, AND INTERSECTION DETAILS. COMPACTION SHALL START IMMEDIATELY AFTER FINAL MIXING. FINAL ROLLING SHALL BE PERFORMED USING A STEEL-WHEELED ROLLER MEETING THE REQUIREMENTS OF ODOT 401.13. THE USE OF A VIBRATORY SHEEPSFOOT ROLLER OR ROLLERS WITH ADDITIONAL BALLAST TO GIVE GREATER UNIT PRESSURE MAY BE REQUIRED. USE MUST BE MADE OF THE GREATEST CONTACT PRESSURE THAT WILL NOT EXCEED THE BEARING CAPACITY OF THE SOIL-CEMENT MIXTURE AND THAT WILL STILL "WALKOUT" IN A REASONABLE NUMBER OF PASSES. SCARIFYING AND ADDITIONAL COMPACTING MAY BE NECESSARY TO ENHANCE COMPACTION. MATERIAL LOCATED OVER AND AROUND UTILITY CROSSINGS SHALL BE EXCAVATED, STABILIZED, AND RESET WITH CARE TO PREVENT DAMAGE TO THE UTILITY. IN ACCORDANCE WITH THE STANDARD CONTRACT PROVISIONS, THE CONTRACTOR SHALL KEEP ALL STREETS, CURBING AND LAWNS CLEAN AND REMOVE RUBBISH, EXCESS MATERIALS AND DEBRIS CAUSED BY THE WORK.

THE COMPACTED CEMENT SOIL STABILIZED SUBGRADE SHALL BE CURED FOR AT LEAST SEVEN (7) DAYS AND NO MORE THAN TEN (10) DAYS BEFORE THE PLACEMENT OF THE OVERLAYING COURSE AND AFTER THE COMPRESSIVE STRENGTH EXCEEDS 200 PSI. THE CONTRACTOR SHALL PROTECT THE STABILIZED SUBGRADE, AND ALL CONSTRUCTION TRAFFIC SHALL REFRAIN FROM USING THE STABILIZED SUBGRADE DURING THE CURE PERIOD. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE STABILIZED SUBGRADE FROM FREEZING UNTIL AFTER THE CURE PERIOD.

ITEM 206 - CEMENT STABILIZED SUBGRADE, EXTRA VOLUME

AT THE DIRECTION OF THE ENGINEER, PERFORM CEMENT STABILIZATION TO A DEPTH UP TO TWENTY FOUR INCHES (24") FOLLOWING ALL SPECIFICATIONS ESTABLISHED FOR ITEM 206 CEMENT STABILIZED SUBGRADE. THE ENGINEER WILL PROVIDE LOCATIONS FOR THIS SCOPE BASED ON THE RESULTS OF THE PROOF ROLL AND SITE OBSERVATIONS.

ITEM 206 - CURING COAT

THE CURING COAT CONSISTS OF A RAPID SETTING EMULSIFIED ASPHALT CONFORMING TO 702.04 (E.G., RS-1, RS-2, HFRS-2, CRS-1, CRS-2). BY THE END OF EACH DAY'S OPERATION, COVER THE STABILIZED WORK AREA'S SURFACE WITH CURING COAT FOR CURING THE CHEMICALLY STABILIZED SUBGRADE. USE A RATE OF ONE GALLON PER THIRTY SQUARE FEET (0.3 GAL/SY). THE CONTRACTOR SHALL FURNISH AND ERECT W21-2 (FRESH OIL) SIGNS AT EACH END OF THE PROJECT PRIOR TO THE APPLICATION.

ITEM 206 - TEST ROLLING

UPON COMPLETION OF GRADING AND COMPACTION, THE CONTRACTOR SHALL PHYSICALLY MARK THE WORK LIMITS TO BE TEST ROLLED, TO BE VERIFIED BY THE ENGINEER. STABILIZATION DEPTHS AND CEMENT RATIO WILL BE REVIEWED AND ADJUSTED FOLLOWING THE TEST ROLLING AS DIRECTED BY THE ENGINEER.

AFTER THE COMPLETION OF THE STABILIZATION CURING PERIOD (A MINIMUM OF 5 AND MAXIMUM OF 10 DAYS), THE CONTRACTOR SHALL PROVIDE A PROOF ROLL TO VERIFY THE SUBGRADE. THE COST FOR THE PROOF ROLL SHALL BE INCLUDED IN ITEM 206 TEST ROLLING. ALL PROOF ROLLING SHALL BE COMPLETED WITH A PROOF ROLLER HAVING FOUR EVENLY SPACED PNEUMATIC TIRE WHEELS PER C&MS 204.06. TIME BETWEEN SUBGRADE WORK, PROOF ROLLING, AND PLACEMENT OF AGGREGATE BASE SHALL BE KEPT TO A MINIMUM.

ITEM 206 - MIXTURE DESIGN FOR CHEMICALLY STABILIZED SOILS

SAMPLES OF THE PRE-GROUND SUBGRADE SHALL BE TAKEN FROM MULTIPLE LOCATIONS ALONG THE PROJECT LENGTH AND TESTED FOR DENSITY, CEMENT RATIO, AND SULFATE CONTENT. A REPORT SHALL BE SUBMITTED FOR APPROVAL PRIOR TO THE PLACING OF THE CEMENT.

PAVEMENT

ITEM 253 - PAVEMENT REPAIR, 6"

THIS ITEM SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIAL NECESSARY TO REMOVE AND REPLACE THE EXISTING ASPHALT PAVEMENT AND BASE, AS MARKED BY THE ENGINEER. THE ASPHALT PAVEMENT AND BASE IN THE REPAIR AREAS SHALL BE REMOVED BY THE GRINDING OR SAW CUTTING METHODS WITHOUT DISPLACING OR DAMAGING THE REMAINING PAVEMENT. THE EXCAVATED TRENCH SHALL BE COMPACTED UTILIZING APPROVED COMPACTION EQUIPMENT. ALL FACES ADJOINING THE EXISTING PAVEMENT SHALL BE CLEANED AND THOROUGHLY COATED WITH AN APPROVED LIQUID ASPHALT MATERIAL. THE CONTRACTOR SHALL USE ITEM 301 ASPHALT CONCRETE BASE TO REPLACE THE EXCAVATED MATERIAL. THE COST OF THE MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM. THE WORK ZONE SHALL FOLLOW THE SPECIFICATIONS SET FORTH IN ODOT SCD MT-97.12 WITH CONES TO SEPARATE TRAFFIC FROM THE PAVEMENT REPAIR TRENCHES. CONES SHALL BE PLACED ALONG THE ENTIRE LENGTH OF THE WORK ZONE, NOT AT ISOLATED REPAIR LOCATIONS.

ITEM 301 - ASPHALT CONCRETE BASE, PG64-22, (449)

THE CONTRACTOR SHALL PLACE AN ASPHALT CONCRETE BASE COURSE AS SHOWN ON THE TYPICAL SECTION. A MINIMAL DRIVEWAY APRON FOR VEHICLE ACCESS SHALL BE PAVED WITH THIS COURSE AT THE DIRECTION OF THE ENGINEER. A MINIMUM OF TWO (2) ROLLERS SHALL BE USED WHEN COMPACTING THIS COURSE IN ORDER TO GET PROPER COMPACTION AND PROPER FINISH. A VIBRATORY ROLLER SHALL SERVE AS THE BREAKDOWN ROLLER AND COMPACT WITH VIBRATION USED IN ONLY ONE DIRECTION OF TRAVEL AND A PNEUMATIC ROLLER SHALL BE THE SECOND ROLLER. THE VIBRATORY ROLLER SHALL ALSO SERVE AS THE FINISH ROLLER WITHOUT VIBRATION.

ITEM 301 - ASPHALT CONCRETE BASE, PG64-22, (449), (DRIVEWAYS), AS PER PLAN

THE CONTRACTOR SHALL PLACE AN AVERAGE DEPTH OF FOUR AND ONE-HALF INCHES (4.5") AT ALL DRIVEWAYS MARKED BY THE ENGINEER, FOLLOWING THE PLACEMENT OF THE MAINLINE BASE COURSE AND PRIOR TO THE APPLICATION OF THE SURFACE COURSE.

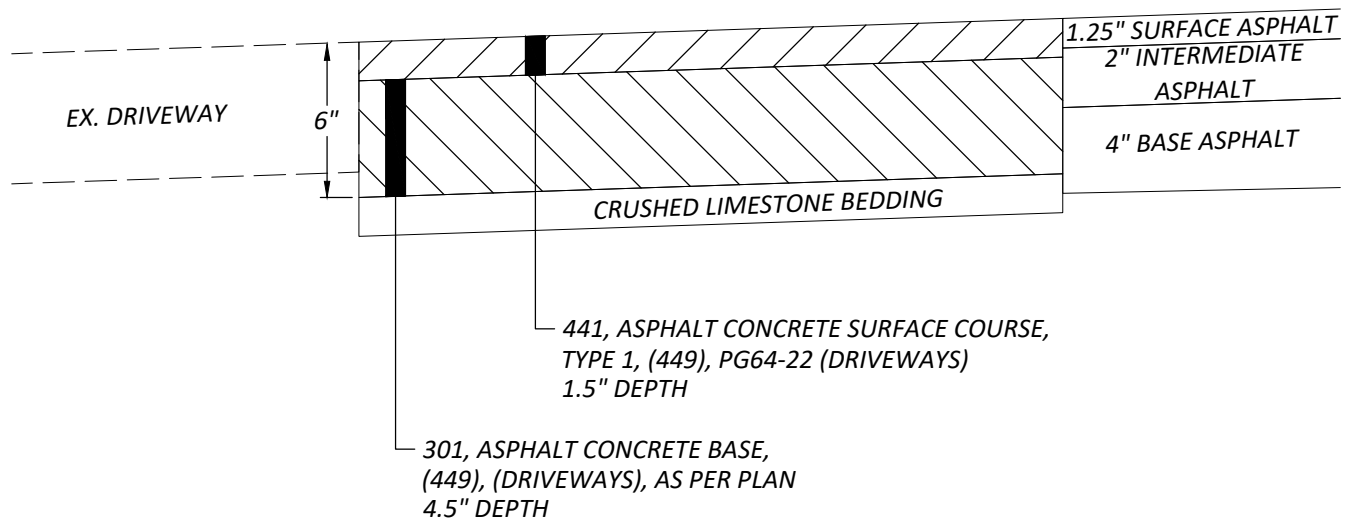
THE PAVING OF THESE AREAS SHALL BE A SEPARATE OPERATION FROM THE MAINLINE PAVING. THE LENGTHS OF APRONS ARE SUBJECT TO CHANGE AT THE DIRECTION OF THE ENGINEER. THE DRIVEWAY APRON PLACEMENT SHALL NOT TAKE PLACE WITHIN A TWENTY-FOUR (24) HOUR PERIOD OF TIME, NOT INCLUDING SUNDAYS, AFTER ALL BASE COURSE IS COMPLETED, UNLESS APPROVED BY THE ENGINEER.

THIS ITEM SHALL INCLUDE ALL COSTS FOR PREPARATION AND MATERIAL PLACEMENT INCLUDING BUT NOT LIMITED TO EXCAVATION, CRUSHED LIMESTONE BEDDING, AND ASPHALT PAVING.

ITEM 407 - NON-TRACKING TACK COAT

NON-TRACKING TACK COAT SHALL BE APPLIED TO THE EXISTING PAVEMENT PRIOR TO THE PLACEMENT OF THE INTERMEDIATE. THE ENGINEER MAY ADJUST THE APPLICATION RATE OF 0.09 GALLONS PER SQUARE YARD. AN ADDITIONAL QUANTITY OF NON-TRACKING TACK COAT TO BE PLACED ON THE BASE COURSE AND INTERMEDIATE COURSE OF ASPHALT PRIOR TO THE PLACEMENT OF THE INTERMEDIATE COURSE AND SURFACE COURSE IS INCLUDED IN THE TOTAL QUANTITY FOR THIS ITEM. THIS QUANTITY HAS BEEN CALCULATED AT THE APPLICATION RATE OF 0.05 GALLONS PER SQUARE YARD AND SHALL ONLY BE ADJUSTED AT THE DIRECTION OF THE ENGINEER.

DRIVEWAY DETAIL - FULL DEPTH ASPHALT



GENERAL NOTES

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|------------|---------------|
| DESIGNER | HEL |
| REVIEWER | SCO 04/15/26 |
| PROJECT ID | RC-CHA-V-2026 |
| SHEET | TOTAL |
| P.5 | P.20 |

ITEM 441 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), PG64-22

THE INTERMEDIATE COURSE SHALL BE PLACED AS SHOWN ON THE TYPICAL SECTION. THE CONTRACTOR SHALL USE THREE (3) ROLLERS TO COMPACT THE INTERMEDIATE COURSE. A VIBRATORY ROLLER SHALL SERVE AS THE BREAKDOWN ROLLER AND USE VIBRATION IN ONLY ONE DIRECTION OF TRAVEL. A PNEUMATIC ROLLER SHALL BE THE SECOND ROLLER. THE THIRD ROLLER SHALL BE A TANDEM ROLLER AND SERVE AS THE FINISH ROLLER WITHOUT VIBRATION. DENSITY QUALITY CONTROL TESTING SHALL BE PERFORMED PER 448.02.

ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22

THE CONTRACTOR SHALL PLACE A SURFACE COURSE AS SHOWN ON THE TYPICAL SECTION. THE CONTRACTOR SHALL USE THREE (3) ROLLERS TO COMPACT THE SURFACE COURSE INCLUDING TWO (2) TANDEM ROLLERS AND ONE (1) SMALL TANDEM ROLLER. THE SMALL TANDEM ROLLER SHALL BE USED TO COMPACT AREAS WHERE THE LARGE TANDEM ROLLER CANNOT REACH, INCLUDING MAILBOX APPROACHES AND DRIVEWAY TRANSITIONS. VIBRATION SHALL ONLY BE USED AT THE DIRECTION OF THE ENGINEER. DENSITY QUALITY CONTROL TESTING SHALL BE PERFORMED PER 448.02. SEAL ALL TRANSVERSE AND LONGITUDINAL JOINTS PER 401.17.

ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22 (DRIVEWAYS)

THE CONTRACTOR SHALL PLACE DRIVEWAY AND INTERSECTION APRONS AT THE LOCATIONS MARKED BY THE ENGINEER. THE PAVING OF THE DRIVEWAYS SHALL BE A SEPARATE OPERATION FROM THE MAINLINE PAVING. THE LENGTHS OF APRONS ARE SUBJECT TO CHANGE AT THE DIRECTION OF THE ENGINEER. THIS OPERATION SHALL BE COMPLETED AFTER THE PLACEMENT OF THE INTERMEDIATE COURSE AND BEFORE THE PLACEMENT OF THE SURFACE COURSE.

ASPHALT SHALL BE PLACED AT A ONE-AND-ONE-HALF INCH (1.5") LIFT. THE APRONS SHALL BE FEATHERED TO MEET EXISTING DRIVEWAY GRADES. ALL ASPHALT DRIVES AND INTERSECTING ROADS SHALL BE SWEEPED THOROUGHLY AND THEN TACKED WITH ITEM 407 NON-TRACKING TACK COAT PRIOR TO PAVING THE APRONS. THE DRIVEWAY APRON PLACEMENT SHALL NOT TAKE PLACE WITHIN A TWENTY-FOUR (24) HOUR PERIOD OF TIME, NOT INCLUDING SUNDAYS, AFTER ALL INTERMEDIATE/BASE COURSE IS COMPLETED, UNLESS APPROVED BY THE ENGINEER.

ITEM 617 - COMPACTED AGGREGATE (RAP)

THE CONTRACTOR SHALL PLACE THE STABILIZED SHOULDER BACK UP MATERIAL AS SHOWN IN THE TYPICAL SECTION. FOR EXISTING GRAVEL DRIVEWAYS, THIS ITEM SHALL ALSO SERVE AS THE TRANSITION FROM THE NEW APRON TO THE EXISTING GRAVEL DRIVE. THE MATERIAL PLACEMENT SHALL NOT TAKE PLACE WITHIN A TWENTY-FOUR-HOUR (24HR) PERIOD OF TIME, BUT NOT MORE THAN SEVENTY-TWO HOURS (72HRS), AFTER THE PLACEMENT OF THE SURFACE COURSE. THE ROADWAY SHALL BE SWEEPED AFTER THE PLACEMENT OF MATERIAL AND PRIOR TO COMPACTION. THE CONTRACTOR SHALL USE TWO ROLLERS TO COMPACT THE SHOULDER MATERIAL. SEAL ASPHALT JOINTS AT DRIVEWAY AND INTERSECTION APRONS AFTER COMPLETING THIS ITEM.

ITEM 617 - COMPACTED AGGREGATE (304 LIMESTONE)

THE CONTRACTOR SHALL PLACE THE STABILIZED SHOULDER BACK UP MATERIAL AS SHOWN IN THE TYPICAL SECTION. THE MATERIAL PLACEMENT SHALL NOT TAKE PLACE WITHIN A TWENTY-FOUR-HOUR (24HR) PERIOD OF TIME, BUT NOT MORE THAN SEVENTY-TWO HOURS (72HRS), AFTER THE PLACEMENT OF THE BASE COURSE. THE ROADWAY SHALL BE SWEEPED AFTER THE PLACEMENT OF MATERIAL AND PRIOR TO COMPACTION. THE CONTRACTOR SHALL USE TWO ROLLERS TO COMPACT THE SHOULDER MATERIAL.

DRAINAGE

ITEM 605 - 4" BASE PIPE UNDERDRAIN, 707.41, AS PER PLAN

A CONTINGENCY ITEM HAS BEEN INCLUDED TO BE USED AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE IN THE EXISTING SUBGRADE. THE EXISTING DITCH CONDITION WILL DICTATE WHAT MATERIALS WILL BE USED.

UNDERDRAIN MATERIAL SHALL BE PERFORATED POLYVINYL CHLORIDE (PVC) PIPE. ALL PIPES SHALL HAVE A MINIMUM SLOPE OF ONE PERCENT (1%) AND OUTLET TO THE NEAREST STORMWATER STRUCTURE, PIPE, OR DITCH AS DIRECTED BY THE ENGINEER. REFERENCE ODOT SCD DM-1.2 AND UNDERDRAIN DETAILS. THIS ITEM SHALL INCLUDE THE COST FOR EXCAVATION, LABOR, EQUIPMENT, AND MATERIALS INCLUDING BUT NOT LIMITED TO NO. 57 ENCASUREMENT AND BACKFILL, PIPE, CONNECTIONS, AND FITTINGS.

ITEM 605 - AGGREGATE DRAINS

A CONTINGENCY ITEM HAS BEEN INCLUDED TO BE USED AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE IN THE EXISTING SUBGRADE. THE EXISTING DITCH CONDITION WILL DICTATE WHAT MATERIALS WILL BE USED.

FOR AN AREA NEEDING DRAINAGE LOCATED NEXT TO AN OPEN DITCH AN AGGREGATE DRAIN SHALL BE USED FROM THE EDGE OF PAVEMENT TO THE DITCH. THE AGGREGATE SHALL BE PLACED AT A THICKNESS OF EIGHT INCHES (8") WITH THE TOP OF THE DRAIN BEING AT THE SAME ELEVATION AS THE TOP OF THE CEMENT STABILIZATION.

REFERENCE THE UNDERDRAIN DETAILS. THIS ITEM SHALL INCLUDE THE COST FOR EXCAVATION, BACKFILL, LABOR, EQUIPMENT, AND MATERIALS.

EROSION CONTROL

ITEM 653 - TOPSOIL FURNISHED AND PLACED

THE FOLLOWING QUANTITY IS PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

THE CONTRACTOR SHALL SPREAD THE TOPSOIL AT A DEPTH OF 2" OVER ALL DISTURBED AREAS, AT THE DIRECTION OF THE ENGINEER.

ITEM 659 - SEEDING AND MULCHING, CLASS 1, AS PER PLAN

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS. THE APPLICATION OF THE SEED AND MULCH SHALL BE APPLIED VIA HYDRO-SEEDING.

ITEM 832 - EROSION CONTROL

THIS ITEM SHALL INCLUDE ALL EROSION CONTROL MEASURES PER SUPPLEMENTAL SPECIFICATION 832. THE CONTRACTOR SHALL SUBMIT PROPOSED EROSION CONTROL COUNTER MEASURES AND LOCATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.

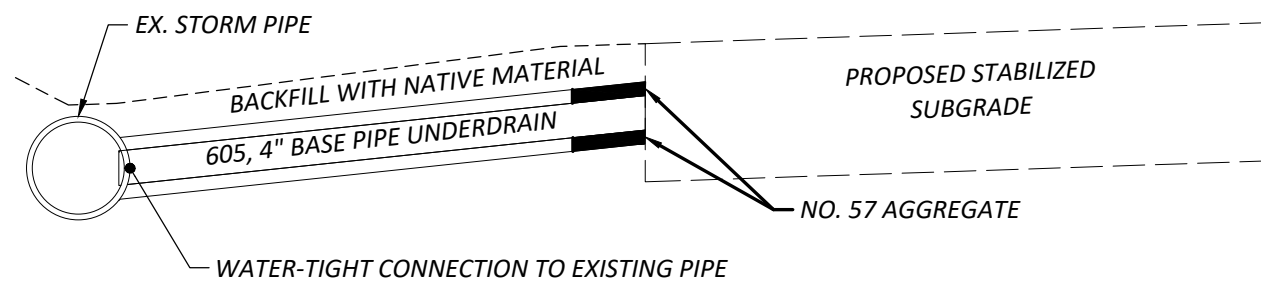
TRAFFIC CONTROL

ITEM 644 - STOP LINE

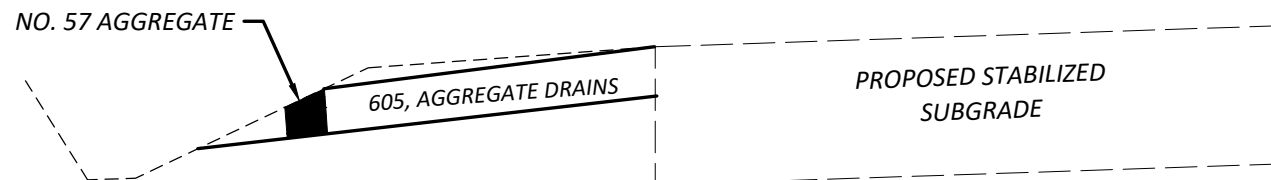
STOP LINES, PER ODOT SCD TC-71.10, SHALL BE PLACED AS LISTED AT THE LOCATIONS BELOW. THE ENGINEER WILL MARK THE EXACT LOCATION.

WINTERGREEN DRIVE AT RAVENNA ROAD 10 FT

UNDERDRAIN DETAIL - STORM PIPE CONNECTION



UNDERDRAIN DETAIL - OPEN DITCH OUTLET



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| DESIGNER | HEL |
| REVIEWER | SCO 04/15/26 |
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INCIDENTALS

ITEM 614 - MAINTAINING TRAFFIC

THE CONTRACTOR SHALL FURNISH AT LEAST TWO (2) EMPLOYEES TO SERVE AS TRAFFIC CONTROL FLAGGERS AND THE WORK ZONE SHALL FOLLOW THE SPECIFICATIONS SET FORTH IN ODOT SCD MT-97.12 UNLESS NOTED OTHERWISE. IN ORDER TO PROPERLY MAINTAIN TRAFFIC, THE CONTRACTOR SHALL USE ADDITIONAL FLAGGERS WHEN WORKING AT THE INTERSECTIONS OF ADJACENT ROADS.

ALL TRAFFIC CONTROL DEVICES SHALL BE INSTALLED, MAINTAINED, AND REMOVED BY THE CONTRACTOR. ADDITIONAL SIGNS MAY BE REQUIRED AND INSTALLED AS DIRECTED BY THE ENGINEER. ROAD WORK SIGNS (W20-1) AND ADVANCE STREET NAME PLAQUES (W16-8P) SHALL BE PLACED IN ADVANCE OF AND ON ALL APPROACHES TO THE PROJECT. ONE LANE SHALL BE MAINTAINED FOR RESIDENTIAL TRAFFIC DURING THE PRE-GRINDING AND EXCAVATION WORK. DURING THE CEMENT STABILIZATION WORK, THE ROADWAY SHALL BE CLOSED TO TRAFFIC ALONG SHORT SECTIONS AS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH, ERECT, AND MAINTAIN TYPE III PORTABLE BARRICADES (TOTAL OF XX) ON ROAD NAME, AT THE INTERSECTIONS WITH ROAD NAME AND ROAD NAME WITH A "ROAD CLOSED-NO THRU TRAFFIC" (R11-3) SIGN ON THE FRONT AND A OM1-1 ON THE BACK. ALL PORTABLE BARRICADES SHALL BE EQUIPPED WITH TWO (2) TYPE B FLASHING WARNING LIGHTS VISIBLE TO TRAFFIC APPROACHING FROM BOTH SIDES.

ALL SIGNS AND BOTH SIDES OF BARRICADES SHALL MEET THE REFLECTIVE REQUIREMENTS OF ITEM 614. RESIDENTS LOCATED WITHIN THE PROPOSED SECTION OF ROADWAY TO BE CLOSED ON A PARTICULAR DAY SHALL BE SPECIFICALLY NOTIFIED. LOCAL OFFICIALS, AS LISTED PREVIOUSLY, SHALL BE CONTACTED FORTY-EIGHT (48) HOURS PRIOR TO THE START OF THE WORK.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH ITEM 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ITEM 623 - CONSTRUCTION LAYOUT STAKES AND SURVEYING

CONSTRUCTION LAYOUT STAKES AND SURVEYING SHALL BE PERFORMED BY AN OHIO REGISTERED PROFESSIONAL SURVEYOR. PHYSICAL STAKES SHALL BE SET AT A DISTANCE NOT TO EXCEED ONE HUNDRED FEET (100') FOR STRAIGHT SECTIONS AND FIFTY FEET (50') FOR CURVED SECTIONS FOR REFERENCE TO RE-ESTABLISH THE PAVEMENT CENTERLINE AND ELEVATIONS. STAKES SHALL BE INSTALLED ALONG BOTH SIDES OF THE CENTERLINE OF CONSTRUCTION AND LOCATED THREE (3) FEET OUTSIDE OF THE GRADING LIMITS. ADDITIONAL STAKING MAY BE NECESSARY FOR OTHER PROJECT REQUIREMENTS AND SHALL BE INCLUDED IN THE UNIT PRICE FOR THIS ITEM. THIS WORK SHALL ALSO INCLUDE PROVIDING DIGITAL AS-BUILT FILES OF THE COMPLETED WORK TO THE ENGINEER.

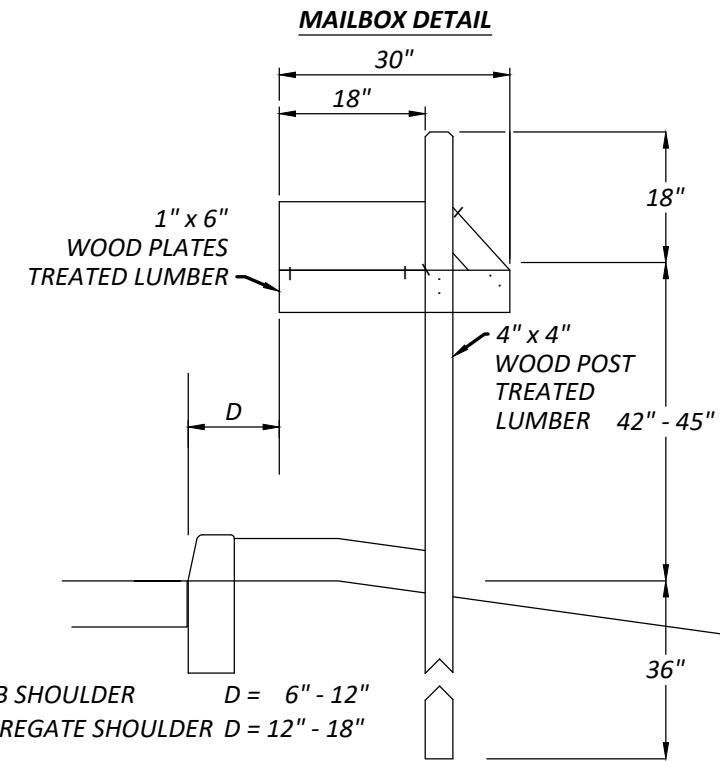
ITEM SPECIAL - MAILBOX ASSEMBLY, REMOVED AND RESET

AS DIRECTED BY THE ENGINEER, THIS WORK SHALL CONSIST OF REMOVING AND RESETTING EXISTING MAILBOX ASSEMBLIES PER THE MAILBOX DETAIL. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL MAILBOXES FOR THE DURATION OF THE PROJECT. THE CONTRACTOR SHALL SUPPLY TEMPORARY MAILBOXES TO MAINTAIN MAIL DELIVERY THROUGHOUT THE PROJECT.

IF THE ENGINEER DETERMINES THE EXISTING SUPPORT UNUSABLE, THE CONTRACTOR SHALL FURNISH AND INSTALL A NEW MAILBOX SUPPORT AND PROPERLY DISPOSE OF THE EXISTING SUPPORT.

SET OR DRIVE POSTS PLUMB IN A MANNER THAT PREVENTS BATTERING OR DISTORTION OF POSTS. ATTACHMENT HARDWARE (PLATES, BOLTS, ETC.) SHALL BE MADE OF COMMERCIAL-GRADE STEEL. COATED DECK SCREWS SHALL BE USED. SUPPORT HARDWARE SHALL ACCOMMODATE EITHER A SINGLE OR A DOUBLE MAILBOX INSTALLATION. NO MORE THAN TWO BOXES MAY BE MOUNTED ON A SINGLE POST. THE CONTRACTOR SHALL SECURELY ATTACH THE MAILBOX TO THE NEW SUPPORT. THE CONTRACTOR SHALL FURNISH ALL NECESSARY ATTACHMENT HARDWARE (SCREWS, NUTS, BOLTS, PLATES, SPACERS, AND WASHERS) AS NECESSARY TO ACCOMMODATE THE COMPLETE INSTALLATION. IN THE ABSENCE OF A NEW BOX SUPPLIED BY THE RESIDENT, OR BY OTHERS, THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX AND PLACE IT ON THE NEW SUPPORT.

DUE CARE SHALL BE EXERCISED IN SUCH AN OPERATION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY ASSEMBLY DAMAGED BY IMPROPER HANDLING BY THE CONTRACTOR WITH AN EQUAL ASSEMBLY AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL POSTMASTER REGARDING THE TIMING OF THE MOVEMENT OF ANY MAILBOX TO A NEW LOCATION.

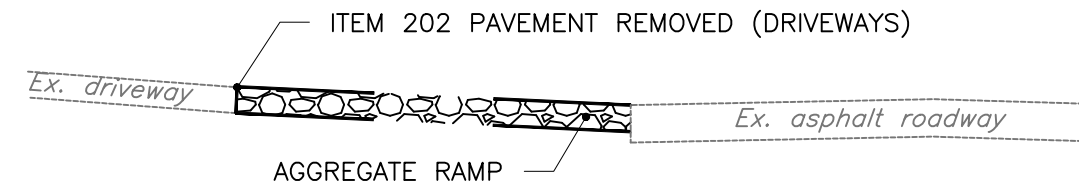


MAINTENANCE OF TRAFFIC - DRIVEWAY DETAIL

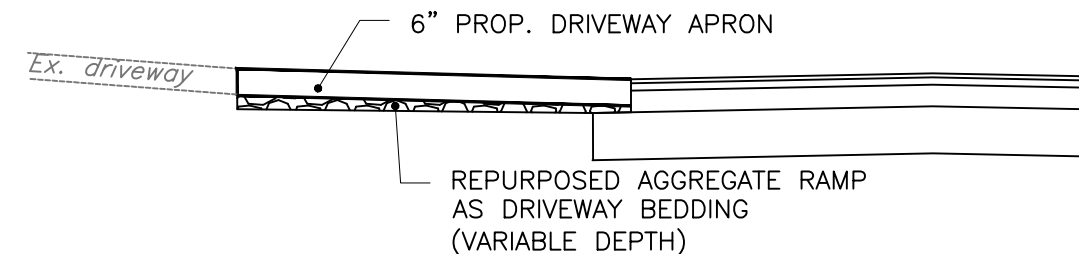
EXISTING CONDITION



DEMOLITION PHASE



PROPOSED CONDITION



GENERAL NOTES

| | |
|------------|---------------|
| DESIGNER | HEL |
| REVIEWER | SCO 04/15/26 |
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THE DECIMAL PLACE FOR INDIVIDUAL CONTRACT ITEMS WILL BE PAID BASED ON THE PRECISION PROVIDED IN THE GENERAL SUMMARY. THIS SHALL SUPERSEDE THE PRECISION PROVIDED IN THE BID PROPOSAL SHOULD ANY DISCREPANCY OCCUR.

| ROAD TOTALS | | | | | CONTINGENCY | ITEM | GRAND TOTAL | UNIT | DESCRIPTION |
|-------------------|------------------|-----------------------|----------------|-----------------|-------------|------|-------------|------|--|
| TR-0395 | TR-0396 | TR-0397 | TR-0055 | TR-0529 | | | | | |
| WINTERGREEN DRIVE | CRESTRIDGE DRIVE | N/S WINTERGREEN DRIVE | WOODVIEW DRIVE | HAWTHORNE DRIVE | | | | | |
| | | | | | | | | | ROADWAY |
| | | | | | | 201 | 1 | LUMP | CLEARING AND GRUBBING |
| 206 | 220 | 366 | 89 | 128 | 16 | 202 | 1025 | SY | PAVEMENT REMOVED (DRIVEWAYS) |
| - | - | - | 57 | 62 | 31 | 202 | 150 | SY | WEARING COURSE REMOVED, AS PER PLAN |
| - | - | 9 | - | - | | 202 | 9 | EACH | MONUMENT ASSEMBLY REMOVED |
| 372 | 230 | 517 | - | - | 41 | 203 | 1160 | CY | EXCAVATION |
| 64 | 48 | 107 | - | - | 16 | 203 | 235 | CY | EMBANKMENT |
| 26 | 18 | 39 | 5 | 5 | 12 | 204 | 105 | CY | EXCAVATION OF SUBGRADE, AS PER PLAN |
| 3123 | 2112 | 4674 | - | - | 291 | 206 | 10200 | SY | SUBGRADE PREPARATION , AS PER PLAN |
| 112 | 76 | 167 | - | - | 45 | 206 | 400.0 | TON | PORTLAND CEMENT |
| 3123 | 2112 | 4674 | - | - | 291 | 206 | 10200 | SY | CEMENT STABILIZED SUBGRADE, AS PER PLAN |
| 104 | 70 | 156 | - | - | 20 | 206 | 350 | CY | CEMENT STABILIZED SUBGRADE, EXTRA VOLUME |
| 3123 | 2112 | 4674 | - | - | 291 | 206 | 10200 | SY | CURING COAT |
| 1 | 1 | 2 | - | - | 0 | 206 | 4 | HR | TEST ROLLING |
| | | | | | | 206 | 1 | LUMP | MIXTURE DESIGN FOR CHEMICALLY STABILIZED SOIL |
| | | | | | | | | | PAVEMENT |
| - | - | - | 44 | 94 | 22 | 253 | 160.0 | CY | PAVEMENT REPAIR, 6" |
| 333 | 224 | 495 | 7 | 7 | 34 | 301 | 1100.0 | CY | ASPHALT CONCRETE BASE, PG64-22, (449) |
| 26 | 28 | 46 | 11 | 18 | 16 | 301 | 145.0 | CY | ASPHALT CONCRETE BASE, PG64-22, (449), (DRIVEWAYS), AS PER PLAN |
| 305 | 209 | 456 | 126 | 309 | 70 | 407 | 1475 | GAL | NON-TRACKING TACK COAT |
| 162 | 108 | 239 | 48 | 119 | 14 | 441 | 690.0 | CY | ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448) PG64-22 |
| 101 | 68 | 149 | 30 | 75 | 37 | 441 | 460.0 | CY | ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448) PG64-22 |
| 8 | 9 | 15 | 4 | 10 | 9 | 441 | 55.0 | CY | ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448) PG64-22 (DRIVEWAYS) |
| 36 | 27 | 62 | 14 | 27 | 24 | 617 | 190.0 | CY | COMPACTED AGGREGATE (RAP) |
| 45 | 33 | 76 | - | - | 26 | 617 | 180.0 | CY | COMPACTED AGGREGATE (304 LIMESTONE) |
| | | | | | | | | | DRAINAGE |
| 20 | 20 | 30 | 5 | 5 | 0 | 605 | 80.0 | FT | AGGREGATE DRAINS |
| 40 | 40 | 60 | 5 | 5 | 0 | 605 | 150.0 | FT | 4" BASE PIPE UNDERDRAIN, AS PER PLAN |
| | | | | | | | | | EROSION CONTROL |
| 45 | 34 | 75 | - | - | 21 | 653 | 175.0 | CY | TOPSOIL FURNISHED AND PLACED |
| 803 | 603 | 1353 | - | - | 141 | 659 | 2900 | SY | SEEDING AND MULCHING, CLASS 1 |
| 1750 | 750 | 2500 | | | | 832 | 5000 | EACH | EROSION CONTROL |
| | | | | | | | | | TRAFFIC CONTROL |
| 10 | - | - | - | - | 0 | 644 | 10 | FT | STOP LINE |
| | | | | | | | | | INCIDENTALS |
| | | | | | | 614 | 1 | LUMP | MAINTAINING TRAFFIC |
| | | | | | | 623 | 1 | LUMP | CONSTRUCTION LAYOUT STAKES AND SURVEYING |
| | | | | | | 624 | 1 | LUMP | MOBILIZATION |
| 7 | 9 | 20 | 7 | 4 | 0 | SPEC | 47 | EACH | MAILBOX ASSEMBLY, REMOVED AND RESET |
| | | | | | | SPEC | 1 | LUMP | CONTRACT PERFORMANCE BOND AND PREMIUM |

GENERAL SUMMARY

| | |
|------------|---------------|
| DESIGNER | HEL |
| REVIEWER | SCO 04/15/26 |
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THE RECONSTRUCTION AND ASPHALT RESURFACING OF VARIOUS ROADS
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ROADWAY

ITEM 202 - PAVEMENT REMOVED (DRIVEWAYS)

DRIVEWAY APRONS: AVG. DIMENSIONS SHOWN, EXACT LIMITS TO BE MARKED IN THE FIELD BY THE ENGINEER

| | | | | |
|------------------------------|----------------|-----------------|-----------------|-----------------------|
| WINTERGREEN DRIVE | QTY. = 9 EACH | LENGTH = 10 FT | WIDTH = 20.6 FT | AREA = 206 SY |
| CRESTRIDGE DRIVE | QTY. = 10 EACH | LENGTH = 10 FT | WIDTH = 19.8 FT | AREA = 220 SY |
| N/S WINTERGREEN DRIVE | QTY. = 15 EACH | LENGTH = 10 FT | WIDTH = 22 FT | AREA = 366 SY |
| WOODVIEW DRIVE | QTY. = 4 EACH | LENGTH = 8.5 FT | WIDTH = 23.3 FT | AREA = 89 SY |
| HAWTHORNE DRIVE | QTY. = 5 EACH | LENGTH = 8 FT | WIDTH = 28.9 FT | AREA = 128 SY |
| | | | | TOTAL = 1,009 SY |
| | | | | USE = 1,025 SY |

ITEM 202 - WEARING COURSE REMOVED

| | | |
|------------------------|-----------------------------|---------------------|
| WOODVIEW DRIVE | QUANTITY TAKEN FROM PAGE 18 | AREA = 57 SY |
| HAWTHORNE DRIVE | QUANTITY TAKEN FROM PAGE 19 | AREA = 62 SY |
| | | TOTAL = 119 SY |
| | | USE = 150 SY |

ITEM 202 - MONUMENT ASSEMBLY REMOVED

N/S WINTERGREEN DRIVE:
STA. 3+16, STA. 5+47, STA. 6+42, STA. 9+37, STA. 12+92, STA. 14+18, STA. 15+33, STA. 18+37, AND STA. 19+12

USE = 9 EACH

ITEM 203 - EXCAVATION

| | | |
|------------------------------|---------------------------------|-----------------------|
| WINTERGREEN DRIVE | QUANTITY TAKEN FROM PAGE 12 | VOLUME = 372 CY |
| CRESTRIDGE DRIVE | QUANTITY TAKEN FROM PAGE 14 | VOLUME = 230 CY |
| N/S WINTERGREEN DRIVE | QUANTITY TAKEN FROM PAGES 16-17 | VOLUME = 517 CY |
| | | TOTAL = 1,119 CY |
| | | USE = 1,160 CY |

ITEM 203 - EMBANKMENT

| | | | | | |
|------------------------------|------------------|--------------|---------|-----------------|---------------------|
| WINTERGREEN DRIVE | LENGTH = 1212 FT | WIDTH = 2 FT | 2 SIDES | DEPTH = 4.25 IN | VOL. = 64 CY |
| CRESTRIDGE DRIVE | LENGTH = 900 FT | WIDTH = 2 FT | 2 SIDES | DEPTH = 4.25 IN | VOL. = 48 CY |
| N/S WINTERGREEN DRIVE | LENGTH = 2035 FT | WIDTH = 2 FT | 2 SIDES | DEPTH = 4.25 IN | VOL. = 107 CY |
| | | | | | TOTAL = 219 CY |
| | | | | | USE = 235 CY |

ITEM 204 - EXCAVATION OF SUBGRADE, AS PER PLAN

SEE ITEM 206 SUBGRADE PREPARATION, AS PER PLAN

| | | | | |
|--|----------------|---------------|------------------|---------------------|
| WINTERGREEN DRIVE | AREA = 3123 SY | DEPTH = 12 IN | CONTINGENCY 2.5% | VOL. = 26 CY |
| CRESTRIDGE DRIVE | AREA = 2112 SY | DEPTH = 12 IN | CONTINGENCY 2.5% | VOL. = 18 CY |
| N/S WINTERGREEN DRIVE | AREA = 4674 SY | DEPTH = 12 IN | CONTINGENCY 2.5% | VOL. = 39 CY |
| CONTINGENCY AMOUNT FOR WOODVIEW DRIVE AND HAWTHORNE DRIVE REPAIRS | | | | VOL. = 10 CY |
| | | | | TOTAL = 92 CY |
| | | | | USE = 105 CY |

ITEM 206 - SUBGRADE PREPARATION, AS PER PLAN

WINTERGREEN DRIVE

| | | | |
|------------------------------|------------------|-----------------------|-------------------------------|
| RAVENNA ROAD INTERSECTION | LENGTH = 60 FT | AVG. WIDTH = 38.87 FT | AREA = 259 SY |
| NORMAL SECTION | LENGTH = 1092 FT | WIDTH = 21.67 FT | AREA = 2629 SY |
| N/S WINTERGREEN INTERSECTION | LENGTH = 55 FT | AVG. WIDTH = 38.47 FT | AREA = 235 SY |
| | | | ROAD SUBTOTAL AREA = 3,123 SY |

CRESTRIDGE DRIVE

| | | | |
|--------------------------|-----------------|-----------------------|-------------------------------|
| WINTERGREEN INTERSECTION | LENGTH = 40 FT | AVG. WIDTH = 39.57 FT | AREA = 176 SY |
| NORMAL SECTION | LENGTH = 839 FT | WIDTH = 19.67 FT | AREA = 1834 SY |
| CULDESAC ENDING | LENGTH = 21 FT | AVG. WIDTH = 43.67 FT | AREA = 102 SY |
| | | | ROAD SUBTOTAL AREA = 2,112 SY |

N/S WINTERGREEN DRIVE

| | | | |
|----------------|------------------|------------------|--|
| NORMAL SECTION | LENGTH = 2035 FT | WIDTH = 20.67 FT | AREA = 4,674 SY |
| | | | TOTAL = (3123 + 2112 + 4674) = 9909 SY |
| | | | USE = 10,200 SY |

ITEM 206 - PORTLAND CEMENT

SEE ITEM 206 SUBGRADE PREPARATION, AS PER PLAN

| | | | |
|------------------------------|----------------|---------------|--|
| WINTERGREEN DRIVE | AREA = 3132 SY | DEPTH = 12 IN | VOL. = 1,044 CY |
| CRESTRIDGE DRIVE | AREA = 2112 SY | DEPTH = 12 IN | VOL. = 704 CY |
| N/S WINTERGREEN DRIVE | AREA = 4674 SY | DEPTH = 12 IN | VOL. = 1,558 CY |
| | | | MAINTAIN TOTAL = 3,306 CY |
| | | | EXTRA VOLUME = 330 CY |
| | | | (3306 CY + 330 CY) X 6% CEMENT RATE X 120 PCF SOIL DENSITY X 27 / 2000 = 355 TON |
| | | | USE = 400 TON |

ITEM 206 CEMENT STABILIZATION SUBGRADE, AS PER PLAN

| | |
|---|----------------------|
| WINTERGREEN DRIVE | ROAD AREA = 3,123 SY |
| CRESTRIDGE DRIVE | ROAD AREA = 2,112 SY |
| N/S WINTERGREEN DRIVE | ROAD AREA = 4,674 SY |
| TOTAL = (3123 + 2112 + 4674) = 9,909 SY | |
| USE = 10,200 SY | |

ITEM 206 CEMENT STABILIZATION SUBGRADE, EXTRA VOLUME

SEE ITEM 206 CEMENT STABILIZATION SUBGRADE, 12 INCHES DEEP, AS PER PLAN

| | |
|---|------------------------|
| WINTERGREEN DRIVE | AREA = 3123 SY |
| CRESTRIDGE DRIVE | AREA = 2112 SY |
| N/S WINTERGREEN DRIVE | AREA = 4674 SY |
| TOTAL AREA = 9,909 SY | |
| CONTINGENCY PERCENT = 10% | ADDITION DEPTH = 12 IN |
| VOLUME = 9909 X 10% X 12 IN / 36 = 330 CY | |
| USE = 350 CY | |

CALCULATIONS

ITEM 206 CURING COAT

SEE ITEM 206 CEMENT STABILIZATION SUBGRADE, 12 INCHES DEEP, AS PER PLAN

| | |
|------------------------------|------------------------|
| WINTERGREEN DRIVE | AREA = 3123 SY |
| CRESTRIDGE DRIVE | AREA = 2112 SY |
| N/S WINTERGREEN DRIVE | AREA = 4674 SY |
| | TOTAL = 9,909 SY |
| | USE = 10,200 SY |

ITEM 206 - TEST ROLLING

| | |
|------------------------------|------------------|
| WINTERGREEN DRIVE | 1.0 HOUR |
| CRESTRIDGE DRIVE | 1.0 HOUR |
| N/S WINTERGREEN DRIVE | 2.0 HOUR |
| | TOTAL = 4.0 HOUR |

PAVEMENT

USE = 4.0 HOUR

ITEM 253 - PAVEMENT REPAIR, 6"

SEE PAGE 20 FOR REPAIR QUANTITIES AND DETAIL

USE = 160 CY

ITEM 301 ASPHALT CONCRETE BASE, (449), PG64-22

WINTERGREEN DRIVE

| | | | |
|------------------------------|------------------|-----------------------|----------------|
| RAVENNA ROAD INTERSECTION | LENGTH = 60 FT | AVG. WIDTH = 37.87 FT | AREA = 253 SY |
| NORMAL SECTION | LENGTH = 1092 FT | WIDTH = 20.67 FT | AREA = 2508 SY |
| N/S WINTERGREEN INTERSECTION | LENGTH = 55 FT | AVG. WIDTH = 37.47 FT | AREA = 229 SY |
| | | ROAD SUBTOTAL AREA = | 2,990 SY |

CRESTRIDGE DRIVE

| | | | |
|--------------------------|-----------------|-----------------------|----------------|
| WINTERGREEN INTERSECTION | LENGTH = 40 FT | AVG. WIDTH = 38.57 FT | AREA = 172 SY |
| NORMAL SECTION | LENGTH = 839 FT | WIDTH = 18.67 FT | AREA = 1740 SY |
| CULDESAC ENDING | LENGTH = 21 FT | AVG. WIDTH = 42.67 FT | AREA = 100 SY |
| | | ROAD SUBTOTAL AREA = | 2,012 SY |

N/S WINTERGREEN DRIVE

| | | | |
|----------------|------------------|------------------|-----------------|
| NORMAL SECTION | LENGTH = 2035 FT | WIDTH = 19.67 FT | AREA = 4,448 SY |
|----------------|------------------|------------------|-----------------|

WOODVIEW DRIVE

| | | | |
|----------------|--|------------------|-------|
| ENTRANCE APRON | | AREA FROM P.18 = | 57 SY |
|----------------|--|------------------|-------|

N/S WINTERGREEN DRIVE

| | | | |
|----------------|--|------------------|-------|
| ENTRANCE APRON | | AREA FROM P.18 = | 62 SY |
|----------------|--|------------------|-------|

DEPTH: 4 INCHES

TOTAL = ((2990 + 2012 + 4448 + 57 + 101) x 4 IN) / 36 = 1,068 CY

USE = 1,100 CY

ITEM 301 - ASPHALT CONCRETE BASE, PG64-22, (449), (DRIVEWAYS), AS PER PLAN

DRIVEWAY APRONS: AVG. DIMENSIONS SHOWN, EXACT LIMITS TO BE MARKED IN THE FIELD BY THE ENGINEER

| | | | | |
|------------------------------|----------------|-----------------|-----------------|------------------|
| WINTERGREEN DRIVE | QTY. = 9 EACH | LENGTH = 10 FT | WIDTH = 20.6 FT | AREA = 206 SY |
| CRESTRIDGE DRIVE | QTY. = 10 EACH | LENGTH = 10 FT | WIDTH = 19.8 FT | AREA = 220 SY |
| N/S WINTERGREEN DRIVE | QTY. = 15 EACH | LENGTH = 10 FT | WIDTH = 22 FT | AREA = 366 SY |
| WOODVIEW DRIVE | QTY. = 4 EACH | LENGTH = 8.5 FT | WIDTH = 23.3 FT | AREA = 89 SY |
| HAWTHORNE DRIVE | QTY. = 6 EACH | LENGTH = 8 FT | WIDTH = 27.5 FT | AREA = 147 SY |
| | | | | TOTAL = 1,028 SY |

DEPTH = 4.5 INCH

TOTAL = 1028 SY x 4.5 INCH / 36 = 129 CY

USE = 145 CY

ITEM 407 NON-TRACKING TACK COAT

SEE ITEM 301 ASPHALT CONCRETE BASE, (449), PG64-22 AND ITEM 441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), PG64-22 FOR AREA CALCULATIONS

| | | | |
|------------------------------|-------------------------|---------------------|--------------------|
| WINTERGREEN DRIVE | BASE AREA = 2990 SY | INT. AREA = 2900 SY | DRIVEWAYS = 206 SY |
| CRESTRIDGE DRIVE | BASE AREA = 2012 SY | INT. AREA = 1939 SY | DRIVEWAYS = 220 SY |
| N/S WINTERGREEN DRIVE | BASE AREA = 4448 SY | INT. AREA = 4297 SY | DRIVEWAYS = 366 SY |
| WOODVIEW DRIVE | EXISTING AREA = 870 SY | INT. AREA = 870 SY | DRIVEWAYS = 89 SY |
| HAWTHORNE DRIVE | EXISTING AREA = 2154 SY | INT. AREA = 2154 SY | DRIVEWAYS = 147 SY |

EXISTING ASPHALT APPLICATION RATE: 0.09 GAL/SY

NEW ASPHALT APPLICATION RATE: 0.05 GAL/SY

TOTAL = (870 + 2154) SY x 0.09 GAL/SY + (2990 + 2900 + 206 + 2012 + 1939 + 220 + 4448 + 4297 + 366 + 870 + 89 + 2154 + 147) SY x 0.05 GAL/SY =

1405 GAL

USE = 1475 GAL

ITEM 441 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), PG64-22

WINTERGREEN DRIVE

| | | | |
|------------------------------|------------------|----------------------|----------------|
| RAVENNA ROAD INTERSECTION | LENGTH = 60 FT | AVG. WIDTH = 37.2 FT | AREA = 248 SY |
| NORMAL SECTION | LENGTH = 1092 FT | WIDTH = 20 FT | AREA = 2427 SY |
| N/S WINTERGREEN INTERSECTION | LENGTH = 55 FT | AVG. WIDTH = 36.8 FT | AREA = 225 SY |
| | | ROAD SUBTOTAL AREA = | 2,900 SY |

CRESTRIDGE DRIVE

| | | | |
|--------------------------|-----------------|----------------------|----------------|
| WINTERGREEN INTERSECTION | LENGTH = 40 FT | AVG. WIDTH = 37.9 FT | AREA = 168 SY |
| NORMAL SECTION | LENGTH = 841 FT | WIDTH = 18 FT | AREA = 1682 SY |
| CULDESAC ENDING | LENGTH = 19 FT | AVG. WIDTH = 42 FT | AREA = 89 SY |
| | | ROAD SUBTOTAL AREA = | 1,939 SY |

N/S WINTERGREEN DRIVE

| | | | |
|----------------|------------------|---------------|-----------------|
| NORMAL SECTION | LENGTH = 2035 FT | WIDTH = 19 FT | AREA = 4,297 SY |
|----------------|------------------|---------------|-----------------|

WOODVIEW DRIVE

| | | | |
|------------------------------|-----------------|----------------------|---------------|
| N/S WINTERGREEN INTERSECTION | LENGTH = 30 FT | AVG. WIDTH = 26.1 FT | AREA = 87 SY |
| NORMAL SECTION | LENGTH = 155 FT | WIDTH = 18 FT | AREA = 310 SY |
| CULDESAC SECTION | LENGTH = 230 FT | WIDTH = 18.5 FT | AREA = 473 SY |
| | | ROAD SUBTOTAL AREA = | 870 SY |

HAWTHORNE DRIVE

| | | | |
|------------------------------|-----------------|----------------------|----------------|
| N/S WINTERGREEN INTERSECTION | LENGTH = 30 FT | AVG. WIDTH = 30.3 FT | AREA = 101 SY |
| NORMAL SECTION | LENGTH = 880 FT | WIDTH = 21 FT | AREA = 2053 SY |
| | | ROAD SUBTOTAL AREA = | 2,154 SY |

DEPTH = 2.0 INCH

TOTAL = (2900 + 1939 + 4297 + 870 + 2154) SY x 2.0 INCH / 36 = 676 CY

USE = 690 CY

ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22

SEE ITEM 441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), PG64-22 FOR AREA CALCULATIONS

| | |
|------------------------------|----------------------|
| WINTERGREEN DRIVE | INT. AREA = 2,900 SY |
| CRESTRIDGE DRIVE | INT. AREA = 1,939 SY |
| N/S WINTERGREEN DRIVE | INT. AREA = 4,297 SY |
| WOODVIEW DRIVE | INT. AREA = 870 SY |
| HAWTHORNE DRIVE | INT. AREA = 2154 SY |

DEPTH = 1.25 INCH

TOTAL = ((2900 + 1939 + 4297 + 870 + 2154) SY x 1.25 INCH) / 36 = 423 CY

USE = 460 CY

| | |
|------------|---------------|
| DESIGNER | HEL |
| REVIEWER | SCO 04/15/26 |
| PROJECT ID | RC-CHA-V-2026 |
| SHEET | TOTAL |
| P.10 | P.20 |

ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22 (DRIVEWAYS)

DRIVEWAY APRONS: AVG. DIMENSIONS SHOWN, EXACT LIMITS TO BE MARKED IN THE FIELD BY THE ENGINEER

| | | | | |
|-----------------------|----------------|-----------------|-----------------|------------------|
| WINTERGREEN DRIVE | QTY. = 9 EACH | LENGTH = 10 FT | WIDTH = 20.6 FT | AREA = 206 SY |
| CRESTRIDGE DRIVE | QTY. = 10 EACH | LENGTH = 10 FT | WIDTH = 19.8 FT | AREA = 220 SY |
| N/S WINTERGREEN DRIVE | QTY. = 15 EACH | LENGTH = 10 FT | WIDTH = 22 FT | AREA = 366 SY |
| WOODVIEW DRIVE | QTY. = 4 EACH | LENGTH = 8.5 FT | WIDTH = 23.3 FT | AREA = 89 SY |
| HAWTHORNE DRIVE | QTY. = 9 EACH | LENGTH = 7.3 FT | WIDTH = 29.0 FT | AREA = 212 SY |
| | | | | TOTAL = 1,093 SY |

DEPTH = 1.5 INCH

TOTAL = 1028 SY x 4.5 INCH / 36 = 46 CY
USE = 51 CY

ITEM 617 COMPACTED AGGREGATE (RAP)

| | |
|-----------------------|--------------------------------------|
| WINTERGREEN DRIVE | LENGTH = 1212 FT x 2 SIDES = 2424 FT |
| CRESTRIDGE DRIVE | LENGTH = 900 FT x 2 SIDES = 1800 FT |
| N/S WINTERGREEN DRIVE | LENGTH = 2035 FT x 2 SIDES = 4070 FT |
| WOODVIEW DRIVE | LENGTH = 415 FT x 2 SIDES = 930 FT |
| HAWTHORNE DRIVE | LENGTH = 910 FT x 2 SIDES = 1820 FT |
| TOTAL = 11,044 FT | |

WIDTH = 1.5 FT DEPTH = 3.25 INCH

SUBTOTAL = (11044 FT x 3.25 INCH x 1.5 FT) / 324 = 166 CY
USE = 190 CY

ITEM 617 COMPACTED AGGREGATE (304 LIMESTONE)

| | |
|-----------------------|--------------------------------------|
| WINTERGREEN DRIVE | LENGTH = 1212 FT x 2 SIDES = 2424 FT |
| CRESTRIDGE DRIVE | LENGTH = 900 FT x 2 SIDES = 1800 FT |
| N/S WINTERGREEN DRIVE | LENGTH = 2035 FT x 2 SIDES = 4070 FT |
| TOTAL = 8,294 FT | |

WIDTH = 1.5 FT DEPTH = 4.0 INCH

SUBTOTAL = 8294 FT x 4.0 INCH x 1.5 FT / 324 = 154 CY
USE = 180 CY

DRAINAGE

ITEM 605 - AGGREGATE DRAINS

ESTIMATED QUANTITIES SHOWN, EXACT LAYOUT WILL BE PROVIDED BY THE ENGINEER

| | |
|-----------------------|----------------|
| WINTERGREEN DRIVE | LENGTH = 20 FT |
| CRESTRIDGE DRIVE | LENGTH = 20 FT |
| N/S WINTERGREEN DRIVE | LENGTH = 30 FT |
| WOODVIEW DRIVE | LENGTH = 5 FT |
| HAWTHORNE DRIVE | LENGTH = 5 FT |

USE = 80 FT

ITEM 605 - 4" BASE PIPE UNDERDRAIN, AS PER PLAN

ESTIMATED QUANTITIES SHOWN, EXACT LAYOUT WILL BE PROVIDED BY THE ENGINEER

| | |
|-----------------------|----------------|
| WINTERGREEN DRIVE | LENGTH = 40 FT |
| CRESTRIDGE DRIVE | LENGTH = 40 FT |
| N/S WINTERGREEN DRIVE | LENGTH = 60 FT |
| WOODVIEW DRIVE | LENGTH = 5 FT |
| HAWTHORNE DRIVE | LENGTH = 5 FT |

USE = 150 FT

EROSION CONTROL

ITEM 653 - TOPSOIL FURNISHED AND PLACE

SEE ITEM 659 SEEDING AND MULCHING, CLASS 1 FOR AREA CALCULATIONS

| | | | |
|-----------------------|----------------|--------------|----------------|
| WINTERGREEN DRIVE | AREA = 803 SY | DEPTH = 2 IN | VOL. = 45 CY |
| CRESTRIDGE DRIVE | AREA = 603 SY | DEPTH = 2 IN | VOL. = 34 CY |
| N/S WINTERGREEN DRIVE | AREA = 1353 SY | DEPTH = 2 IN | VOL. = 75 CY |
| | | | TOTAL = 154 CY |

USE = 175 CY

ITEM 659 - SEEDING AND MULCHING, CLASS 1

SEE ITEM 659 SEEDING AND MULCHING, CLASS 1 FOR AREA CALCULATIONS

| | | | | |
|-----------------------|------------------|--------------|-----------|-----------------|
| WINTERGREEN DRIVE | LENGTH = 1205 FT | WIDTH = 3 FT | SIDES = 2 | AREA = 803 SY |
| CRESTRIDGE DRIVE | LENGTH = 905 FT | WIDTH = 3 FT | SIDES = 2 | AREA = 603 SY |
| N/S WINTERGREEN DRIVE | LENGTH = 2030 FT | WIDTH = 3 FT | SIDES = 2 | AREA = 1353 SY |
| | | | | TOTAL = 2759 SY |

USE = 2900 SY

TRAFFIC CONTROL

ITEM 644 - STOP LINE

ESTIMATED QUANTITIES SHOWN, EXACT LAYOUT WILL BE PROVIDED BY THE ENGINEER

WINTERGREEN DRIVE AT RAVENNA ROAD

LENGTH = 10 FT

USE = 10 FT

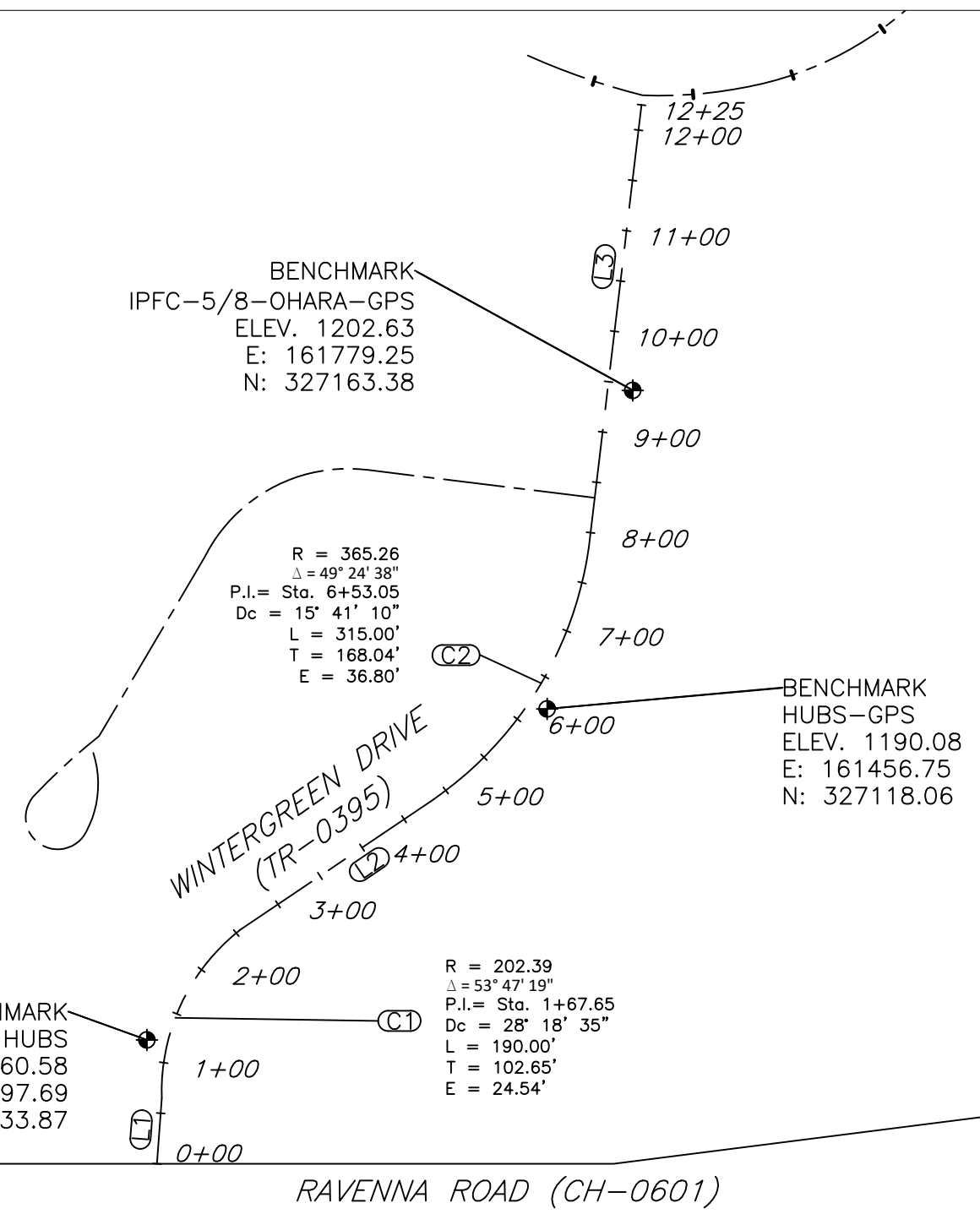
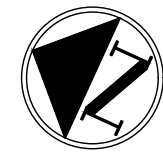
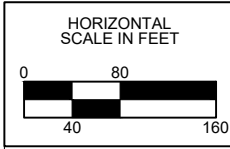
ITEM SPEC - MAILBOX ASSEMBLY, REMOVED AND RESET

ESTIMATED QUANTITIES SHOWN, EXACT MAILBOX LOCATIONS WILL BE IDENTIFIED BY THE ENGINEER

| | |
|-----------------------|----------------|
| WINTERGREEN DRIVE | QTY. = 7 EACH |
| CRESTRIDGE DRIVE | QTY. = 9 EACH |
| N/S WINTERGREEN DRIVE | QTY. = 20 EACH |
| WOODVIEW DRIVE | QTY. = 4 EACH |
| HAWTHORNE DRIVE | QTY. = 7 EACH |

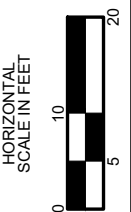
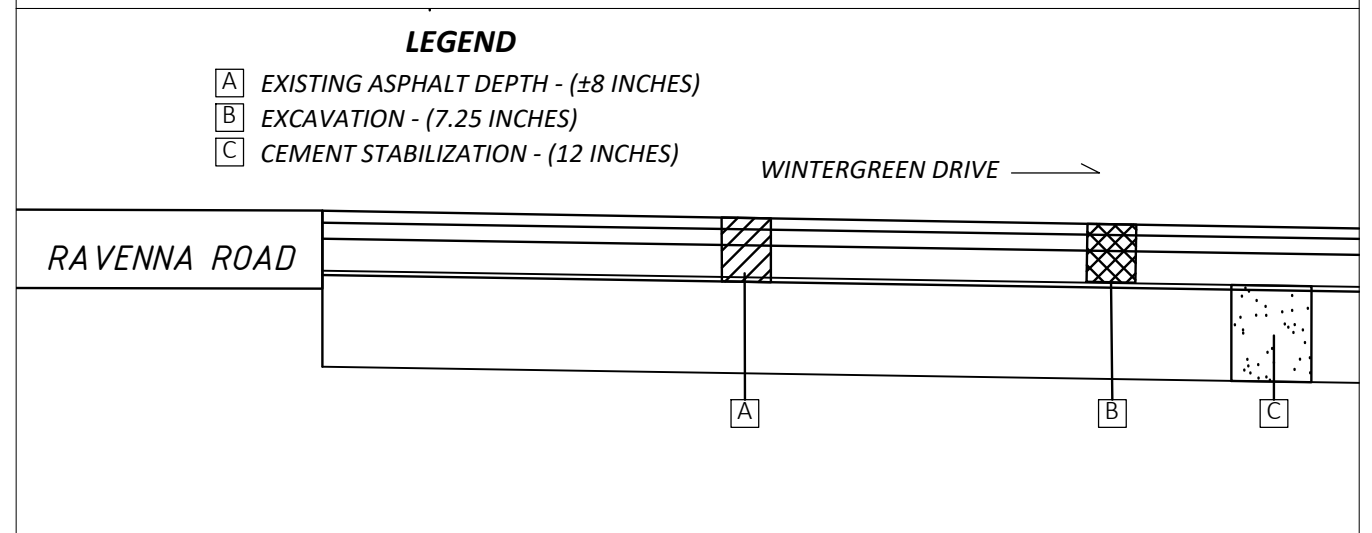
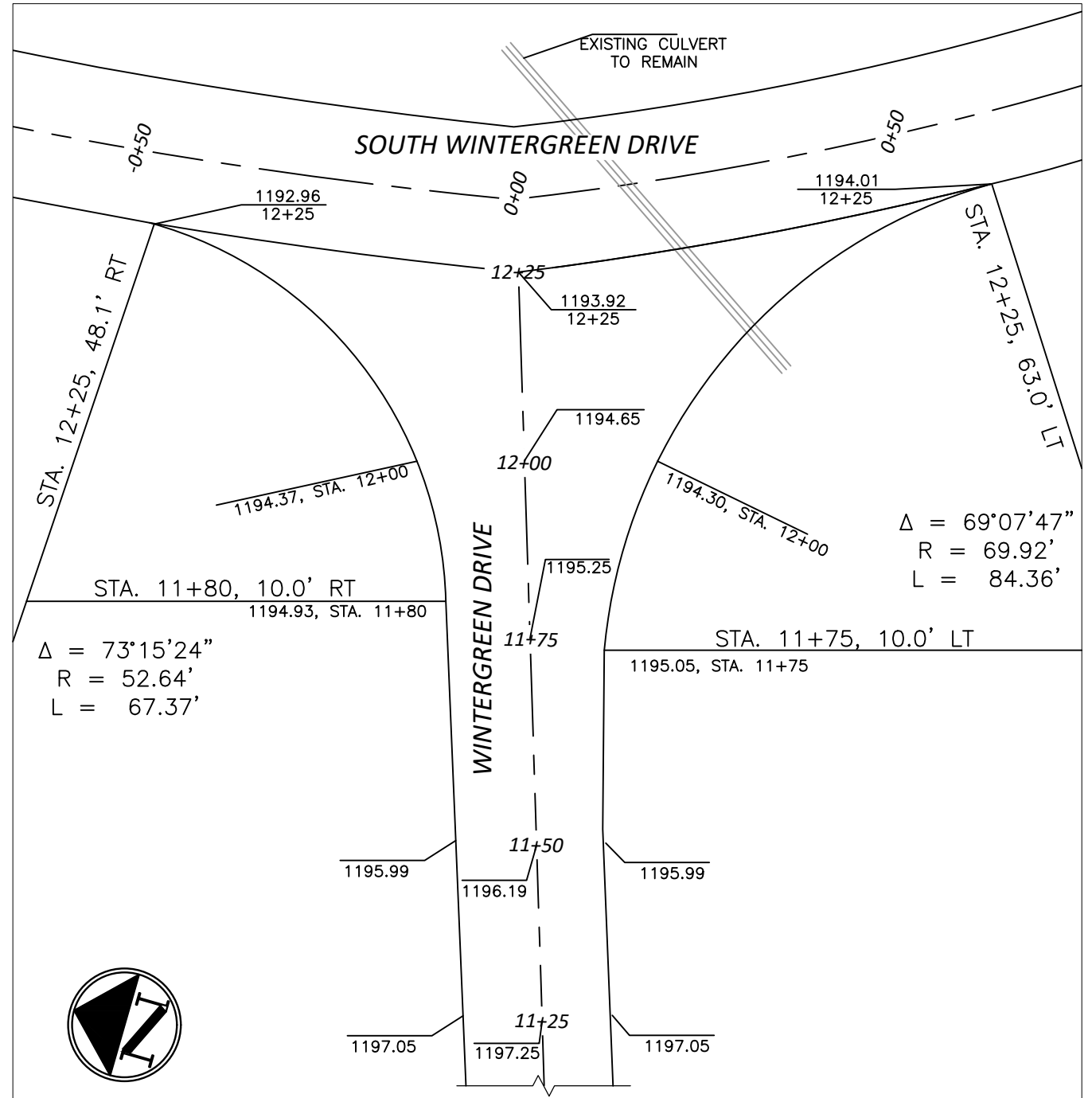
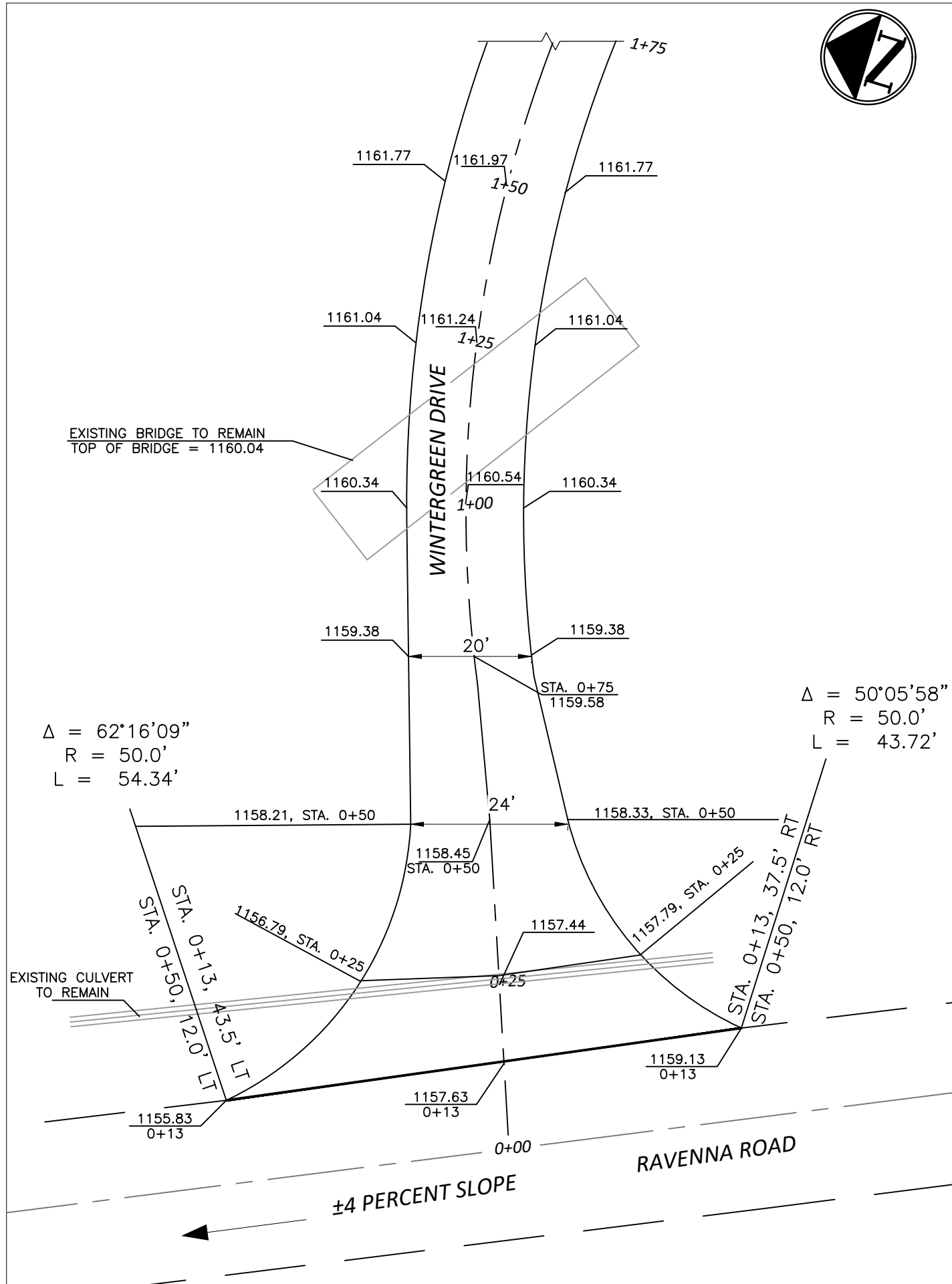
USE = 47 EACH

CALCULATIONS

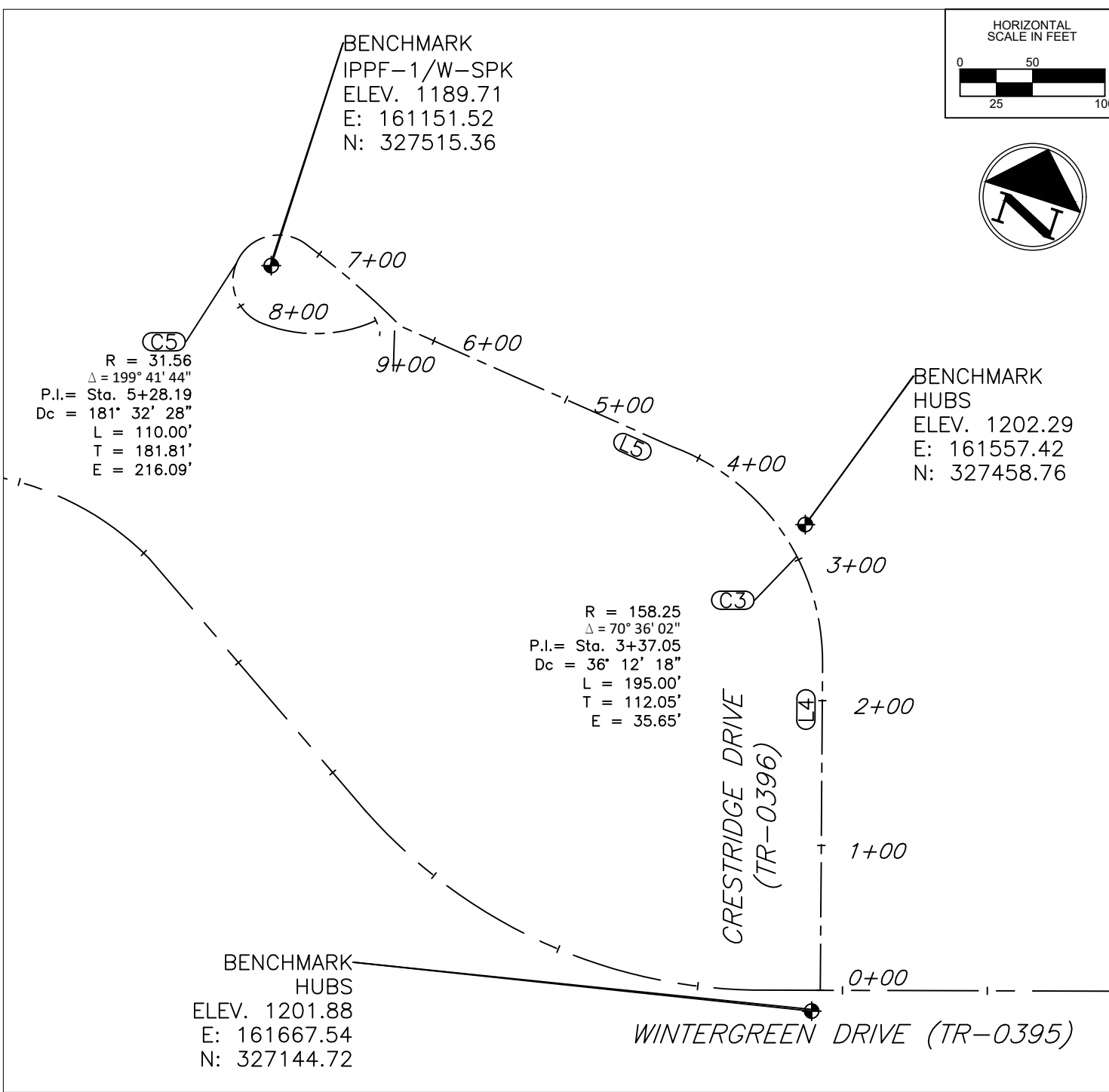


| Alignment - Wintergreen | | | | | | | |
|-------------------------|-------|-------|-------------|---------------|-------------|----------------------|----------------------|
| | START | END | LENGTH (FT) | BEARING | RADIUS (FT) | START POINT (N, E) | END POINT (N, E) |
| L1 | 0+00 | 0+65 | 65.00 | N69° 39' 24"E | | 327277.96, 160890.33 | 327300.56, 160951.27 |
| C1 | 0+65 | 2+55 | 190.00 | S89° 37' 15"E | 202.39 | 327300.56, 160951.27 | 327299.34, 161134.37 |
| L2 | 2+55 | 4+85 | 230.00 | S58° 35' 54"E | | 327299.34, 161134.37 | 327179.50, 161330.69 |
| C2 | 4+85 | 8+00 | 315.00 | S84° 06' 16"E | 365.26 | 327179.50, 161330.69 | 327148.14, 161634.40 |
| L3 | 8+00 | 12+25 | 425.00 | N72° 11' 17"E | | 327148.14, 161634.40 | 327278.15, 162039.02 |

| WINTERGREEN DRIVE ELEVATION TABLE | | | | | | |
|-----------------------------------|---------|-------------------------------|-------------------------------|--|---------------------------|-----------------|
| | Station | Existing Surface CL Elevation | Proposed Surface CL Elevation | Top of Proposed Subgrade CL Elevations | Elevation Difference (FT) | Excavation (CY) |
| 1 | 0+13 | 1157.63 | 1,157.63 | 1157.03 | 0.00 | |
| 2 | 0+25 | 1,157.44 | 1,157.44 | 1156.84 | 0.00 | 5.82 |
| 3 | 0+50 | 1,158.45 | 1,158.45 | 1157.85 | 0.00 | 12.12 |
| 4 | 0+75 | 1,159.58 | 1,159.58 | 1158.98 | 0.00 | 12.12 |
| 5 | 1+00 | 1,160.54 | 1,160.54 | 1159.94* | 0.00 | 12.12 |
| 6 | 1+25 | 1,161.24 | 1,161.24 | 1160.64* | 0.00 | 12.12 |
| 7 | 1+50 | 1,161.82 | 1,161.97 | 1161.37 | 0.15 | 10.62 |
| 8 | 1+75 | 1,162.34 | 1,162.59 | 1161.99 | 0.25 | 8.11 |
| 9 | 2+00 | 1,162.95 | 1,163.20 | 1162.60 | 0.25 | 7.11 |
| 10 | 2+25 | 1,163.63 | 1,163.88 | 1163.28 | 0.25 | 7.11 |
| 11 | 2+50 | 1,164.39 | 1,164.64 | 1164.04 | 0.25 | 7.11 |
| 12 | 2+75 | 1,165.21 | 1,165.46 | 1164.86 | 0.25 | 7.11 |
| 13 | 3+00 | 1,166.05 | 1,166.30 | 1165.70 | 0.25 | 7.11 |
| 14 | 3+25 | 1,167.09 | 1,167.34 | 1166.74 | 0.25 | 7.11 |
| 15 | 3+50 | 1,168.22 | 1,168.47 | 1167.87 | 0.25 | 7.11 |
| 16 | 3+75 | 1,169.59 | 1,169.84 | 1169.24 | 0.25 | 7.11 |
| 17 | 4+00 | 1,171.13 | 1,171.38 | 1170.78 | 0.25 | 7.11 |
| 18 | 4+25 | 1,172.88 | 1,173.13 | 1172.53 | 0.25 | 7.11 |
| 19 | 4+50 | 1,174.83 | 1,175.08 | 1174.48 | 0.25 | 7.11 |
| 20 | 4+75 | 1,176.94 | 1,177.19 | 1176.59 | 0.25 | 7.11 |
| 21 | 5+00 | 1,179.15 | 1,179.40 | 1178.80 | 0.25 | 7.11 |
| 22 | 5+25 | 1,171.44 | 1,171.69 | 1171.09 | 0.25 | 7.11 |
| 23 | 5+50 | 1,183.75 | 1,184.00 | 1183.40 | 0.25 | 7.11 |
| 24 | 5+75 | 1,186.07 | 1,186.32 | 1185.72 | 0.25 | 7.11 |
| 25 | 6+00 | 1,188.40 | 1,188.65 | 1188.05 | 0.25 | 7.11 |
| 26 | 6+25 | 1,190.65 | 1,190.90 | 1190.30 | 0.25 | 7.11 |
| 27 | 6+50 | 1,920.84 | 1,921.09 | 1920.49 | 0.25 | 7.11 |
| 28 | 6+75 | 1,194.69 | 1,194.94 | 1194.34 | 0.25 | 7.11 |
| 29 | 7+00 | 1,196.46 | 1,196.71 | 1196.11 | 0.25 | 7.11 |
| 30 | 7+25 | 1,197.97 | 1,198.22 | 1197.62 | 0.25 | 7.11 |
| 31 | 7+50 | 1,199.35 | 1,199.60 | 1199.00 | 0.25 | 7.11 |
| 32 | 7+75 | 1,200.46 | 1,200.71 | 1200.11 | 0.25 | 7.11 |
| 33 | 8+00 | 1,201.50 | 1,201.75 | 1201.15 | 0.25 | 7.11 |
| 34 | 8+25 | 1,202.12 | 1,202.37 | 1201.77 | 0.25 | 7.11 |
| 35 | 8+50 | 1,202.30 | 1,202.55 | 1201.95 | 0.25 | 7.11 |
| 36 | 8+75 | 1,202.30 | 1,202.55 | 1201.95 | 0.25 | 7.11 |
| 37 | 9+00 | 1,202.20 | 1,202.45 | 1201.85 | 0.25 | 7.11 |
| 38 | 9+25 | 1,202.02 | 1,202.27 | 1201.67 | 0.25 | 7.11 |
| 39 | 9+50 | 1,201.76 | 1,202.01 | 1201.41 | 0.25 | 7.11 |
| 40 | 9+75 | 1,201.38 | 1,201.63 | 1201.03 | 0.25 | 7.11 |
| 41 | 10+00 | 1,200.94 | 1,201.19 | 1200.59 | 0.25 | 7.11 |
| 42 | 10+25 | 1,200.40 | 1,200.65 | 1200.05 | 0.25 | 7.11 |
| 43 | 10+50 | 1,199.76 | 1,200.01 | 1199.41 | 0.25 | 7.11 |
| 44 | 10+75 | 1,198.96 | 1,199.21 | 1198.61 | 0.25 | 7.11 |
| 45 | 11+00 | 1,198.03 | 1,198.28 | 1197.68 | 0.25 | 7.11 |
| 46 | 11+25 | 1,197.00 | 1,197.25 | 1196.65 | 0.25 | 7.11 |
| 47 | 11+50 | 1,195.94 | 1,196.19 | 1195.59 | 0.25 | 7.11 |
| 48 | 11+75 | 1,195.00 | 1,195.25 | 1194.65 | 0.25 | 7.11 |
| 49 | 12+00 | 1,194.40 | 1,194.65 | 1194.05 | 0.25 | 7.11 |
| 50 | 12+25 | 1,193.67 | 1,193.92 | 1193.32 | 0.25 | 7.11 |
| TOTAL= | | | | | | 371.44 |

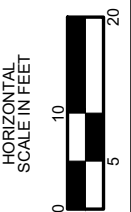
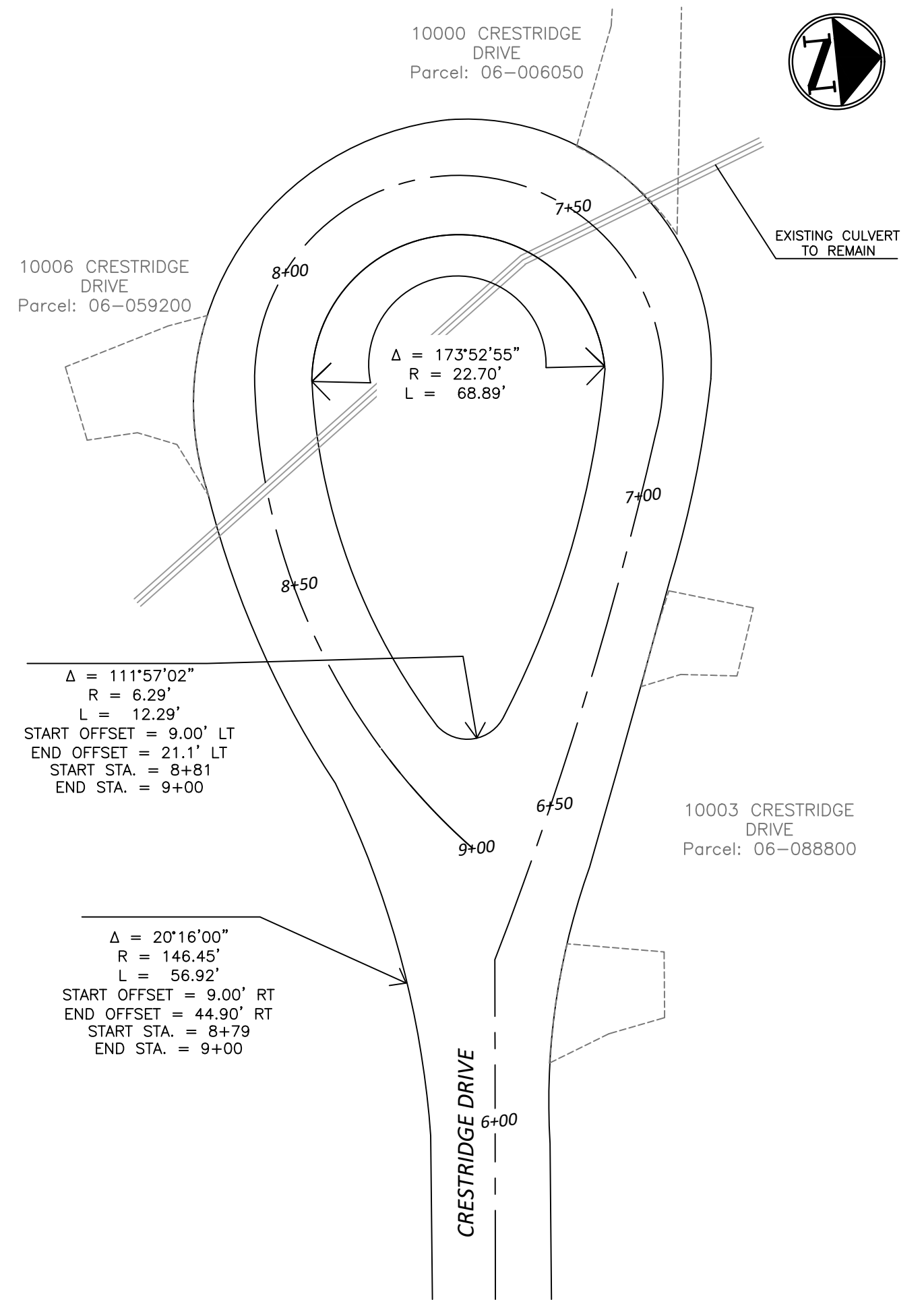
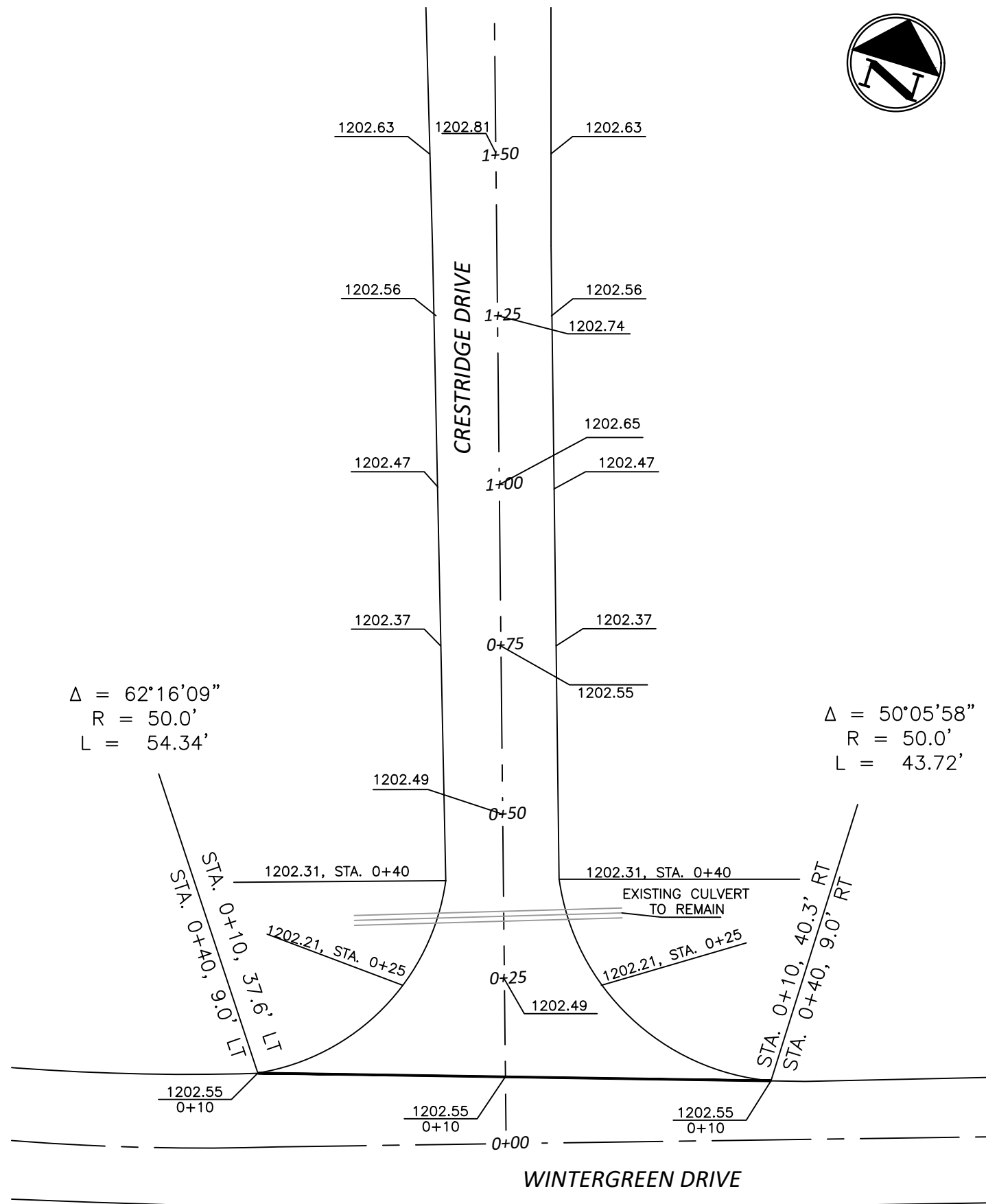


WINTERGREEN DRIVE DETAILS



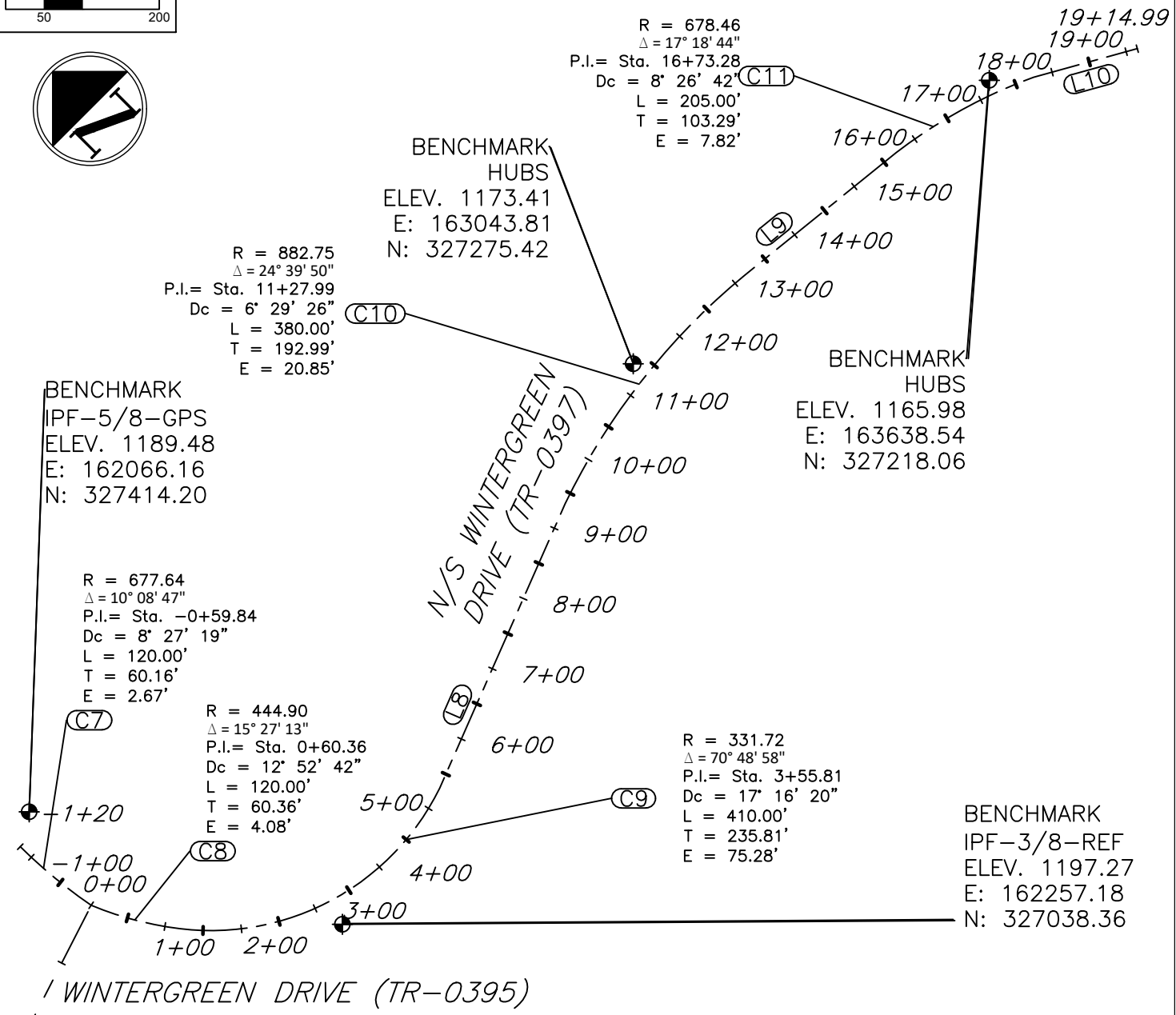
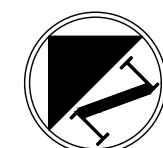
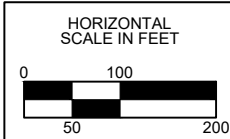
| Alignment - Crestridge | | | | | | | |
|------------------------|-------|------|-------------|---------------|-------------|----------------------|----------------------|
| | START | END | LENGTH (FT) | BEARING | RADIUS (FT) | START POINT (N, E) | END POINT (N, E) |
| L4 | 0+00 | 2+25 | 225.00 | N17° 35' 44"W | | 327158.75, 161667.40 | 327373.22, 161599.38 |
| C3 | 2+25 | 4+20 | 195.00 | N52° 37' 26"W | 158.25 | 327373.22, 161599.38 | 327484.25, 161454.04 |
| L5 | 4+20 | 6+25 | 205.00 | N84° 04' 51"W | | 327484.25, 161454.04 | 327505.39, 161250.13 |
| C4 | 6+25 | 7+10 | 85.00 | N67° 00' 07"W | 594.48 | 327505.39, 161250.13 | 327538.57, 161171.95 |
| C5 | 7+10 | 8+20 | 110.00 | S11° 43' 51"W | 31.56 | 327538.57, 161171.95 | 327477.68, 161159.31 |
| C6 | 8+20 | 9+00 | 80.00 | N70° 24' 06"E | 99.83 | 327477.68, 161159.31 | 327503.80, 161232.67 |

| CRESTRIDGE DRIVE ELEVATION TABLE | | | | | | |
|----------------------------------|---------|-------------------------------|-------------------------------|--|---------------------------|-----------------|
| | Station | Existing Surface CL Elevation | Proposed Surface CL Elevation | Top of Proposed Subgrade CL Elevations | Elevation Difference (FT) | Excavation (CY) |
| 1 | 0+10 | 1202.3 | 1202.55 | 1201.95 | 0.25 | |
| 2 | 0+25 | 1,202.24 | 1,202.49 | 1201.89 | 0.25 | 3.87 |
| 3 | 0+50 | 1,202.24 | 1,202.49 | 1201.89 | 0.25 | 6.45 |
| 4 | 0+75 | 1,202.30 | 1,202.55 | 1201.95 | 0.25 | 6.45 |
| 5 | 1+00 | 1,202.40 | 1,202.65 | 1202.05 | 0.25 | 6.45 |
| 6 | 1+25 | 1,202.49 | 1,202.74 | 1202.14 | 0.25 | 6.45 |
| 7 | 1+50 | 1,202.56 | 1,202.81 | 1202.21 | 0.25 | 6.45 |
| 8 | 1+75 | 1,202.64 | 1,202.89 | 1202.29 | 0.25 | 6.45 |
| 9 | 2+00 | 1,202.60 | 1,202.85 | 1202.25 | 0.25 | 6.45 |
| 10 | 2+25 | 1,202.56 | 1,202.81 | 1202.21 | 0.25 | 6.45 |
| 11 | 2+50 | 1,202.47 | 1,202.72 | 1202.12 | 0.25 | 6.45 |
| 12 | 2+75 | 1,202.37 | 1,202.62 | 1202.02 | 0.25 | 6.45 |
| 13 | 3+00 | 1,202.29 | 1,202.54 | 1201.94 | 0.25 | 6.45 |
| 14 | 3+25 | 1,202.19 | 1,202.44 | 1201.84 | 0.25 | 6.45 |
| 15 | 3+50 | 1,202.11 | 1,202.36 | 1201.76 | 0.25 | 6.45 |
| 16 | 3+75 | 1,201.95 | 1,202.20 | 1201.60 | 0.25 | 6.45 |
| 17 | 4+00 | 1,201.75 | 1,202.00 | 1201.40 | 0.25 | 6.45 |
| 18 | 4+25 | 1,201.47 | 1,201.72 | 1201.12 | 0.25 | 6.45 |
| 19 | 4+50 | 1,200.92 | 1,201.17 | 1200.57 | 0.25 | 6.45 |
| 20 | 4+75 | 1,200.18 | 1,200.43 | 1199.83 | 0.25 | 6.45 |
| 21 | 5+00 | 1,199.36 | 1,199.61 | 1199.01 | 0.25 | 6.45 |
| 22 | 5+25 | 1,198.36 | 1,198.61 | 1198.01 | 0.25 | 6.45 |
| 23 | 5+50 | 1,197.33 | 1,197.58 | 1196.98 | 0.25 | 6.45 |
| 24 | 5+75 | 1,196.20 | 1,196.45 | 1195.85 | 0.25 | 6.45 |
| 25 | 6+00 | 1,165.05 | 1,165.30 | 1164.70 | 0.25 | 6.45 |
| 26 | 6+25 | 1,193.83 | 1,194.08 | 1193.48 | 0.25 | 6.45 |
| 27 | 6+50 | 1,192.58 | 1,192.83 | 1192.23 | 0.25 | 6.45 |
| 28 | 6+75 | 1,191.50 | 1,191.75 | 1191.15 | 0.25 | 6.45 |
| 29 | 7+00 | 1,190.56 | 1,190.81 | 1190.21 | 0.25 | 6.45 |
| 30 | 7+25 | 1,190.00 | 1,190.25 | 1189.65 | 0.25 | 6.45 |
| 31 | 7+50 | 1,189.91 | 1,190.16 | 1189.56 | 0.25 | 6.45 |
| 32 | 7+75 | 1,190.08 | 1,190.33 | 1189.73 | 0.25 | 6.45 |
| 33 | 8+00 | 1,190.22 | 1,190.47 | 1189.87 | 0.25 | 6.45 |
| 34 | 8+25 | 1,190.42 | 1,190.67 | 1190.07 | 0.25 | 6.45 |
| 35 | 8+50 | 1,191.09 | 1,191.34 | 1190.74 | 0.25 | 6.45 |
| 36 | 8+75 | 1,192.07 | 1,192.32 | 1191.72 | 0.25 | 6.45 |
| 37 | 9+00 | 1,193.00 | 1,193.25 | 1192.65 | 0.25 | 6.45 |
| TOTAL= | | | | | | 229.62 |



CRESTRIDGE DRIVE DETAILS

| | |
|------------|---------------|
| DESIGNER | HEL |
| REVIEWER | SCO 04/15/26 |
| PROJECT ID | RC-CHA-V-2026 |
| SHEET | TOTAL |
| P.15 | P.20 |

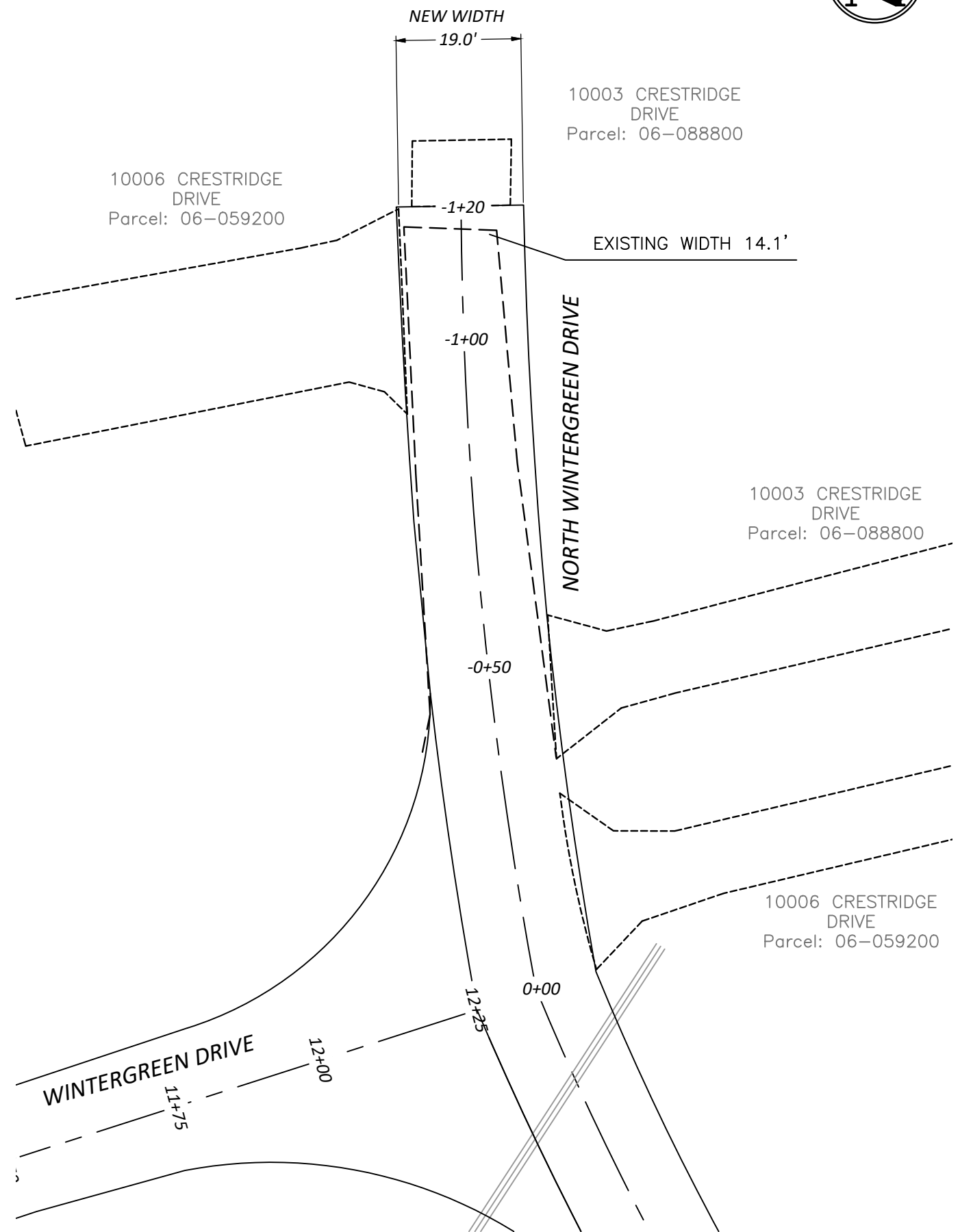


| Alignment - North and South Wintergreen | | | | | | | |
|---|-------|-------|-------------|---------------|-------------|----------------------|----------------------|
| | START | END | LENGTH (FT) | BEARING | RADIUS (FT) | START POINT (N, E) | END POINT (N, E) |
| C7 | -1+20 | 0+00 | 120.00 | S05° 27' 31"E | 677.64 | 327400.51, 162036.60 | 327281.21, 162048.00 |
| C8 | 0+00 | 1+20 | 120.00 | S30° 12' 41"E | 444.90 | 327281.21, 162048.00 | 327177.83, 162108.20 |
| C9 | 1+20 | 5+30 | 410.00 | S73° 25' 46"E | 331.72 | 327177.83, 162108.20 | 327068.20, 162476.63 |
| L8 | 5+30 | 9+35 | 405.00 | N68° 47' 46"E | | 327068.20, 162476.63 | 327214.68, 162854.22 |
| C10 | 9+35 | 13+15 | 380.00 | N83° 07' 02"E | 882.75 | 327214.68, 162854.22 | 327259.87, 163228.57 |
| L9 | 13+15 | 15+70 | 255.00 | S83° 59' 53"E | | 327259.87, 163228.57 | 327233.21, 163482.17 |
| C11 | 15+70 | 17+75 | 205.00 | S73° 46' 03"E | 678.46 | 327233.21, 163482.17 | 327176.12, 163678.25 |
| L10 | 17+75 | 19+15 | 140.00 | S60° 24' 04"E | | 327176.12, 163678.25 | 327106.97, 163799.98 |

N/S WINTERGREEN DRIVE ELEVATION TABLE

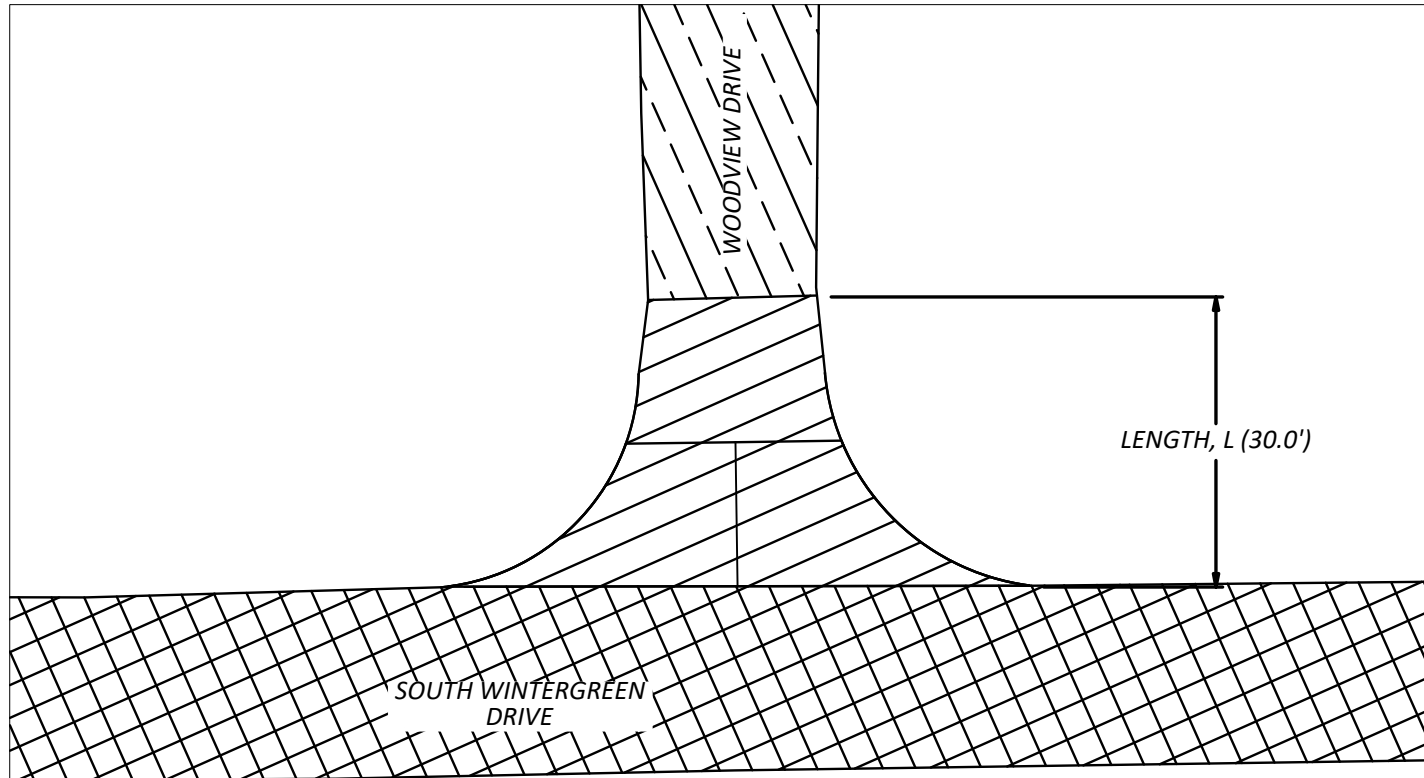
| | Station | Existing Surface CL Elevation | Proposed Surface CL Elevation | Top of Proposed Subgrade CL Elevations | Elevation Difference (FT) | Excavation (CY) |
|----|---------|-------------------------------|-------------------------------|--|---------------------------|-----------------|
| 1 | -1+20 | 1190.36 | 1157.63 | 1157.03 | 0.25 | |
| 2 | -1+00 | 1,190.70 | 1,191.12 | 1190.52 | 0.42 | 4.12 |
| 3 | -0+75 | 1,191.19 | 1,191.74 | 1191.14 | 0.55 | 2.28 |
| 4 | -0+50 | 1,191.89 | 1,192.37 | 1191.77 | 0.48 | 1.71 |
| 5 | -0+25 | 1,192.61 | 1,192.99 | 1192.39 | 0.38 | 3.33 |
| 6 | 0+00 | 1,193.34 | 1,193.59 | 1192.99 | 0.25 | 5.53 |
| 7 | 0+25 | 1,193.67 | 1,193.92 | 1193.32 | 0.25 | 6.78 |
| 8 | 0+50 | 1,193.95 | 1,194.20 | 1193.60 | 0.25 | 6.78 |
| 9 | 0+75 | 1,194.18 | 1,194.49 | 1193.89 | 0.31 | 6.20 |
| 10 | 1+00 | 1,194.43 | 1,194.77 | 1194.17 | 0.34 | 5.34 |
| 11 | 1+25 | 1,194.70 | 1,195.05 | 1194.45 | 0.35 | 4.96 |
| 12 | 1+50 | 1,195.05 | 1,195.33 | 1194.73 | 0.28 | 5.53 |
| 13 | 1+75 | 1,195.40 | 1,195.65 | 1195.05 | 0.25 | 6.49 |
| 14 | 2+00 | 1,195.73 | 1,195.98 | 1195.38 | 0.25 | 6.78 |
| 15 | 2+25 | 1,195.97 | 1,196.22 | 1195.62 | 0.25 | 6.78 |
| 16 | 2+50 | 1,196.21 | 1,196.46 | 1195.86 | 0.25 | 6.78 |
| 17 | 2+75 | 1,196.48 | 1,196.90 | 1196.30 | 0.42 | 5.15 |
| 18 | 3+00 | 1,197.35 | 1,197.60 | 1197.00 | 0.25 | 5.15 |
| 19 | 3+25 | 1,198.65 | 1,198.75 | 1198.15 | 0.10 | 8.21 |
| 20 | 3+50 | 1,198.92 | 1,199.17 | 1198.57 | 0.25 | 8.21 |
| 21 | 3+75 | 1,199.13 | 1,199.38 | 1198.78 | 0.25 | 6.78 |
| 22 | 4+00 | 1,199.11 | 1,199.36 | 1198.76 | 0.25 | 6.78 |
| 23 | 4+25 | 1,198.77 | 1,199.06 | 1198.46 | 0.29 | 6.39 |
| 24 | 4+50 | 1,198.35 | 1,198.60 | 1198.00 | 0.25 | 6.39 |
| 25 | 4+75 | 1,197.70 | 1,197.95 | 1197.35 | 0.25 | 6.78 |
| 26 | 5+00 | 1,197.05 | 1,197.30 | 1196.70 | 0.25 | 6.78 |
| 27 | 5+25 | 1,196.35 | 1,196.60 | 1196.00 | 0.25 | 6.78 |
| 28 | 5+50 | 1,195.40 | 1,195.72 | 1195.12 | 0.32 | 6.11 |
| 29 | 5+75 | 1,194.32 | 1,194.73 | 1194.13 | 0.41 | 4.58 |
| 30 | 6+00 | 1,193.40 | 1,193.76 | 1193.16 | 0.36 | 4.19 |
| 31 | 6+25 | 1,192.70 | 1,192.78 | 1192.18 | 0.08 | 7.35 |
| 32 | 6+50 | 1,191.71 | 1,191.74 | 1191.14 | 0.03 | 10.51 |
| 33 | 6+75 | 1,189.92 | 1,190.51 | 1189.91 | 0.59 | 5.63 |
| 34 | 7+00 | 1,188.65 | 1,189.24 | 1188.64 | 0.59 | 0.27 |
| 35 | 7+25 | 1,187.74 | 1,187.99 | 1187.39 | 0.25 | 3.52 |
| 36 | 7+50 | 1,186.77 | 1,187.09 | 1186.49 | 0.32 | 6.11 |
| 37 | 7+75 | 1,185.78 | 1,186.03 | 1185.43 | 0.25 | 6.11 |
| 38 | 8+00 | 1,184.81 | 1,185.06 | 1184.46 | 0.25 | 6.78 |
| 39 | 8+25 | 1,183.88 | 1,184.13 | 1183.53 | 0.25 | 6.78 |
| 40 | 8+50 | 1,183.00 | 1,183.25 | 1182.65 | 0.25 | 6.78 |
| 41 | 8+75 | 1,181.98 | 1,182.23 | 1181.63 | 0.25 | 6.78 |
| 42 | 9+00 | 1,180.97 | 1,181.22 | 1180.62 | 0.25 | 6.78 |
| 43 | 9+25 | 1,180.08 | 1,180.33 | 1179.73 | 0.25 | 6.78 |
| 44 | 9+50 | 1,179.20 | 1,179.45 | 1178.85 | 0.25 | 6.78 |
| 45 | 9+75 | 1,178.34 | 1,178.59 | 1177.99 | 0.25 | 6.78 |
| 46 | 10+00 | 1,177.48 | 1,177.73 | 1177.13 | 0.25 | 6.78 |
| 47 | 10+25 | 1,176.63 | 1,176.88 | 1176.28 | 0.25 | 6.78 |
| 48 | 10+50 | 1,175.84 | 1,176.09 | 1175.49 | 0.25 | 6.78 |
| 49 | 10+75 | 1,175.05 | 1,175.30 | 1174.70 | 0.25 | 6.78 |
| 50 | 11+00 | 1,174.24 | 1,174.49 | 1173.89 | 0.25 | 6.78 |

| N/S WINTERGREEN DRIVE ELEVATION TABLE | | | | | | |
|---------------------------------------|---------|----------------------------------|----------------------------------|--|------------------------------|-----------------|
| | Station | Existing Surface CL Elevation | Proposed Surface CL Elevation | Top of Proposed Subgrade CL Elevations | Elevation Difference (FT) | Excavation (CY) |
| 51 | 11+25 | 1,173.39 | 1,173.64 | 1173.04 | 0.25 | 6.78 |
| 52 | 11+50 | 1,172.48 | 1,172.73 | 1172.13 | 0.25 | 6.78 |
| 53 | 11+75 | 1,171.50 | 1,171.75 | 1171.15 | 0.25 | 6.78 |
| 54 | 12+00 | 1,170.53 | 1,170.78 | 1170.18 | 0.25 | 6.78 |
| 55 | 12+25 | 1,169.54 | 1,169.79 | 1169.19 | 0.25 | 6.78 |
| 56 | 12+50 | 1,168.50 | 1,168.75 | 1168.15 | 0.25 | 6.78 |
| 57 | 12+75 | 1,167.43 | 1,167.68 | 1167.08 | 0.25 | 6.78 |
| 58 | 13+00 | 1,166.28 | 1,166.53 | 1165.93 | 0.25 | 6.78 |
| 59 | 13+25 | 1,165.21 | 1,165.46 | 1164.86 | 0.25 | 6.78 |
| 60 | 13+50 | 1,164.23 | 1,164.48 | 1163.88 | 0.25 | 6.78 |
| 61 | 13+75 | 1,163.39 | 1,163.64 | 1163.04 | 0.25 | 6.78 |
| 62 | 14+00 | 1,162.60 | 1,162.85 | 1162.25 | 0.25 | 6.78 |
| 63 | 14+25 | 1,162.12 | 1,162.37 | 1161.77 | 0.25 | 6.78 |
| 64 | 14+50 | 1,161.76 | 1,162.01 | 1161.41 | 0.25 | 6.78 |
| 65 | 14+75 | 1,161.59 | 1,161.84 | 1161.24 | 0.25 | 6.78 |
| 66 | 15+00 | 1,161.64 | 1,161.89 | 1161.29 | 0.25 | 6.78 |
| 67 | 15+25 | 1,161.83 | 1,162.08 | 1161.48 | 0.25 | 6.78 |
| 68 | 15+50 | 1,162.20 | 1,162.45 | 1161.85 | 0.25 | 6.78 |
| 69 | 15+75 | 1,162.62 | 1,162.87 | 1162.27 | 0.25 | 6.78 |
| 70 | 16+00 | 1,163.20 | 1,163.45 | 1162.85 | 0.25 | 6.78 |
| 71 | 16+25 | 1,163.87 | 1,164.12 | 1163.52 | 0.25 | 6.78 |
| 72 | 16+50 | 1,164.58 | 1,164.83 | 1164.23 | 0.25 | 6.78 |
| 73 | 16+75 | 1,165.25 | 1,165.50 | 1164.90 | 0.25 | 6.78 |
| 74 | 17+00 | 1,165.96 | 1,166.21 | 1165.61 | 0.25 | 6.78 |
| 75 | 17+25 | 1,166.78 | 1,167.03 | 1166.43 | 0.25 | 6.78 |
| 76 | 17+50 | 1,167.62 | 1,167.87 | 1167.27 | 0.25 | 6.78 |
| 77 | 17+75 | 1,168.48 | 1,168.73 | 1168.13 | 0.25 | 6.78 |
| 78 | 18+00 | 1,169.01 | 1,169.26 | 1168.66 | 0.25 | 6.78 |
| 79 | 18+25 | 1,169.40 | 1,169.65 | 1169.05 | 0.25 | 6.78 |
| 80 | 18+50 | 1,169.55 | 1,169.80 | 1169.20 | 0.25 | 6.78 |
| 81 | 18+75 | 1,169.57 | 1,169.82 | 1169.22 | 0.25 | 6.78 |
| 82 | 19+00 | 1,169.54 | 1,169.79 | 1169.19 | 0.25 | 6.78 |
| 83 | 19+15 | 1,169.49 | 1,169.74 | 1169.14 | 0.25 | 4.07 |
| TOTAL= | | | | | | 516.21 |



NORTH/SOUTH WINTERGREEN DRIVE DETAILS

| | |
|------------|---------------|
| DESIGNER | HEL |
| REVIEWER | SCO 04/15/26 |
| PROJECT ID | RC-CHA-V-2026 |
| SHEET | TOTAL |
| P.17 | P.20 |



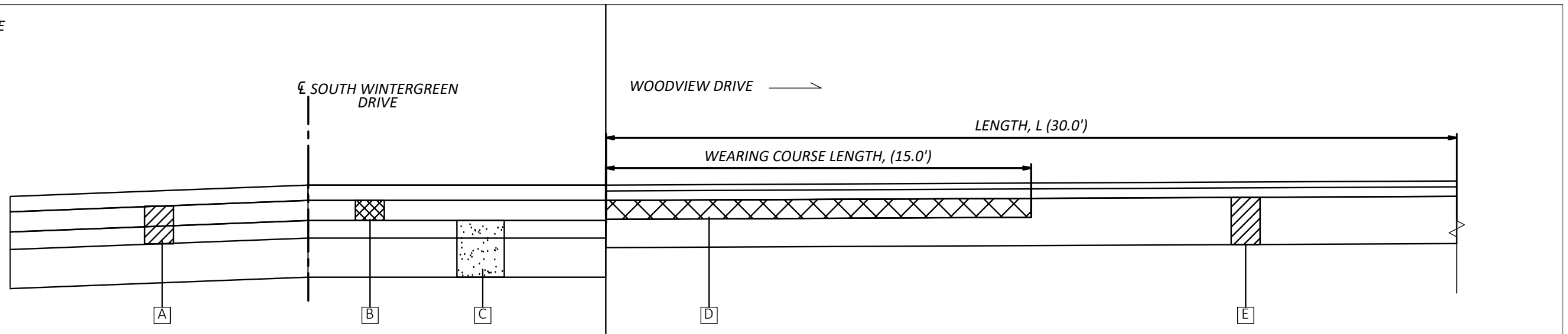
LEGEND

- TRANSITION ZONE
- RESURFACE TYPICAL SECTION
- RECONSTRUCTION TYPICAL SECTION

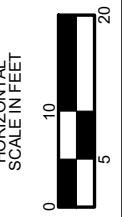
LEGEND

- A** EXISTING ASPHALT DEPTH - (± 8 INCHES)
- B** PAVEMENT REMOVED - (4.25 INCHES)
- C** CEMENT STABILIZATION - (12 INCHES)
- D** WEARING COURSE REMOVED, AS PER PLAN - (4 INCHES)
- E** EXISTING ASPHALT DEPTH - (± 10 INCHES)

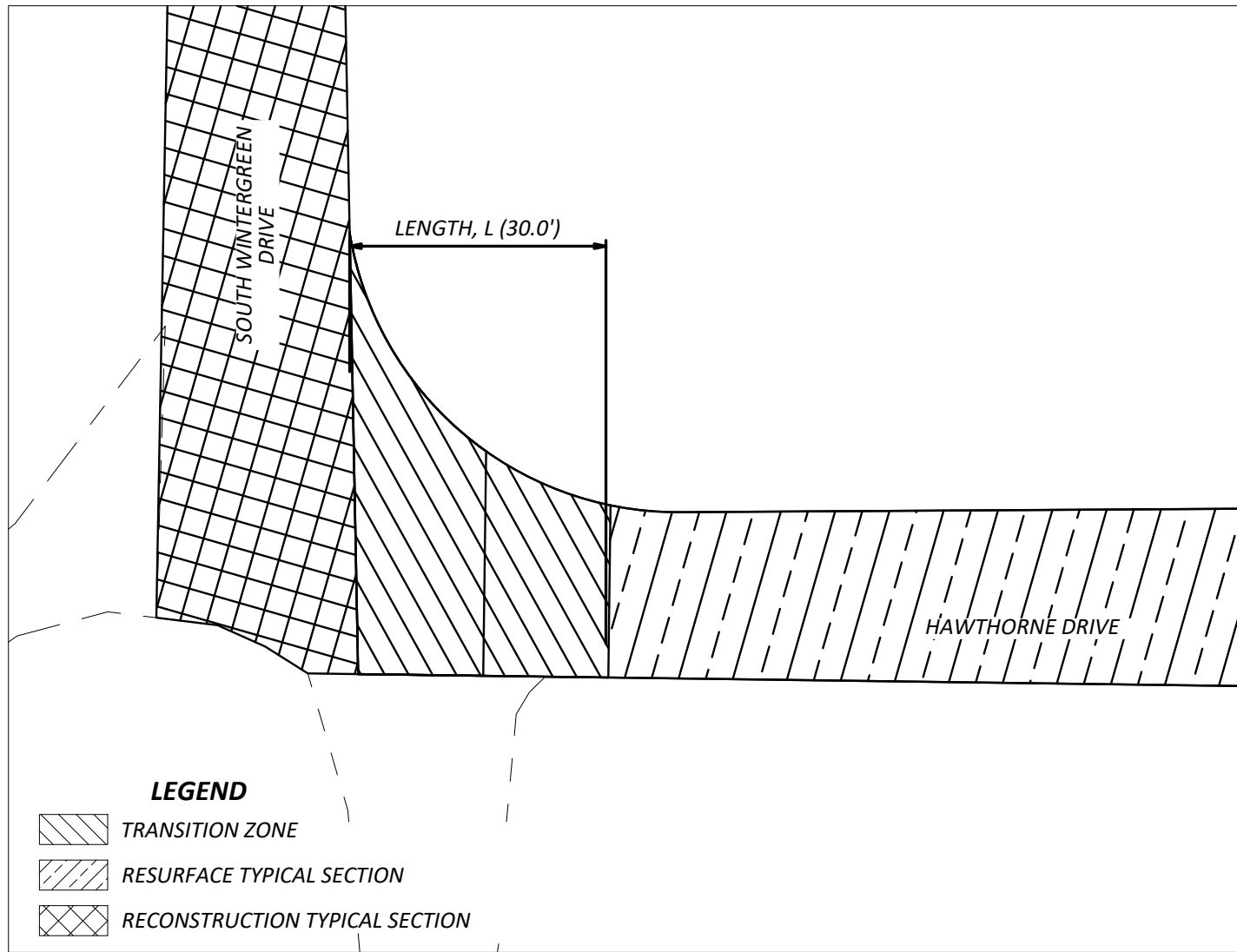
NOT TO SCALE



| DESCRIPTION | TOTAL LENGTH | TOTAL AREA | 202 | | 301 | | 441 | | 441 | |
|---|--------------|------------|-------------------------------------|------------|---------------------------------------|------------|--|------------|---|------------|
| | | | WEARING COURSE REMOVED, AS PER PLAN | AVG. DEPTH | ASPHALT CONCRETE BASE, (449), PG64-22 | AVG. DEPTH | ASPHALT CONCRETE INTERMEDIATE COURSE, (448), PG64-22 | AVG. DEPTH | ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22 | AVG. DEPTH |
| | FT | SY | SY | IN | SY | IN | SY | IN | SY | IN |
| SOUTH WINTERGREEN DRIVE AT WOODVIEW DRIVE | 30.0 | 87 | 57 | 4.0" | 6.3 | 4.0" | 4.8 | 2.0" | 3.0 | 1.25" |
| TOTALS ACCOUNTED FOR IN CALCULATIONS | | | 57 | | 6.3 | | 4.8 | | 3.0 | |

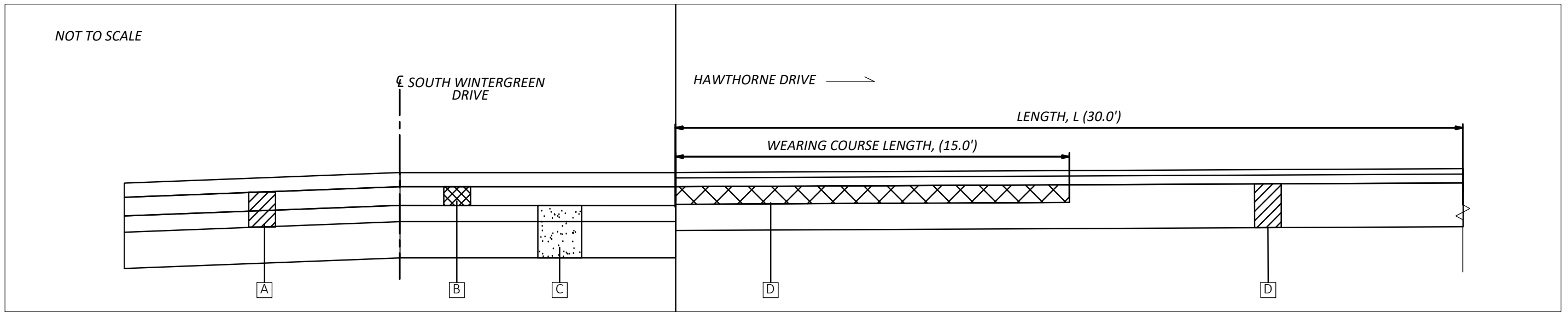


INTERSECTION DETAILS

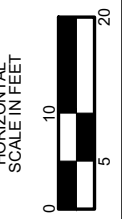


- LEGEND**
- TRANSITION ZONE
 - RESURFACE TYPICAL SECTION
 - RECONSTRUCTION TYPICAL SECTION

- LEGEND**
- A** EXISTING ASPHALT DEPTH - (±8 INCHES)
 - B** PAVEMENT REMOVED - (4.25 INCHES)
 - C** CEMENT STABILIZATION - (12 INCHES)
 - D** WEARING COURSE REMOVED, AS PER PLAN - (4 INCHES)
 - E** EXISTING ASPHALT DEPTH - (±9 INCHES)



| DESCRIPTION | TOTAL LENGTH | TOTAL AREA | 202 | | 301 | | 441 | | 441 | |
|--|--------------|------------|------------------------|---------------------------------------|--|---|------------|-----|------------|-----|
| | | | WEARING COURSE REMOVED | ASPHALT CONCRETE BASE, (449), PG64-22 | ASPHALT CONCRETE INTERMEDIATE COURSE, (448), PG64-22 | ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22 | AVG. DEPTH | CY | AVG. DEPTH | CY |
| SOUTH WINTERGREEN DRIVE AT HAWTHORNE DRIVE | 30.0 | 101 | 4.0" | 62 | 4.0" | 6.9 | 2.0" | 5.6 | 1.25" | 3.5 |
| TOTALS ACCOUNTED FOR IN CALCULATIONS | | | | 62 | | 6.9 | | 5.6 | | 3.5 |



INTERSECTION DETAILS

| | |
|------------|---------------|
| DESIGNER | HEL |
| REVIEWER | SCO 04/15/26 |
| PROJECT ID | RC-CHA-V-2026 |
| SHEET | TOTAL |
| P.19 | P.20 |

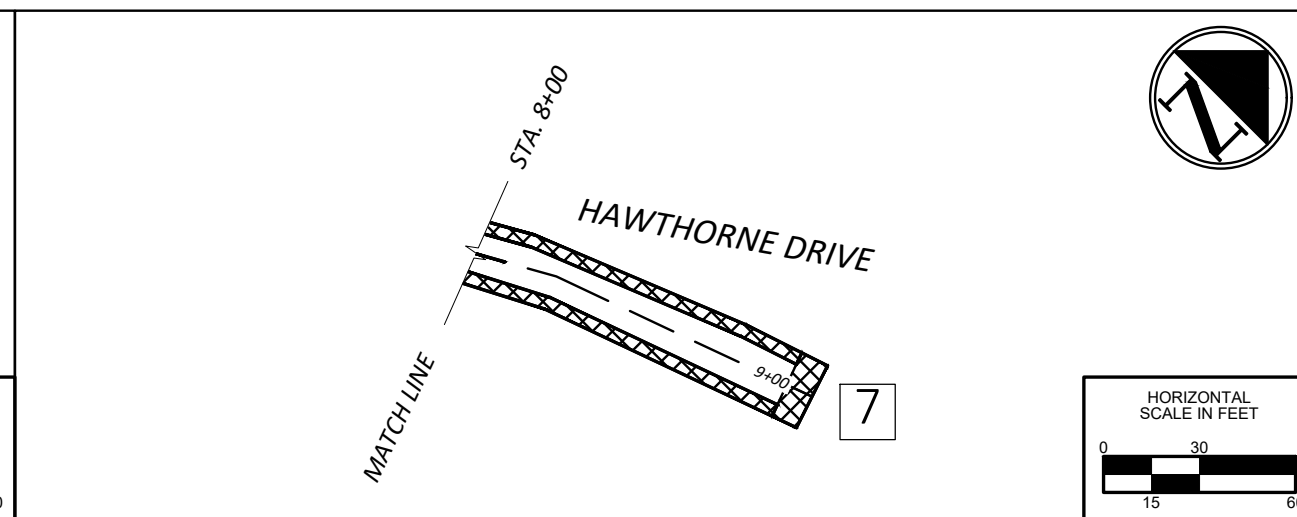
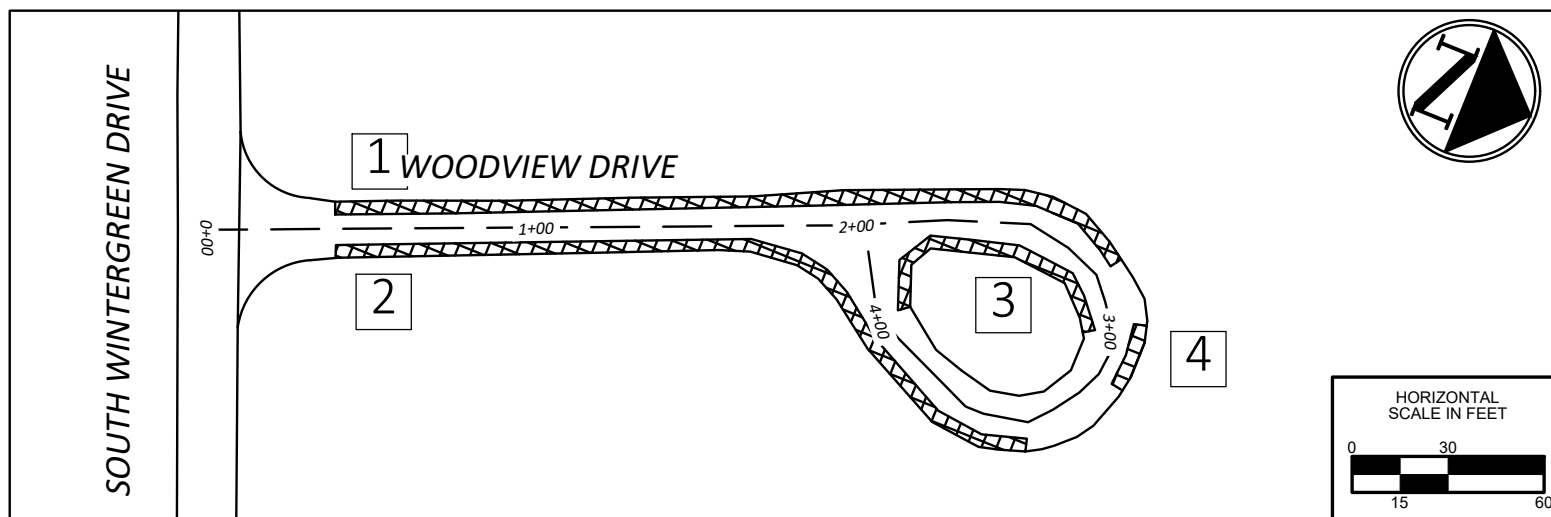
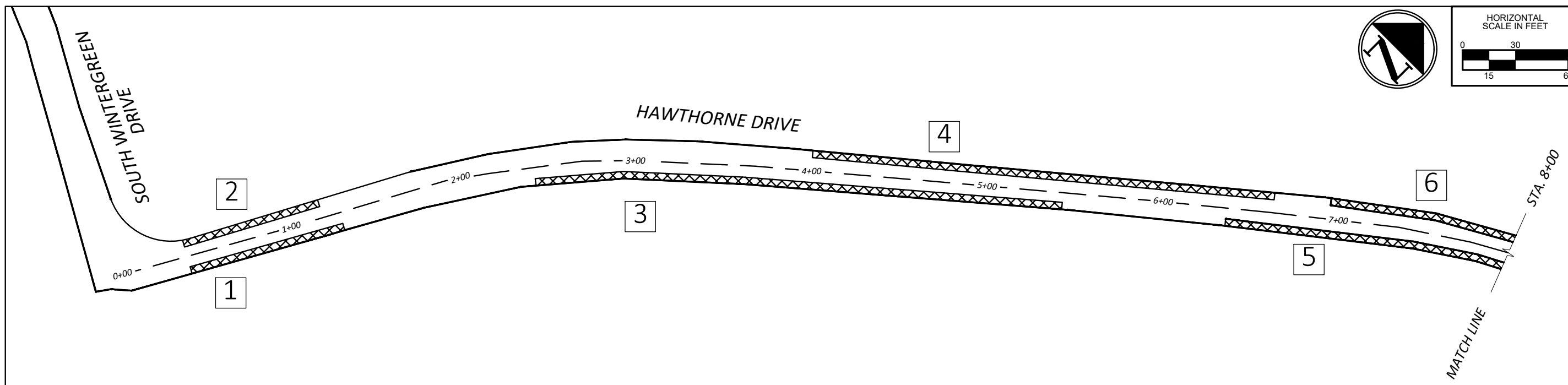
Woodview Drive

| # | Beginning Station | Ending Station | Length (Feet) | Side | Width (Feet) | Depth (Inches) | Volume (CY) | |
|--------------------|-------------------|-------------------------------|---------------|--------------------------|--------------|----------------|--------------|--|
| | 0+00 | South Wintergreen Road | | | | | | |
| 1 | 0+40 | 2+85 | 245 | LEFT | 4 | 6 | 18.15 | |
| 2 | 0+40 | 3+45 | 240 | RIGHT | 4 | 6 | 17.78 | |
| 3 | 3+05 | 4+00 | 85 | Inner Edge of Cul-De-Sac | 4 | 6 | 6.30 | |
| 4 | 3+45 | 3+65 | 20 | LEFT | 4 | 6 | 1.48 | |
| SUB-TOTAL | | | | | | | 43.70 | |
| CONTINGENCY | | | | | | | 11.3 | |
| USE | | | | | | | 55.0 | |

Hawthorne Drive

| # | Beginning Station | Ending Station | Length (Feet) | Side | Width (Feet) | Depth (Inches) | Volume (CY) | |
|--------------------|-------------------|-------------------------------|---------------|-------|--------------|----------------|---------------|--|
| | 0+00 | South Wintergreen Road | | | | | | |
| 1 | 0+40 | 1+30 | 90 | RIGHT | 4 | 6 | 6.67 | |
| 2 | 0+40 | 1+20 | 80 | LEFT | 4 | 6 | 5.93 | |
| 3 | 2+45 | 5+45 | 300 | RIGHT | 4 | 6 | 22.22 | |
| 4 | 4+03 | 6+68 | 265 | LEFT | 4 | 6 | 19.63 | |
| 5 | 6+40 | 9+10 | 270 | RIGHT | 4 | 6 | 20.00 | |
| 6 | 7+00 | 9+10 | 210 | LEFT | 4 | 6 | 15.56 | |
| 7 | 9+10 | 9+19 | 9 | BOTH | 22 | 6 | 3.67 | |
| SUB-TOTAL | | | | | | | 93.67 | |
| CONTINGENCY | | | | | | | 11.33 | |
| USE | | | | | | | 105.00 | |

 PAVEMENT REPAIRS



GENERAL NOTES

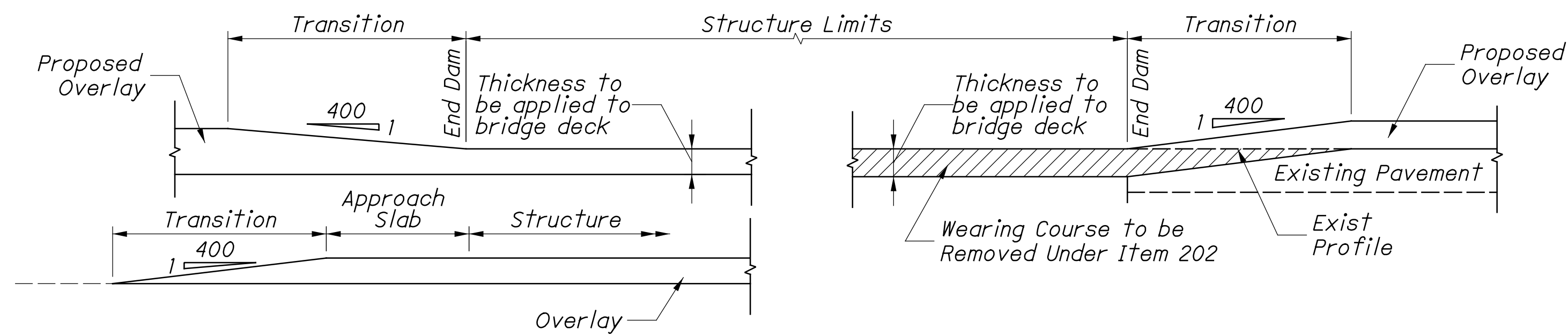
| | |
|------------|---------------|
| DESIGNER | HEL |
| REVIEWER | SCO 04/15/26 |
| PROJECT ID | RC-CHA-V-2026 |
| SHEET | TOTAL |
| P.20 | P.20 |

| REVISIONS |
|------------|
| 01-19-2024 |
| 01-21-2022 |
| 01-17-2020 |
| 10-18-2019 |
| 07-18-2014 |
| 04-20-2012 |
| 01-20-2012 |
| 10-19-2007 |

SDS ENGINEER
W. Feehan

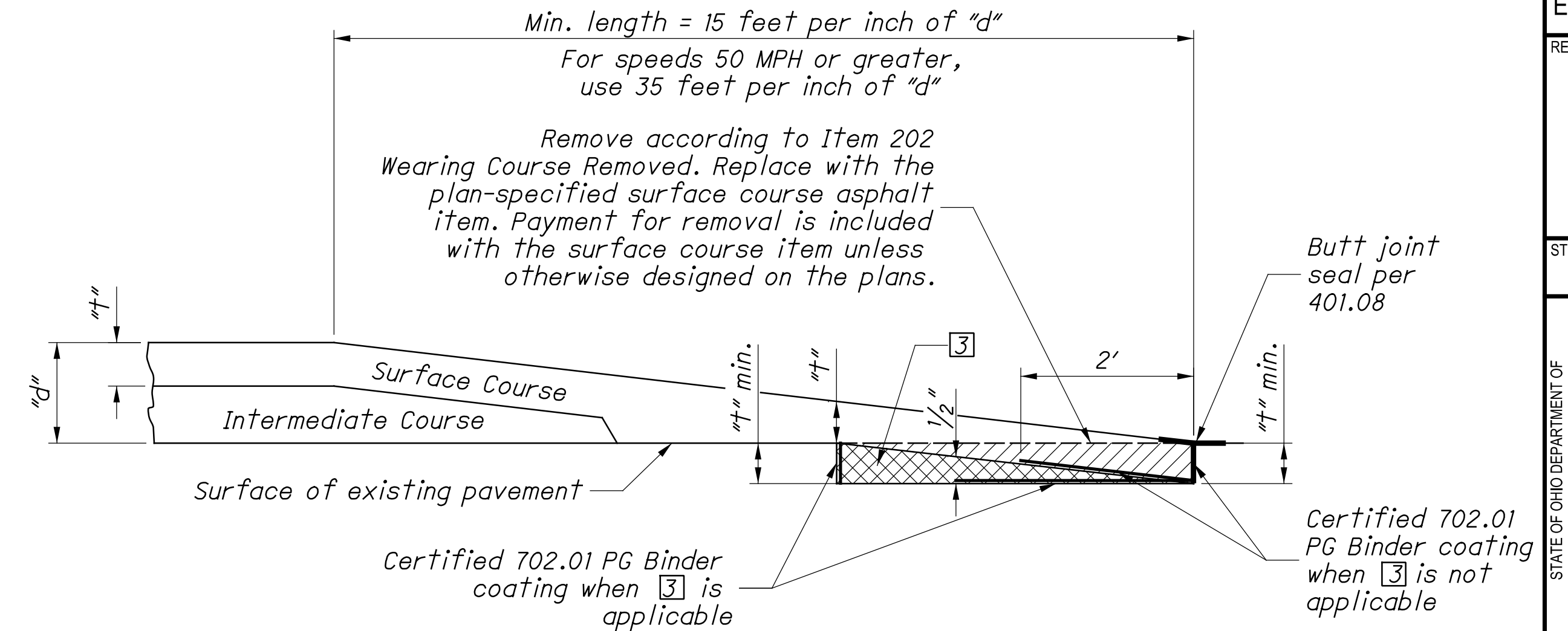
STATE OF OHIO DEPARTMENT OF
TRANSPORTATION ADMINISTRATOR
Craig Landefeld

ASPHALT PAVING

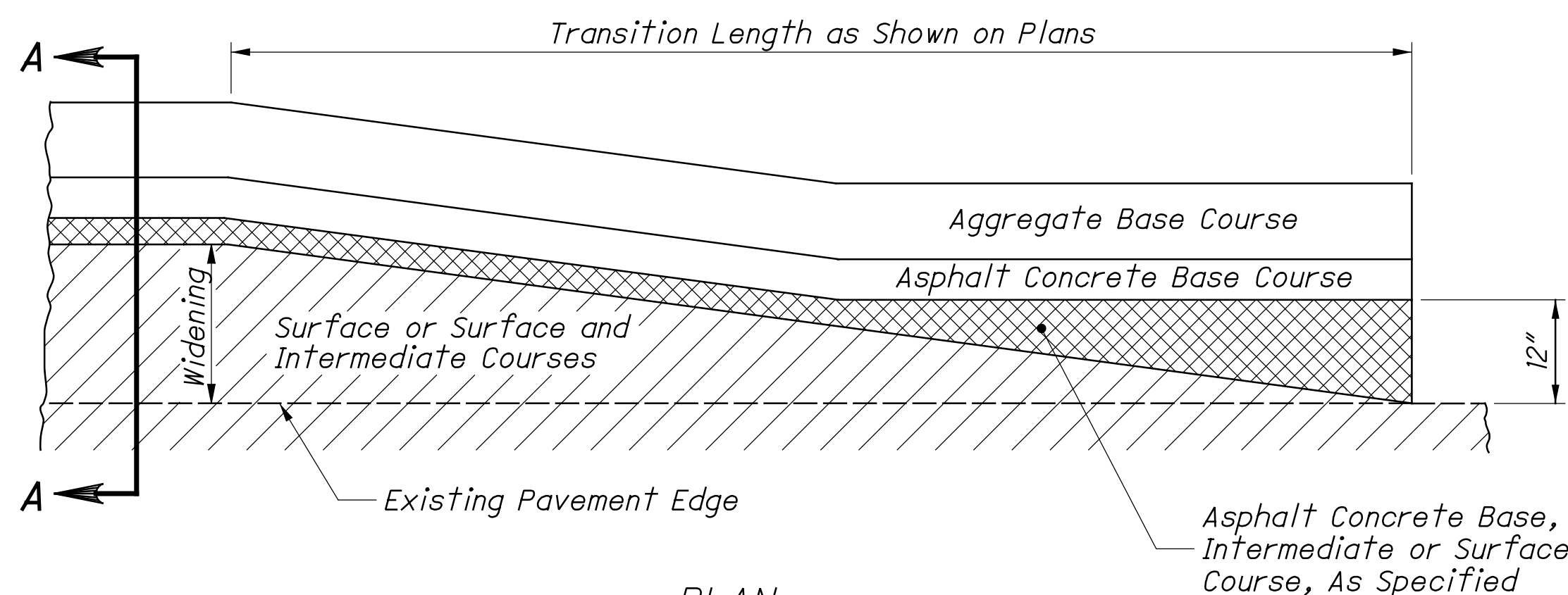


Details assume non-settled approach slabs. Smoothing of the profile for Settlement is required per plan grades or as directed by the Engineer.

TRANSITIONING AT STRUCTURES

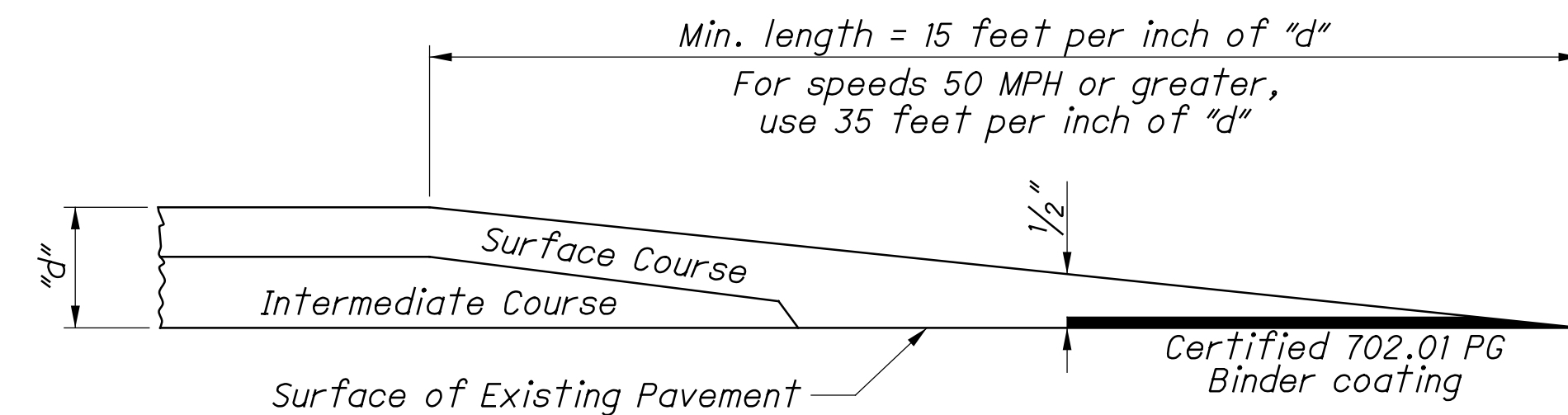


Butt Joint



PLAN

MERGING EDGE OF PAVEMENT WIDENING WITH EDGE OF EXISTING PAVEMENT

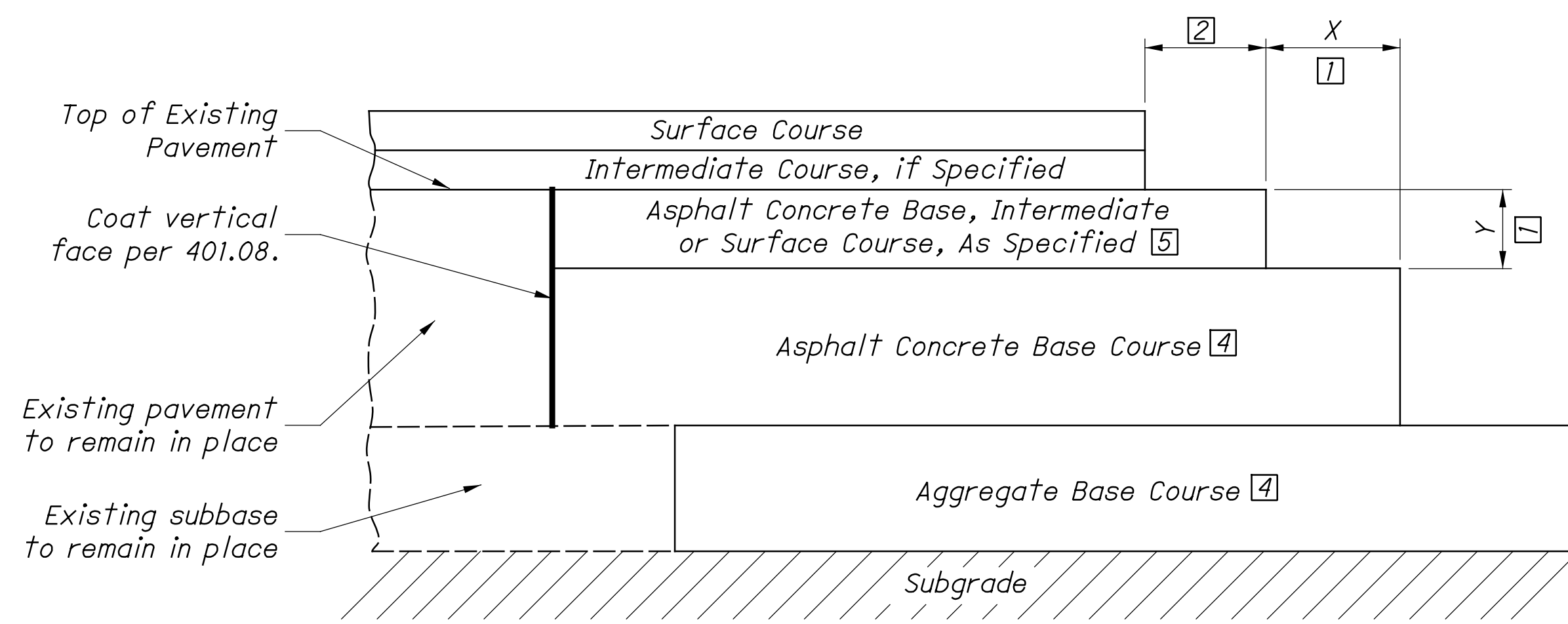


Taper End

NOTE: Butt joint is required unless the taper end is specified in the plans or approved by the Engineer

BUTT JOINTS AND TAPER ENDS

Values for "t" and "d" are obtained from the plans.



SECTION A-A

COURSE DETAIL FOR WIDENING

Note: Do not use this detail for cold longitudinal joints required by phasing for maintenance of traffic.

LEGEND

- [1] The extended width (X) of a base or subbase lift shall be equal to the depth (Y) of the overlying lift or 6", whichever is greater, or as shown on the plans.
- [2] The extended width shall be equal to the combined thickness of the surface and intermediate courses, or 4", whichever is greater.
- [3] Permissible removal and replacement.
- [4] The bottom of the proposed Asphalt Concrete Base course and Aggregate Base course may not align with the existing pavement or subbase as shown. Ensure the widening subgrade is at or below the existing subgrade to ensure proper drainage.
- [5] Construct the lift shown so that the compacted surface slightly exceeds the elevation of the top of the existing pavement.

DESIGN AGENCY



SCD NUMBER
BP-3.1

SHEET TOTAL
1 2

| REVISIONS | |
|------------|--|
| 01-19-2024 | |
| 01-21-2022 | |
| 01-17-2020 | |
| 10-18-2019 | |
| 07-18-2014 | |
| 04-20-2012 | |
| 01-20-2012 | |
| 10-19-2007 | |

STDS ENGINEER
W. Feehan

STATE OF OHIO DEPARTMENT OF
TRANSPORTATION ADMINISTRATOR
Craig Landefeld

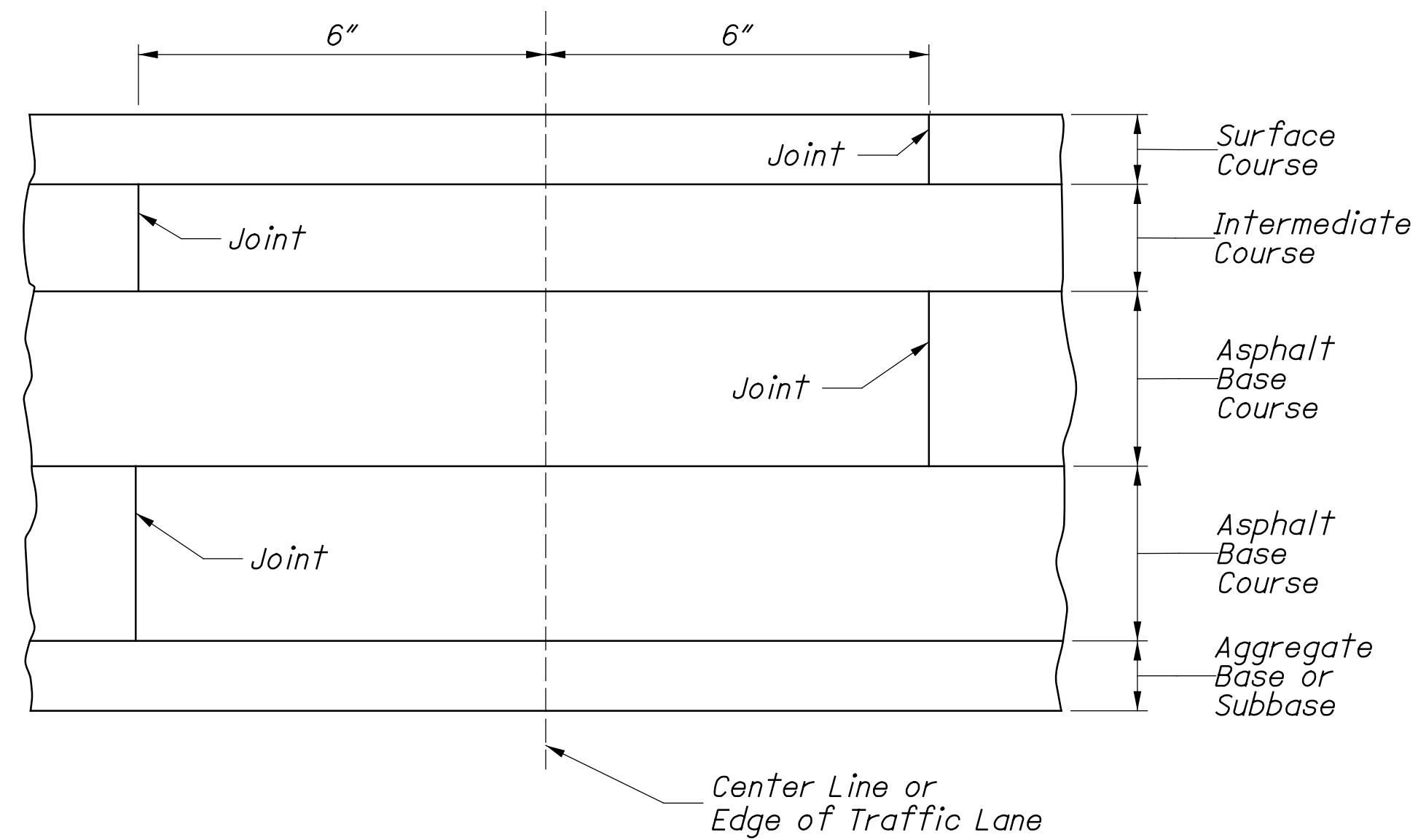
ASPHALT PAVING

DESIGN AGENCY

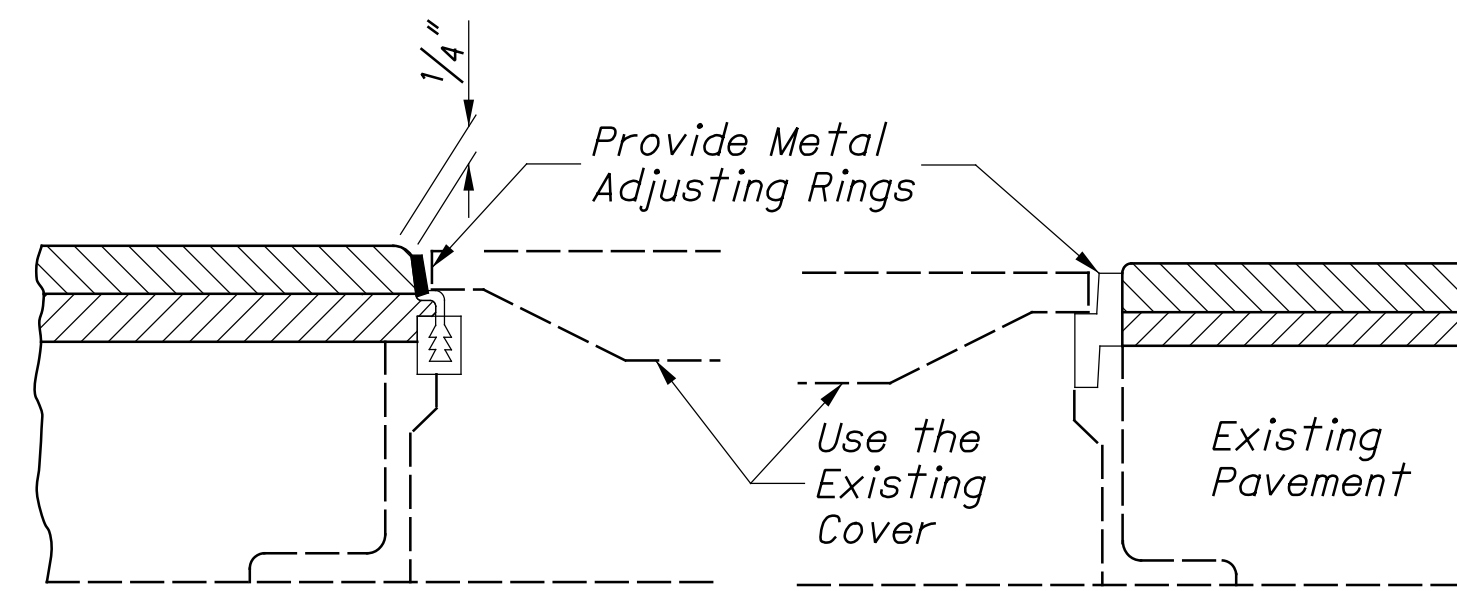


SCD NUMBER
BP-3.1

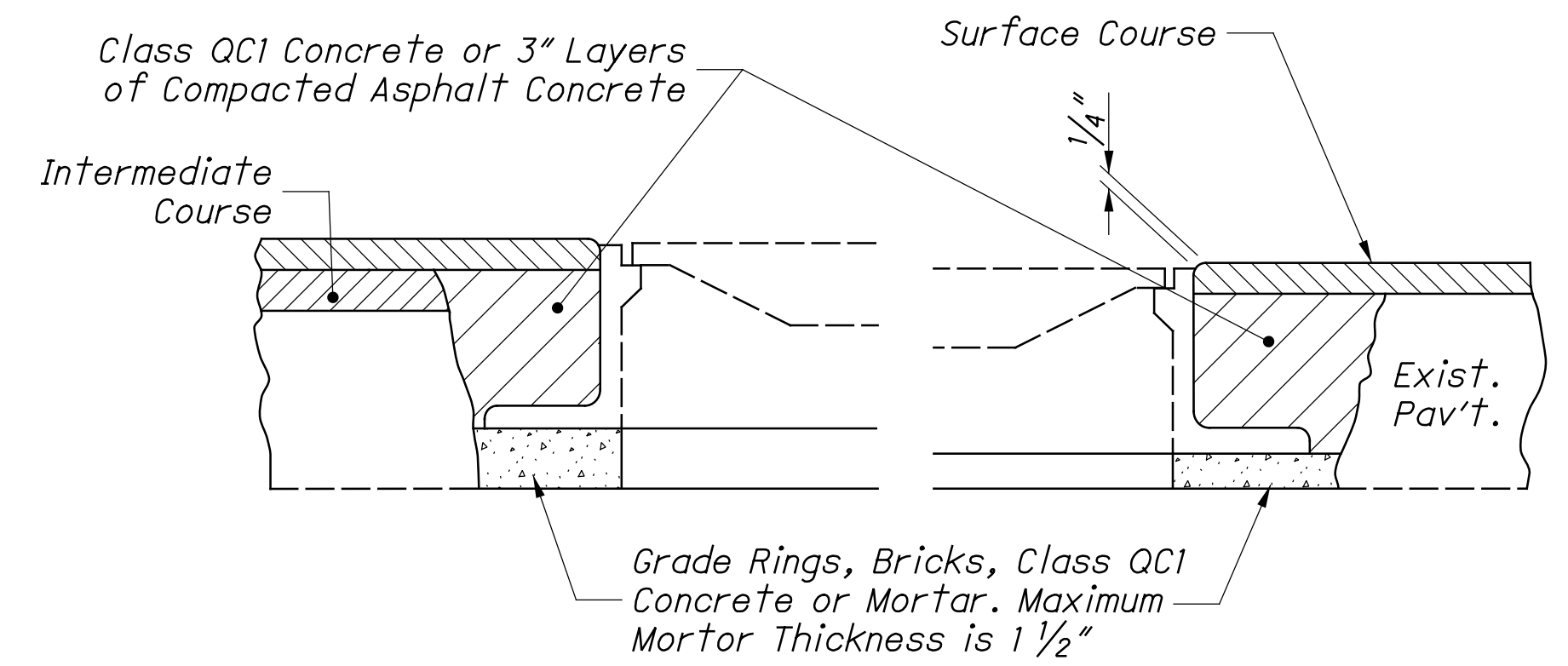
| | |
|-------|-------|
| SHEET | TOTAL |
| 2 | 2 |



LAPPING LONGITUDINAL JOINTS
(see notes)

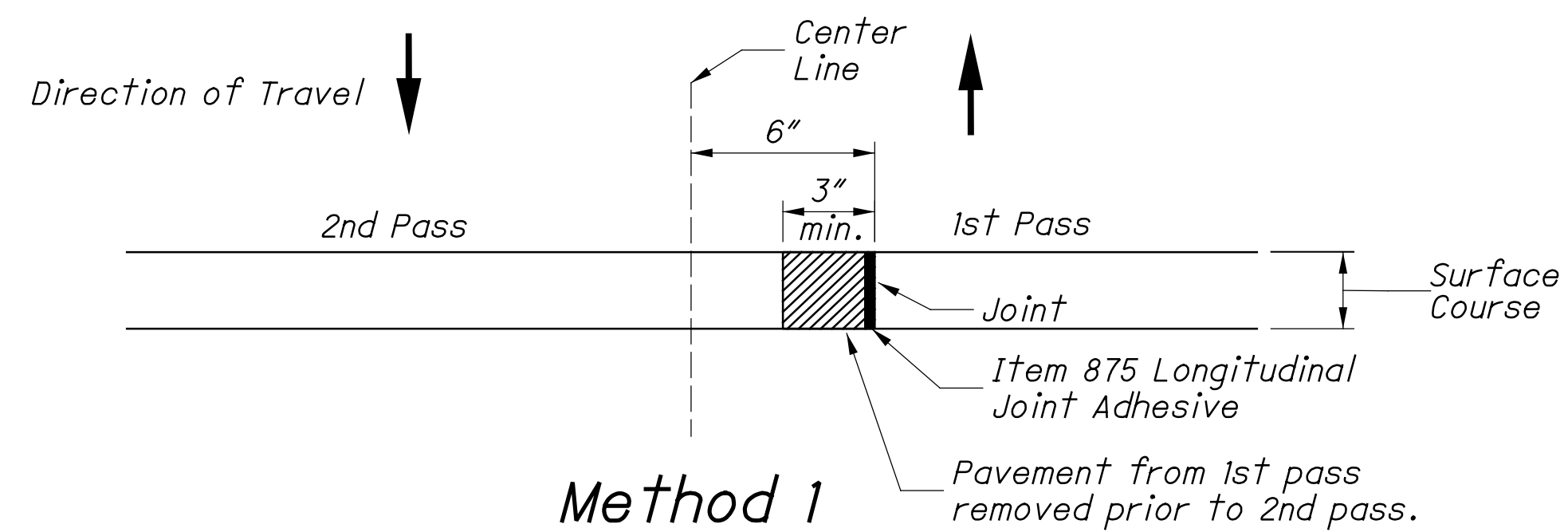


Using Metal Adjusting Rings

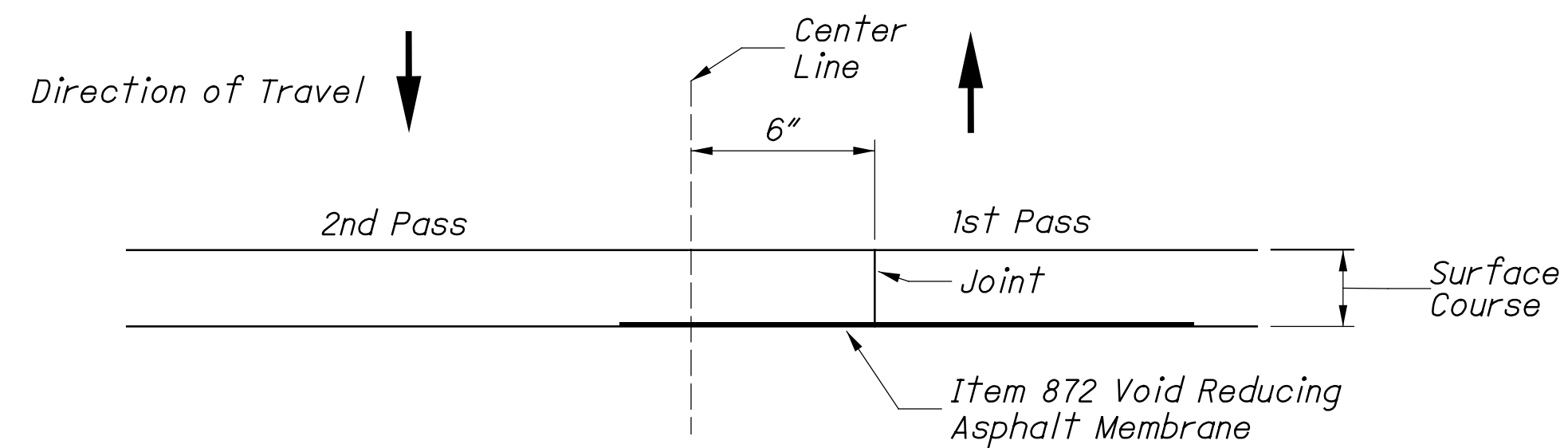


Using Concrete or Mortar

MANHOLES ADJUSTED TO GRADE

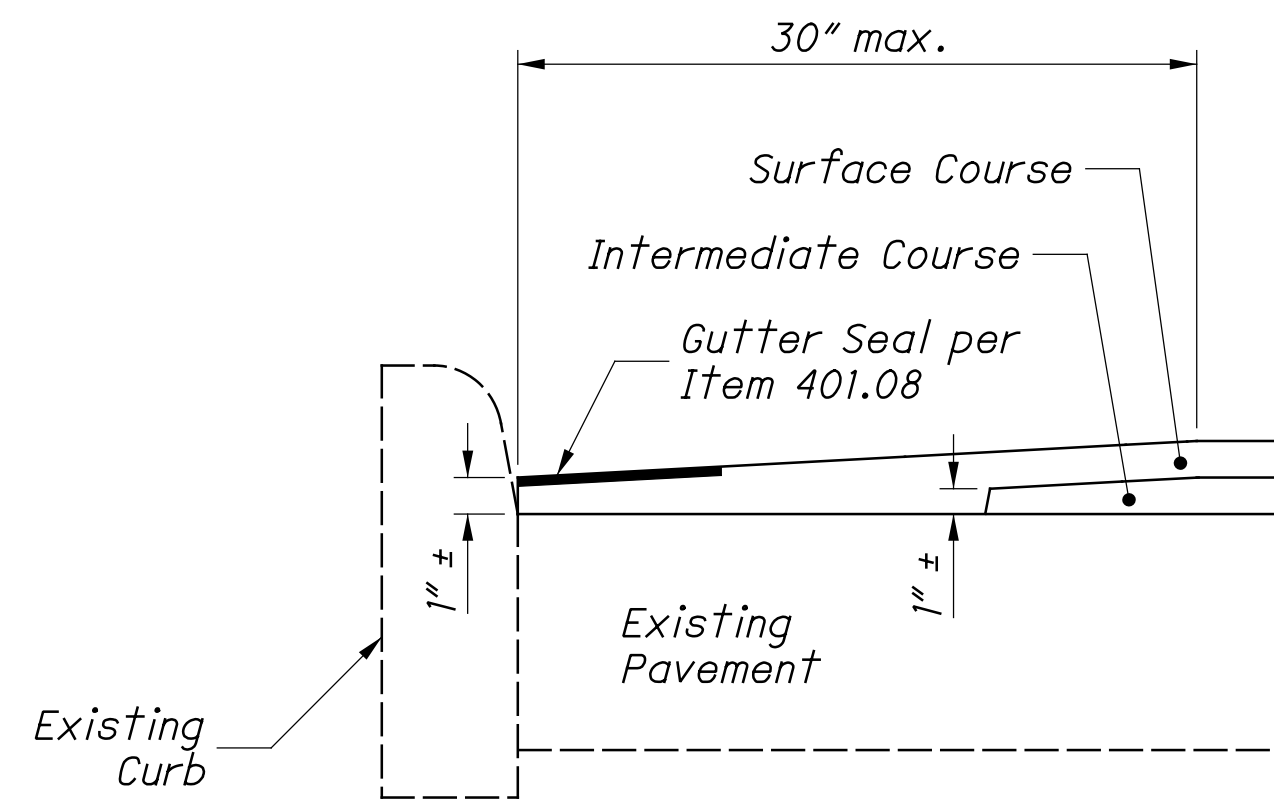


Method 1



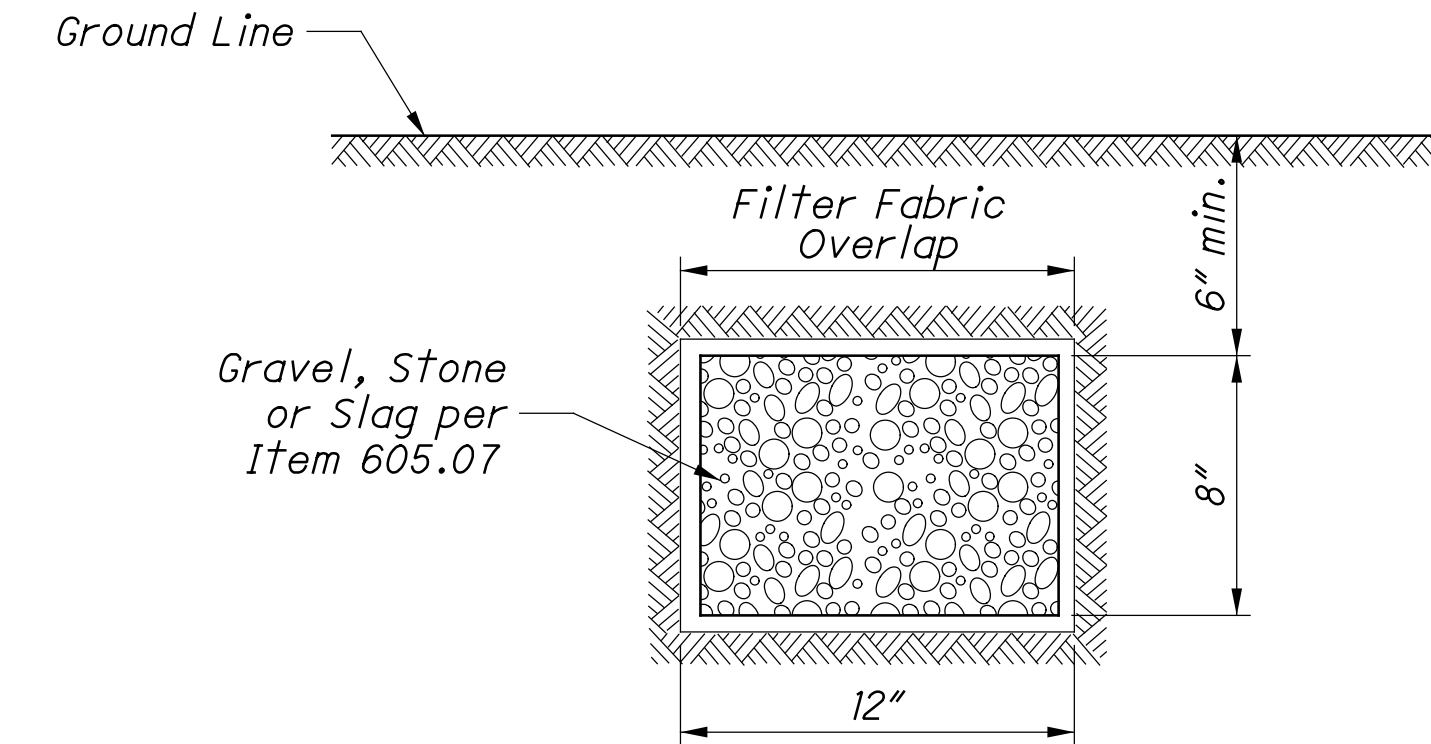
Method 2

LONGITUDINAL JOINT PREPARATION
(if specified)



GUTTER FINISH

Special care shall be taken during construction to obtain maximum compaction of asphalt concrete in gutters.



AGGREGATE DRAIN

Aggregate drains to be placed where and as directed by Engineer. Provide Filter Fabric when specified as a separate pay item.

NOTES

GENERAL: Lap all longitudinal joints as shown regardless of the number of courses being placed. Do not construct a longitudinal joint directly above and in line with the longitudinal joint of previously placed material.

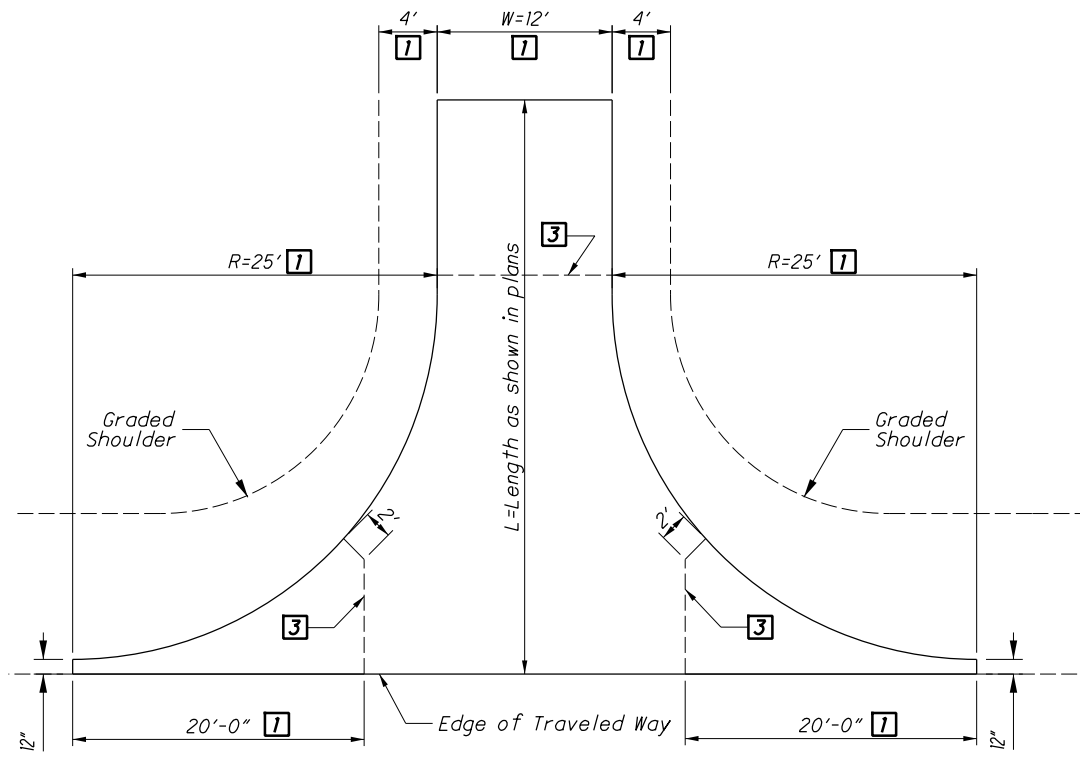
METAL ADJUSTING RINGS:

Metal adjusting rings shall:

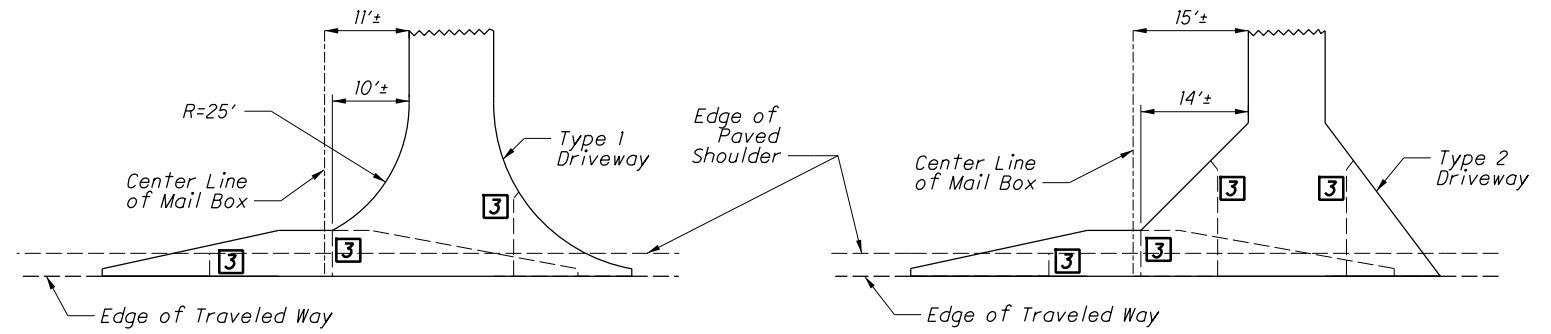
- (a) Attach securely to the existing frame by welding or mechanical devices;
- (b) Consist either of cast metal having an integral rim and seat, or be fabricated metal with a sturdy connection between the seat and rim; and
- (c) Provide an even seat for the manhole cover.

In addition, the adjusting ring type shall be a design acceptable to the local governmental agency responsible for street and sewer maintenance. Any installation unacceptable to the Engineer shall be replaced by the Contractor at his expense.

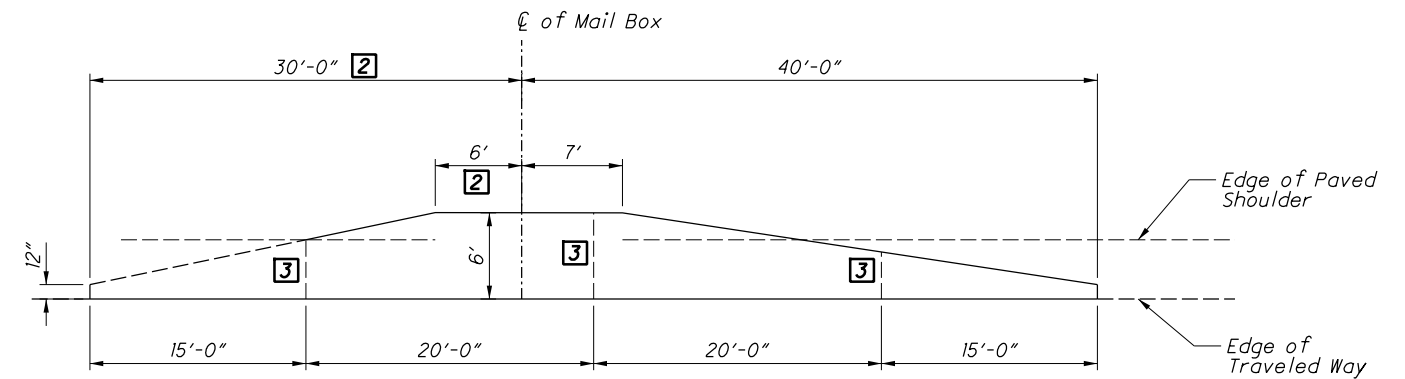
PAYMENT: The Department will pay for manholes adjusted to grade using Item 611 Manhole, Catch Basin, or Inlet Adjusted to Grade. The Department will pay for longitudinal joint preparation using Item 874 Longitudinal Joint Preparation.



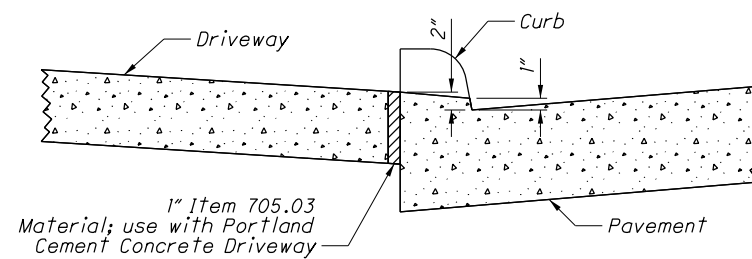
TYPE 1 DRIVEWAY



COMBINED DRIVEWAY & MAIL BOX APPROACH

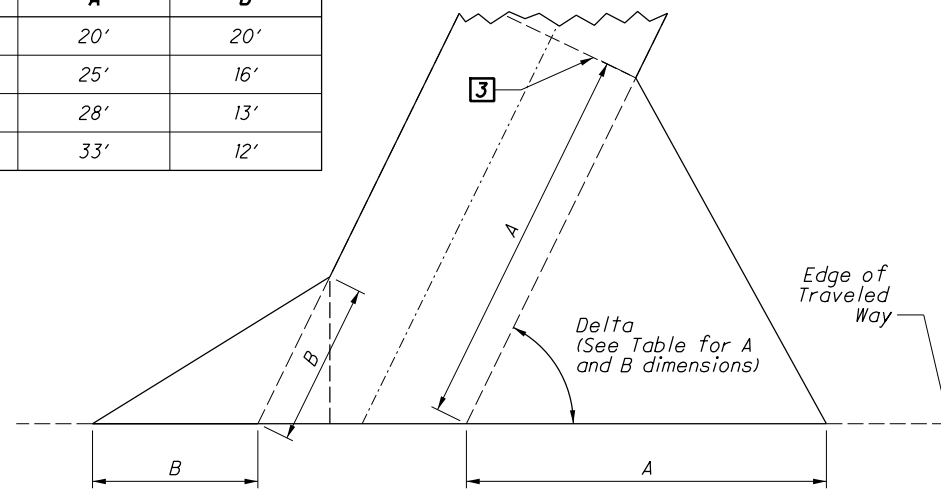


TYPICAL MAIL BOX APPROACH



DROP CURB DETAILS AT DRIVEWAYS

| Delta | A | B |
|------------|-----|-----|
| 80° to 90° | 20' | 20' |
| 75° to 85° | 25' | 16' |
| 65° to 75° | 28' | 13' |
| 55° to 65° | 33' | 12' |



TYPE 2 SKEWED DRIVEWAY

Transition from Standard Curb Section to Drop Curb Section to be made in 18" distance from Driveway

NOTES

GENERAL: The design details shown here shall govern the construction of driveways unless otherwise shown in the project plans.

The pavement type and thickness shall be specified in the project plans.

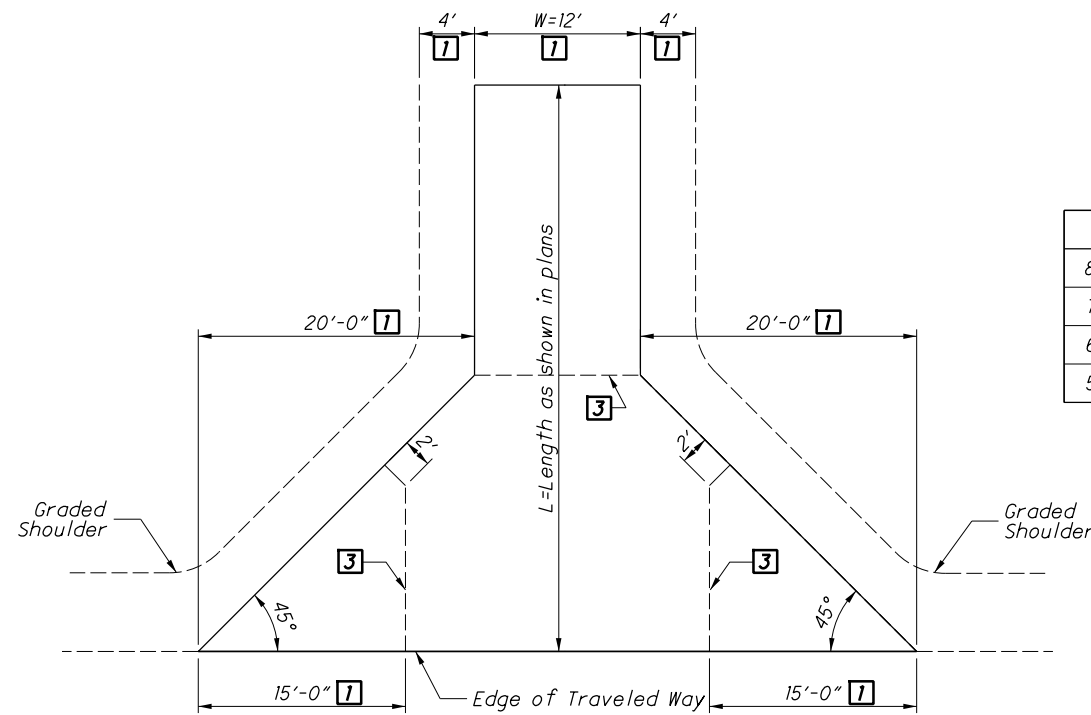
Driveway and mail box approaches shall be combined when feasible.

JOINTS: Impressed joints for portland cement concrete driveways shall be 1/4" minimum width by 3"± depth and shall be sealed with Item 705.04 or ASTM D 1850.

In addition to the joints shown here, impressed joints without tie bars shall be placed in portland cement concrete driveways at intervals not to exceed 17' in the portion of the driveway beyond the flare.

LEGEND

- 1 Unless otherwise shown in the plans.
- 2 Add 3' for each additional Mail Box
- 3 Impressed Joint without Tie Bars for Portland Cement Surface



TYPE 2 DRIVEWAY

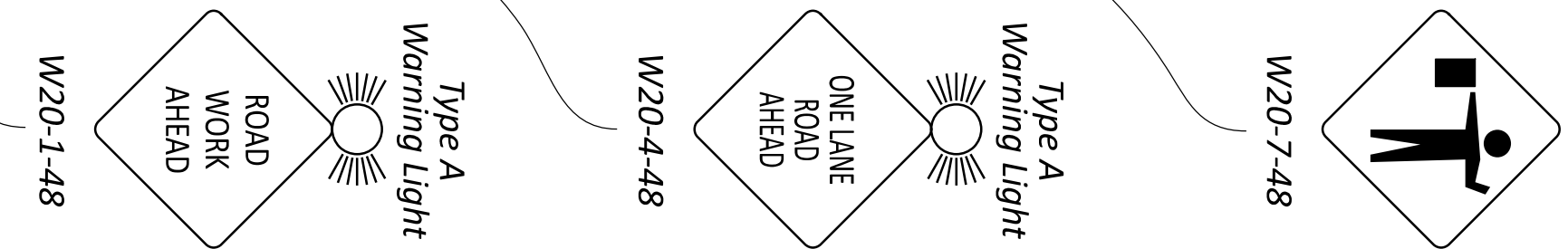
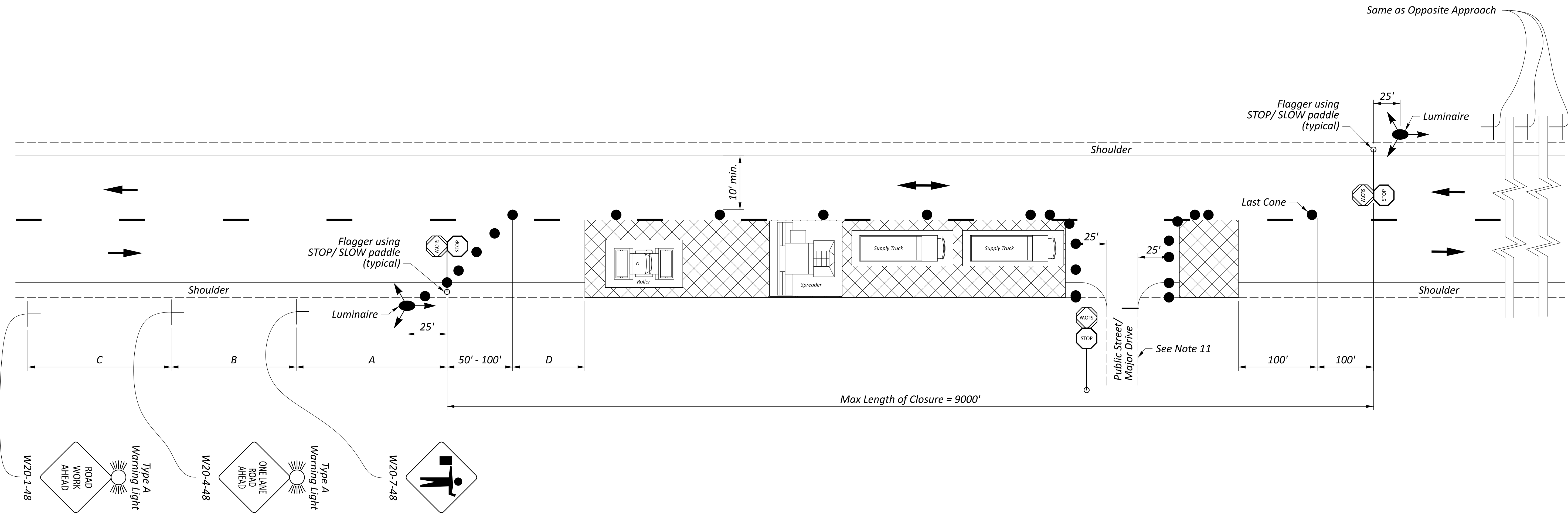
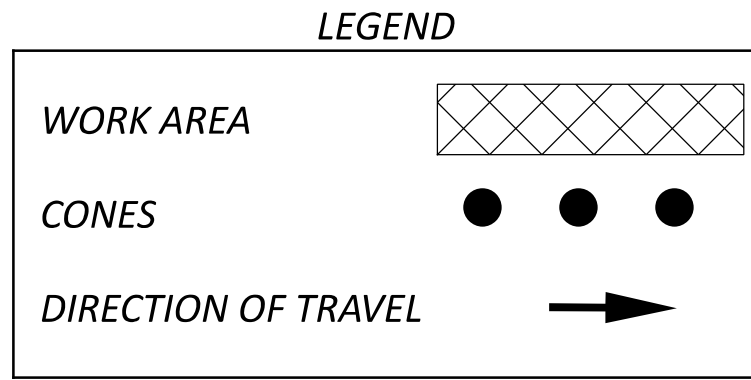


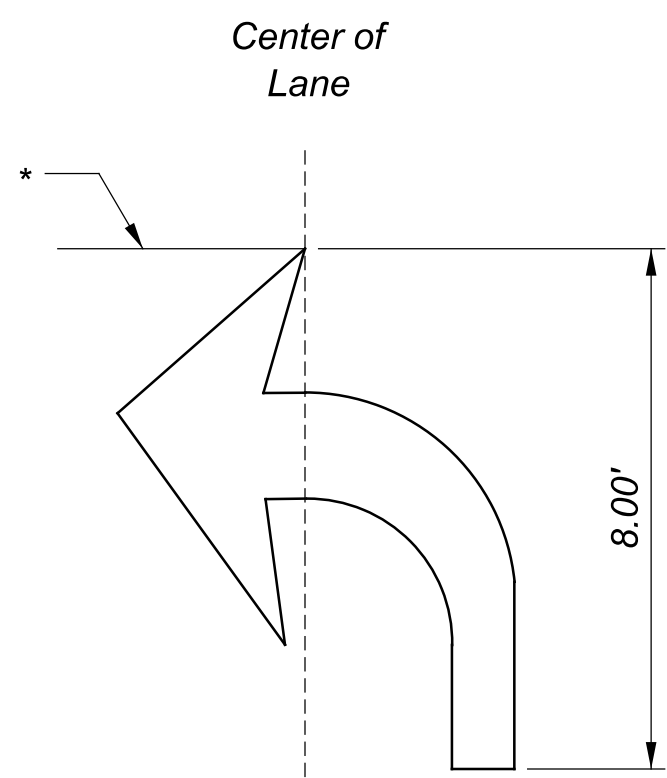
TABLE I (SIGN SPACING)

| ROAD TYPE | DISTANCE BETWEEN SIGNS (FT) | | |
|----------------------|-----------------------------|-----|-----|
| | A | B | C |
| Two-Lane (≤ 40 MPH) | 100 | 100 | 100 |
| Two-Lane (45-50 MPH) | 350 | 350 | 350 |
| Two-Lane (55-60 MPH) | 500 | 500 | 500 |

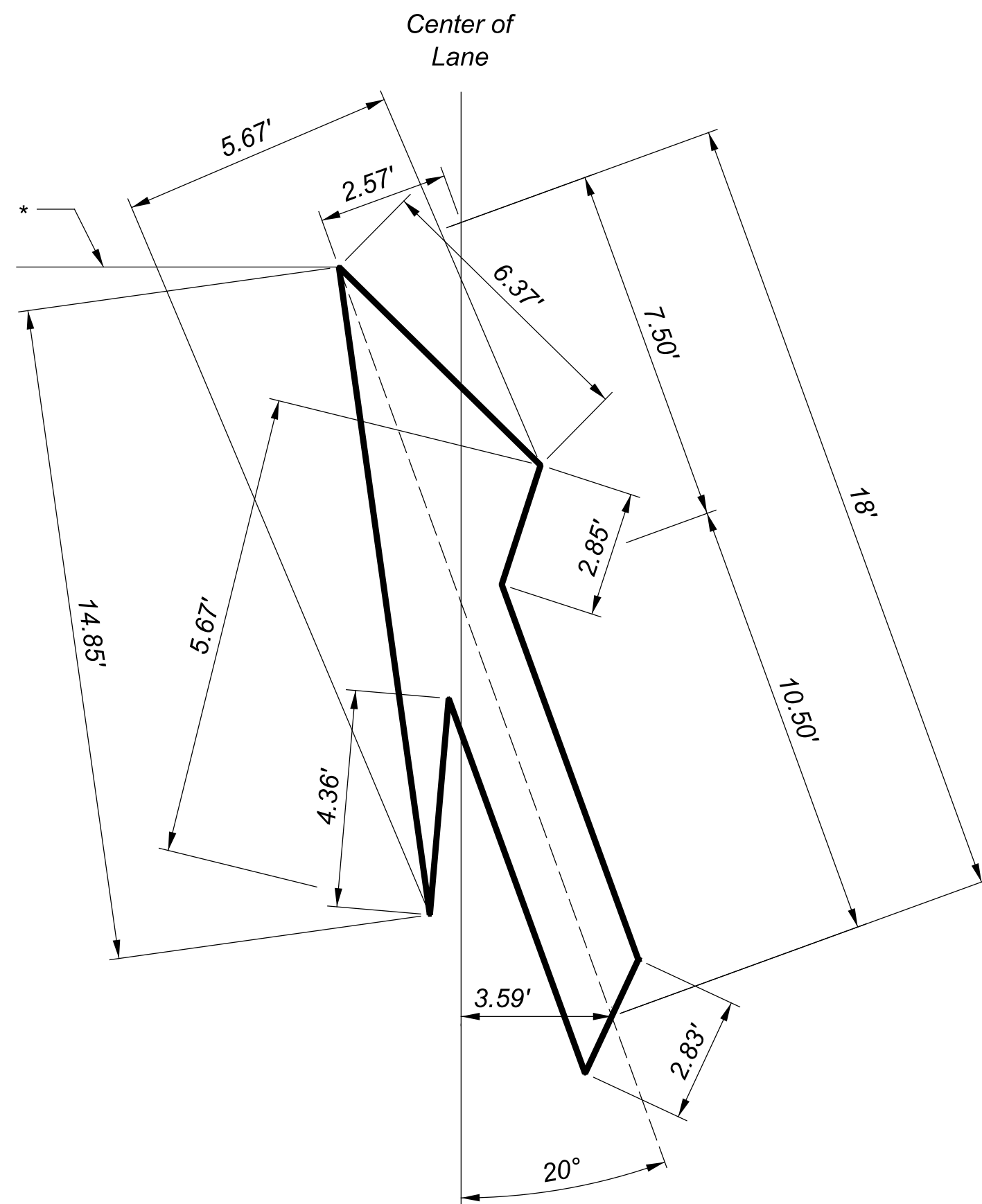
TABLE II

| SPEED LIMIT (MPH) | BUFFER (D) (FT) MIN. |
|-------------------|----------------------|
| 25 | 155 |
| 30 | 200 |
| 35 | 250 |
| 40 | 305 |
| 45 | 360 |
| 50 | 425 |
| 55 | 495 |
| 60 | 570 |





TURN ARROW
 (Right Arrow Opposite)

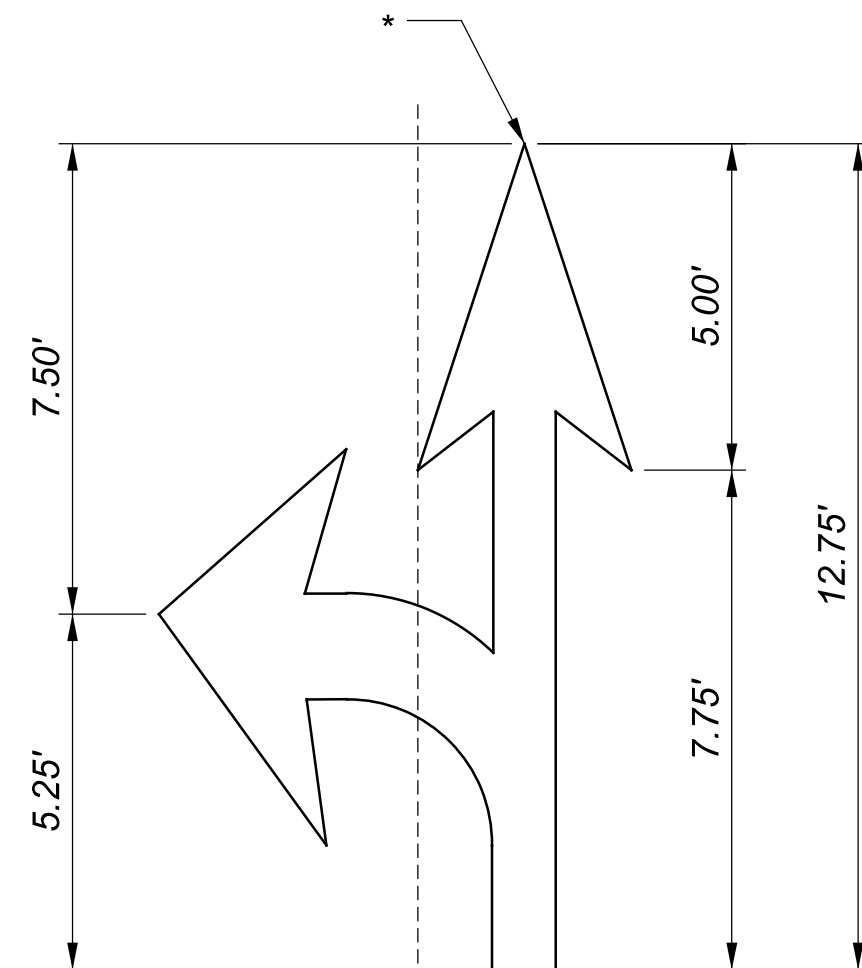


LANE-REDUCTION ARROW (RIGHT)
 (For Left Lane, Use Mirror Image)

TABLE 1 - LANE-USE ARROWS

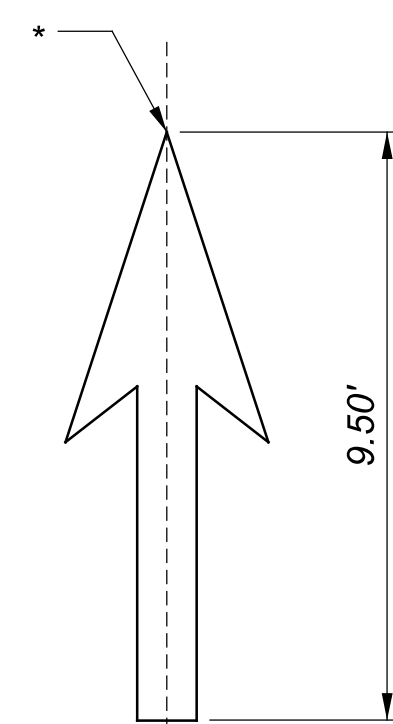
| ARROW TYPE | SIZE (FT) | AREA (SQ FT) |
|------------------------|-----------|--------------|
| Turn Arrow | 8.00 | 17 |
| Through Arrow | 9.50 | 13 |
| Turn and Through Arrow | 12.75 | 28 |
| Lane-Reduction Arrow | 18.00 | 46 |

* - Indicates Station Reference Point

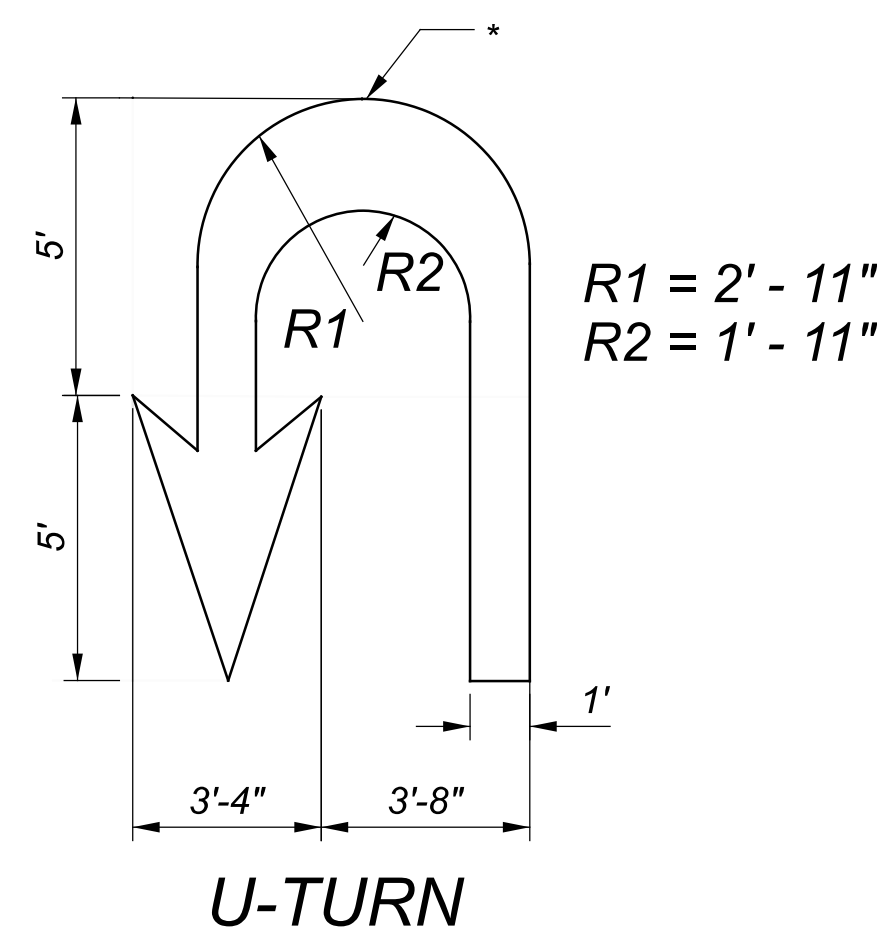


TURN AND THROUGH ARROW

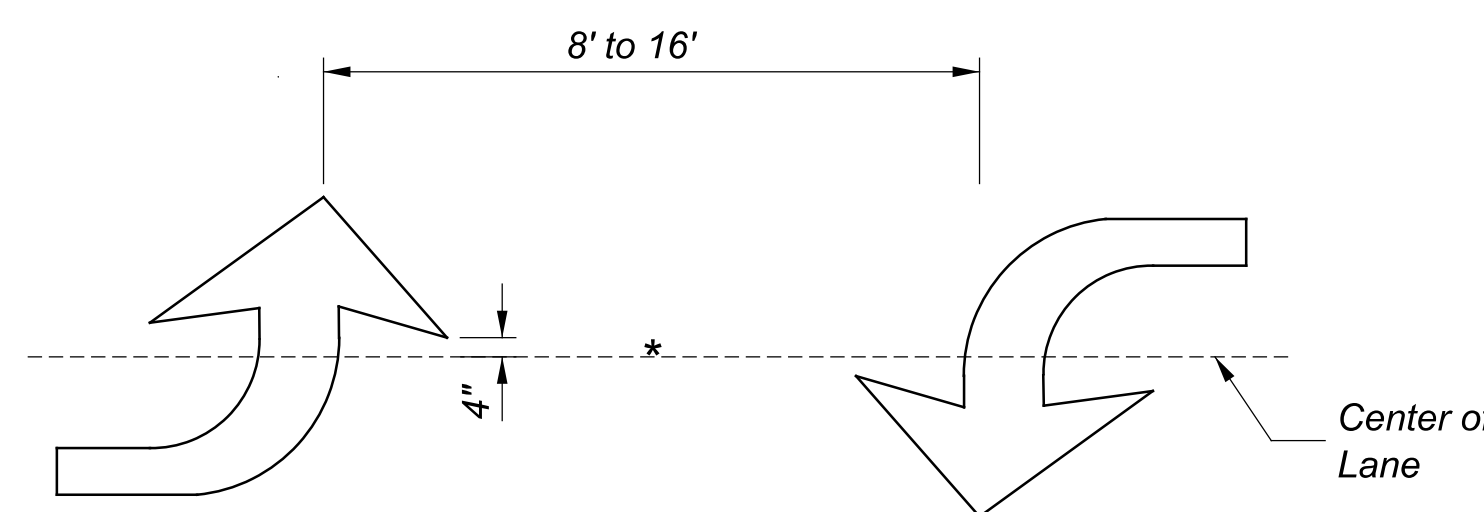
(Three-Headed Directional Arrows Can be Achieved by the Combination of Turn Arrows.)



THROUGH ARROW

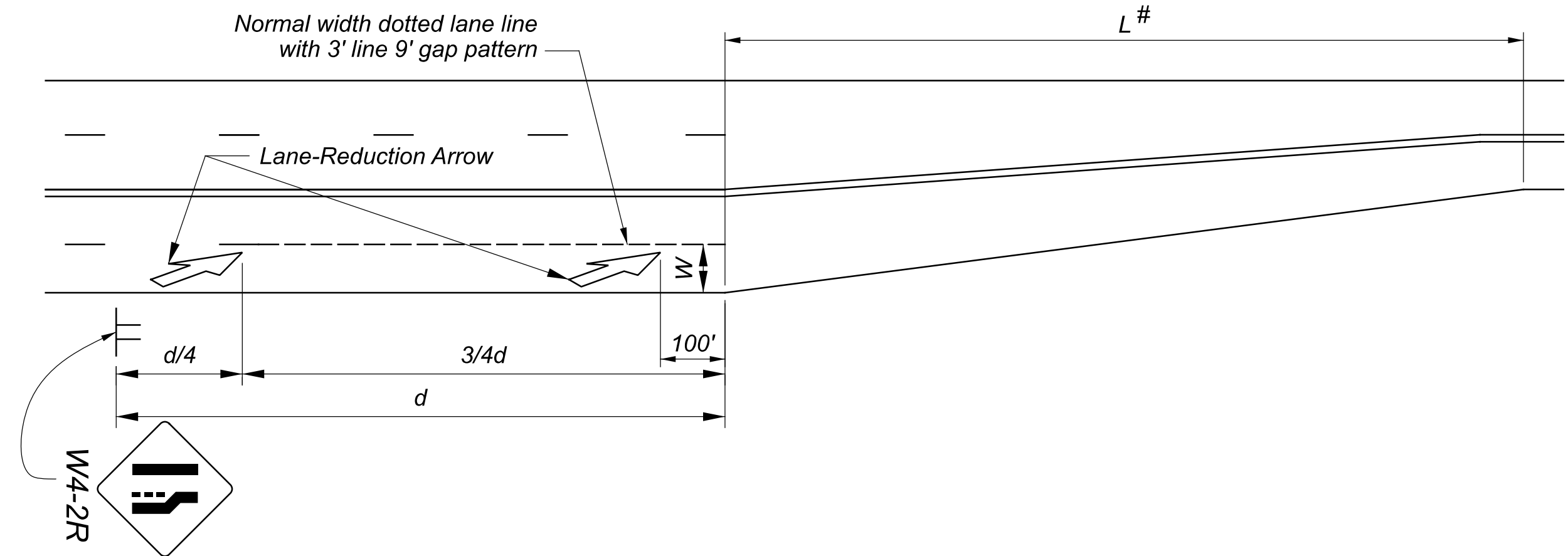


U-TURN



TWO-WAY LEFT-TURN ARROWS

(See Note 6)



| Speed (S) (MPH) | Lane Width (W) (FT) | Taper Length (L) # (FT) | Advance Warning Distance (d) (FT) |
|-----------------|---------------------|-------------------------|-----------------------------------|
| 25 | 12 | 125 | 325 |
| 30 | 12 | 180 | 460 |
| 35 | 12 | 245 | 565 |
| 40 | 12 | 320 | 670 |
| 45 | 12 | 540 | 775 |
| 50 | 12 | 600 | 885 |
| 55 | 12 | 660 | 990 |
| 60 | 12 | 720 | 1100 |
| 65 | 12 | 780 | 1200 |
| 70 | 12 | 840 | 1250 |

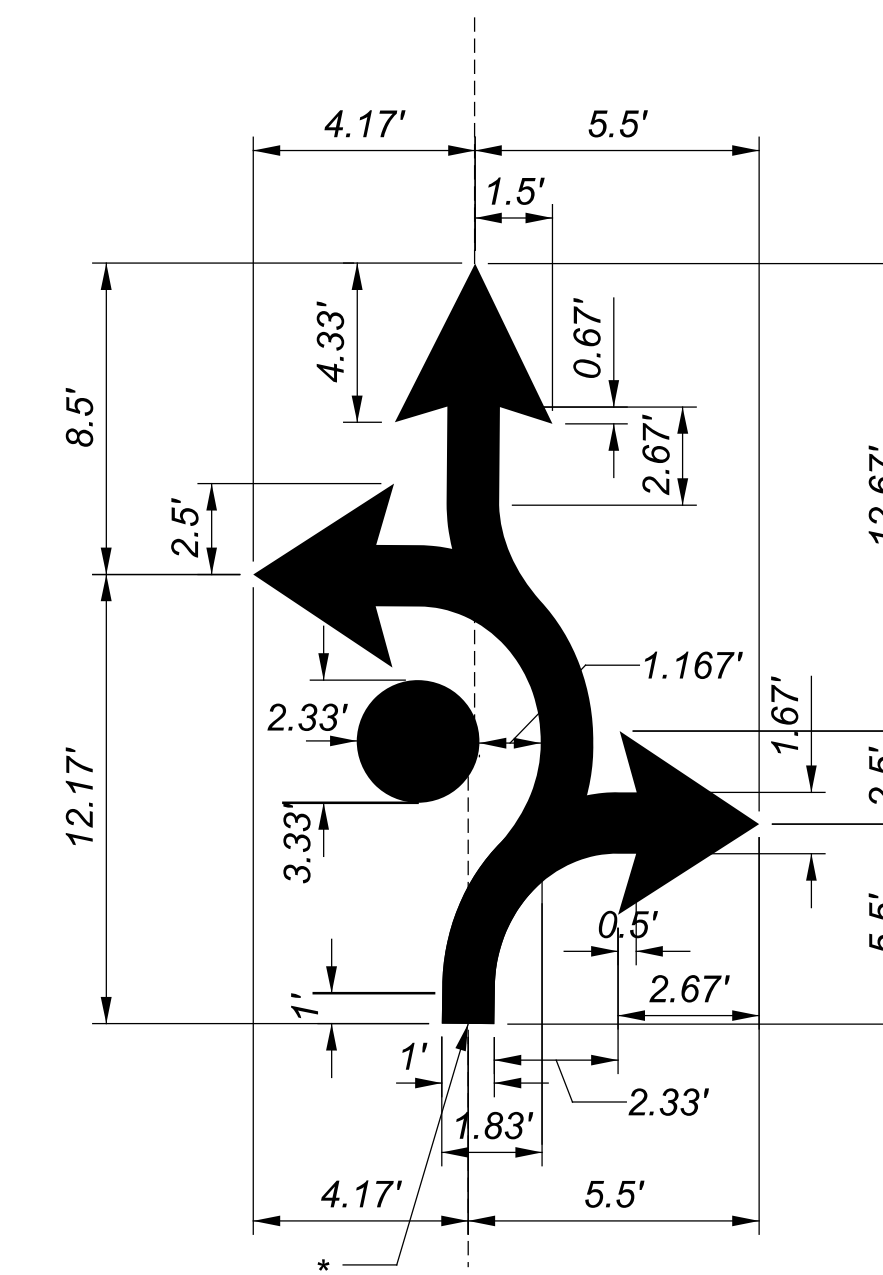
Taper Length (L) shown is for 12 foot lane width (W).
 Use formula for other lane widths.

S - Posted, 85th-percentile or statutory speed, in MPH
 W - Lane width or offset, in feet

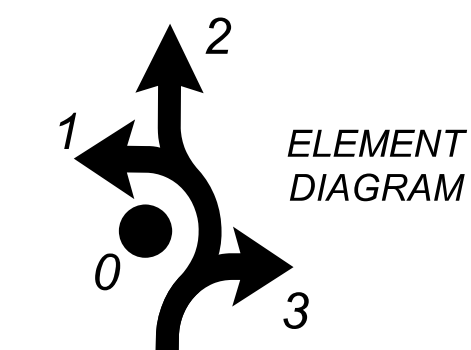
L - Taper length in feet for Speed < 45 MPH = $WS^2 / 60$
 L - Taper length in feet for Speed > 45 MPH = WS
 d - Advance Warning Distance, in feet

LANE-REDUCTION ARROW MARKING DETAIL

(See Note 8)



FISH-HOOK ARROW (ROUNDBABOUTS)

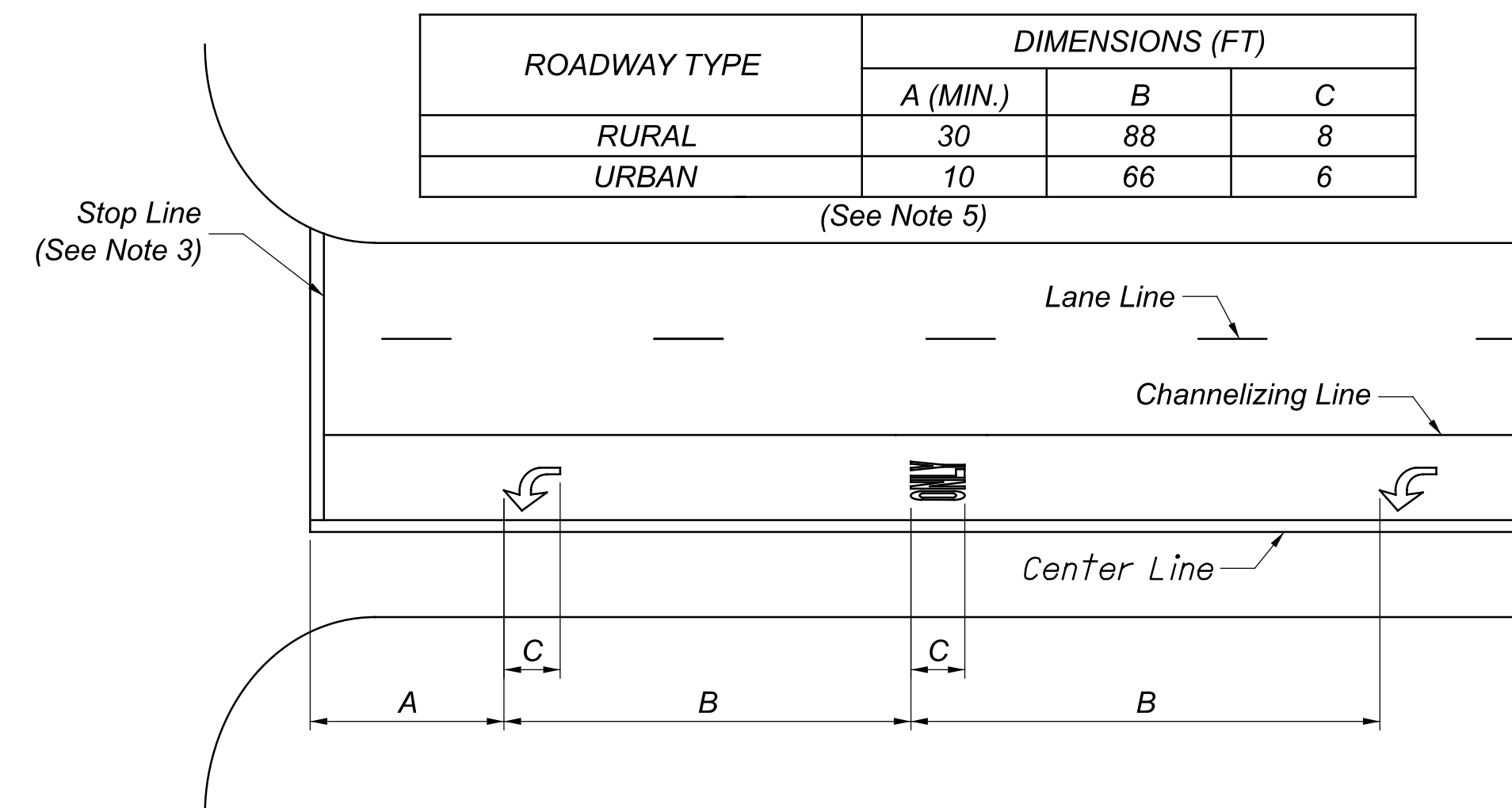


| OVERALL DIMENSIONS | | |
|--------------------|---------------|----------------|
| ELEMENTS INCLUDED | OVERALL WIDTH | OVERALL HEIGHT |
| 1 | 6.5' | 14.67' |
| 1 & 2 | 6.5' | 20.67' |
| 1 & 3 | 9.67' | 14.67' |
| 1, 2 & 3 | 9.67' | 20.67' |
| 0 & 2* | 4.5' | 20.67' |
| 0, 2 & 3* | 7.67' | 20.67' |
| 2 | 3.833' | 20.67' |
| 2 & 3 | 7.0' | 20.67' |
| 3 | 6.0' | 8.0' |

* THE DOT (ELEMENT 0) IS ONLY USED IN SYMBOLS FOR THE LEFTMOST LANE.



TABLE 4 - LANE USE MARKINGS



SHARED-USE PATH AND BIKEWAY MARKINGS

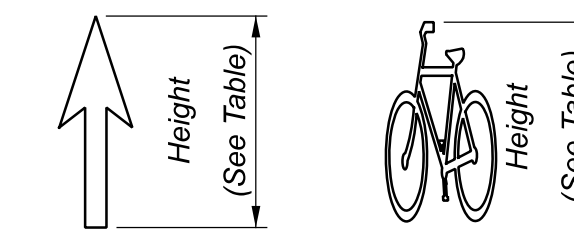
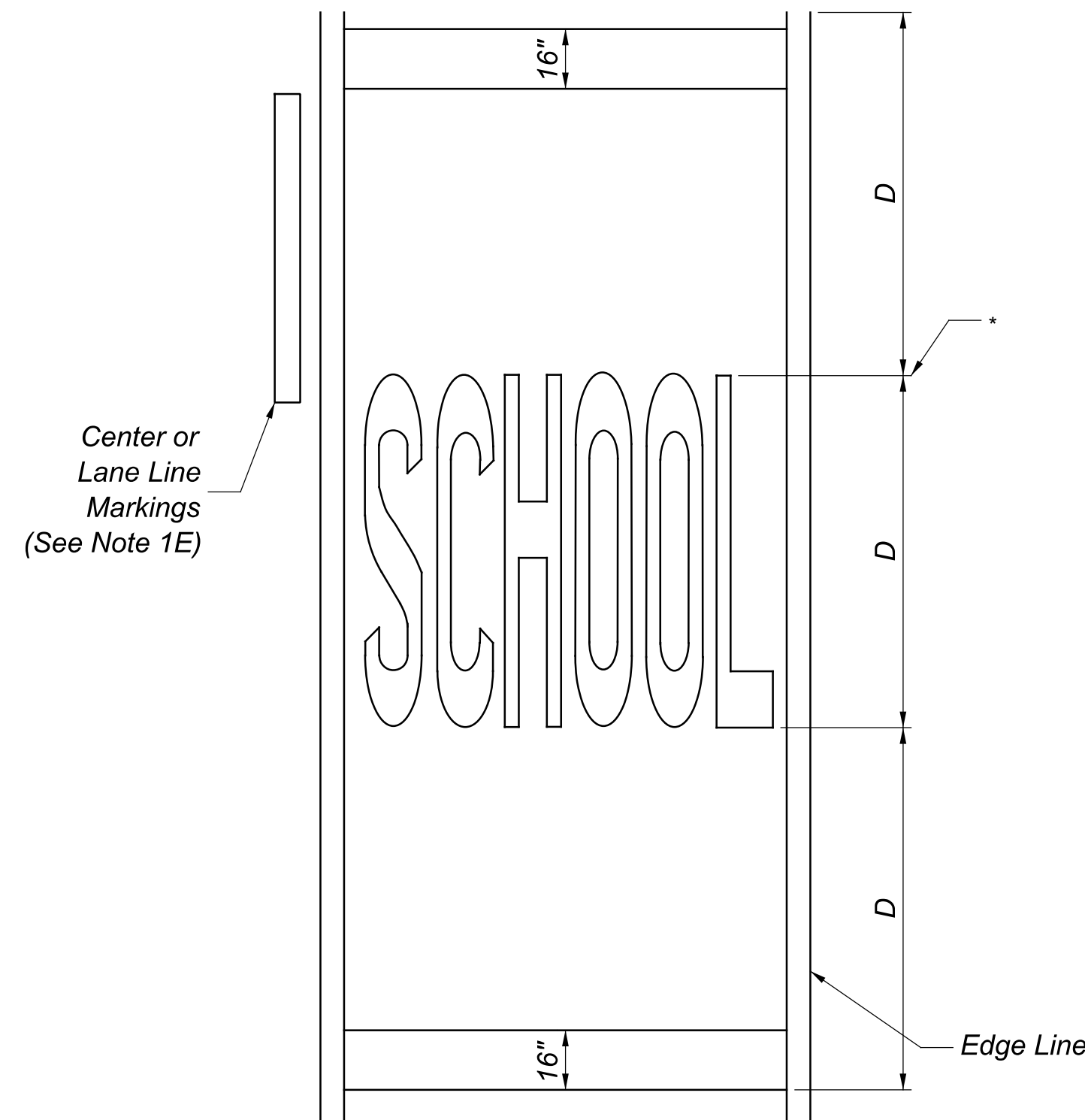
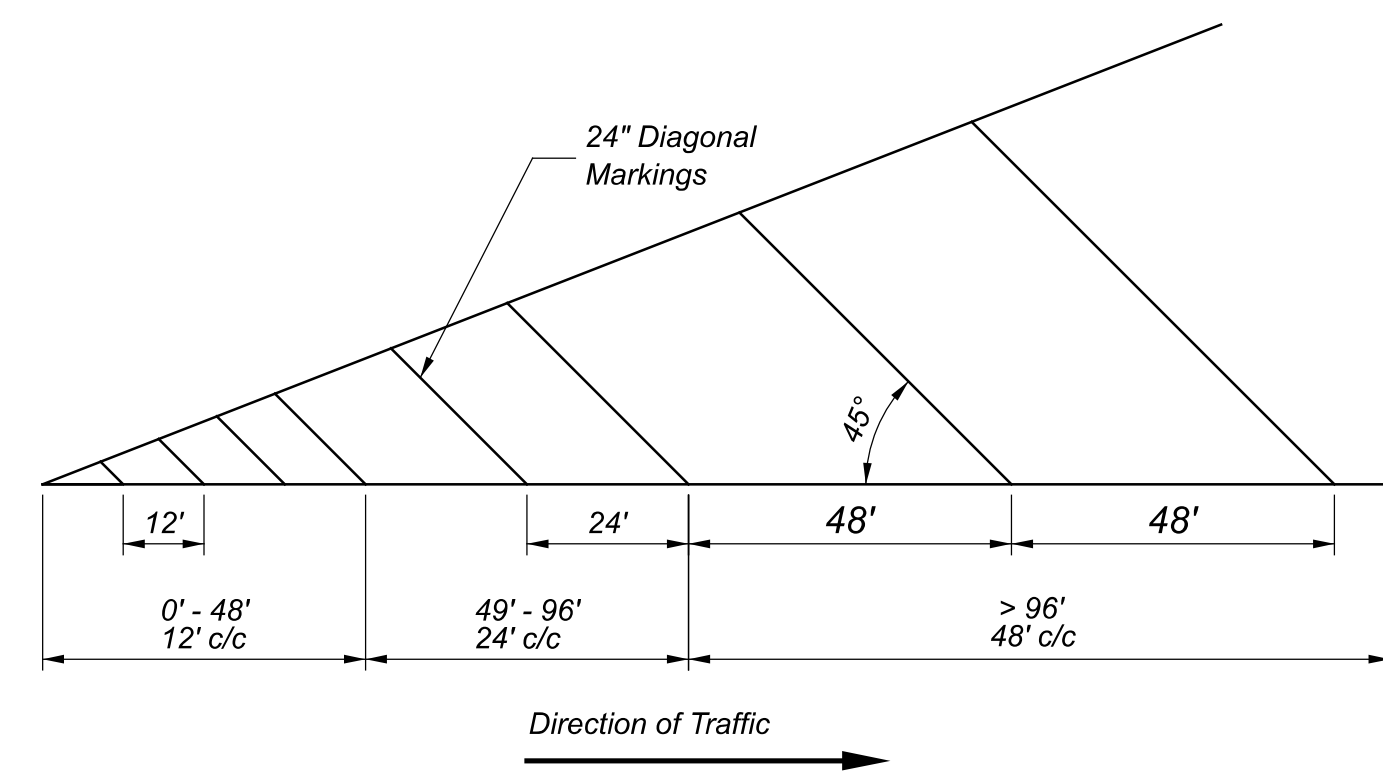


TABLE 1 - BIKEWAY MARKINGS

| FACILITY TYPE | HEIGHT (FEET) | STRAIGHT ARROW | BIKE SYMBOL | HWY | XING | RXR SYMBOL |
|-----------------|---------------|--------------------|-------------|------|------|------------|
| | | AREA (SQUARE FEET) | | | | |
| SHARED USE PATH | 4 | ---- | ---- | 5 | 6 | ---- |
| | 10 | ---- | ---- | ---- | ---- | 16 |
| BICYCLE LANE | 6 | 6 | 5 | ---- | 16 | ---- |
| ROADWAY-URBAN | 6 | 5 | 5 | ---- | 16 | ---- |
| ROADWAY-RURAL | 8 | 7 | 7 | ---- | 21 | ---- |



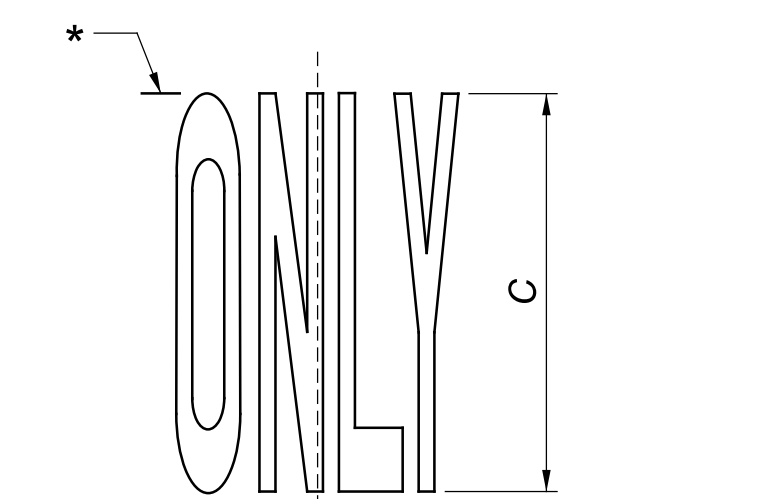
SCHOOL WORD MARKING
 (See Note 1)



TYPICAL SPACING DETAIL FOR 24" DIAGONAL MARKINGS

(Chevron Markings, Including a Spacing Table, are Shown on SCD TC-72.20.)

* - Indicates Station Reference Point



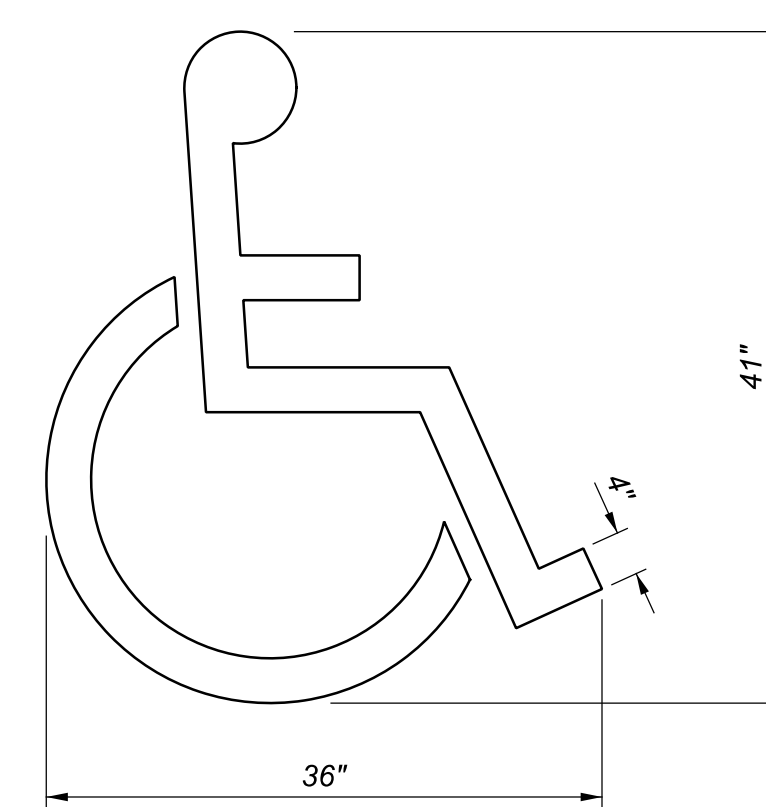
ONLY WORD MARKING
 (See Note 4)

TABLE 3 - WORDS (SQ FT)

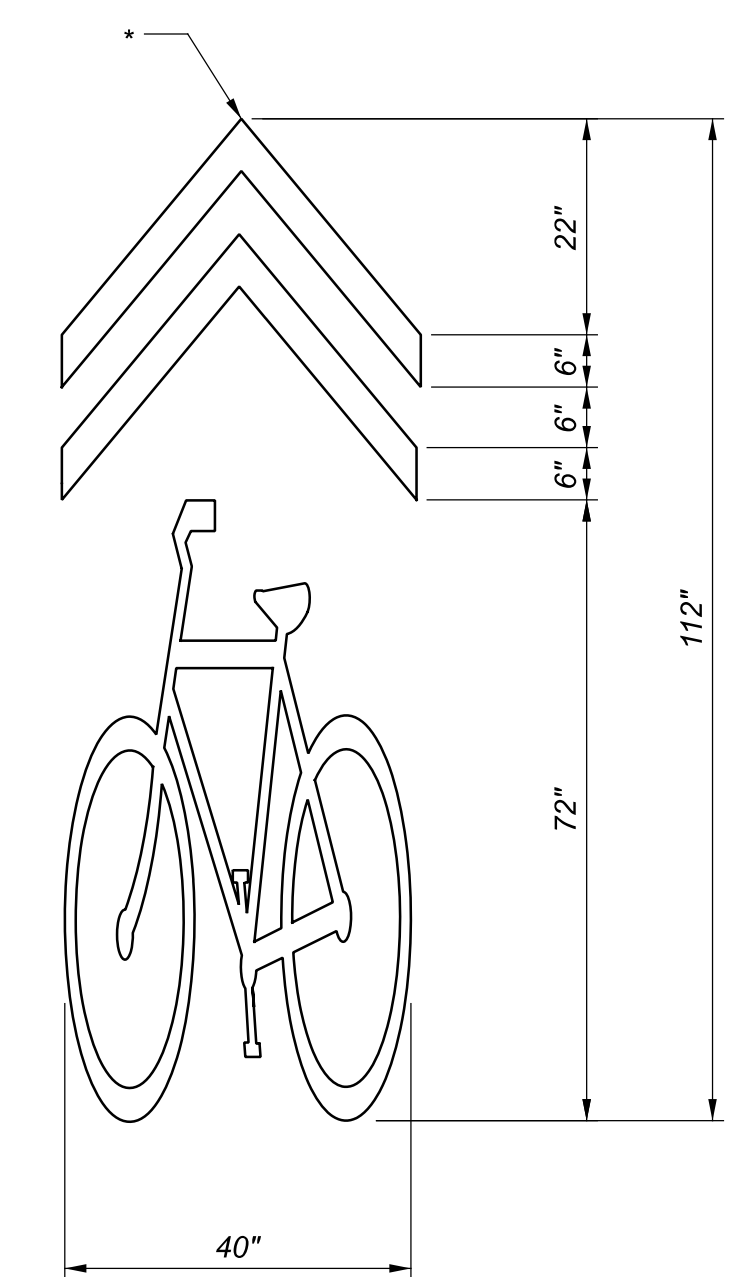
| WORD | HEIGHT (C, D) | | |
|------------|---------------|-------|------------|
| | URBAN | RURAL | MULTI-LANE |
| ONLY (C) | 17 | 23 | N/A |
| SCHOOL (D) | 27 | 37 | 90 |

TABLE 2 - HANDICAP, BIKE & CHEVRON MARKINGS

| SYMBOL | HEIGHT (IN) | WIDTH (IN) | AREA (SQ FT) |
|----------|-------------|------------|------------------|
| HANDICAP | 41 | 36 | 2.7 |
| BIKE | 72 | 40 | 16 |
| CHEVRON | 40 | 40 | 3.3 (.83 x 4) |

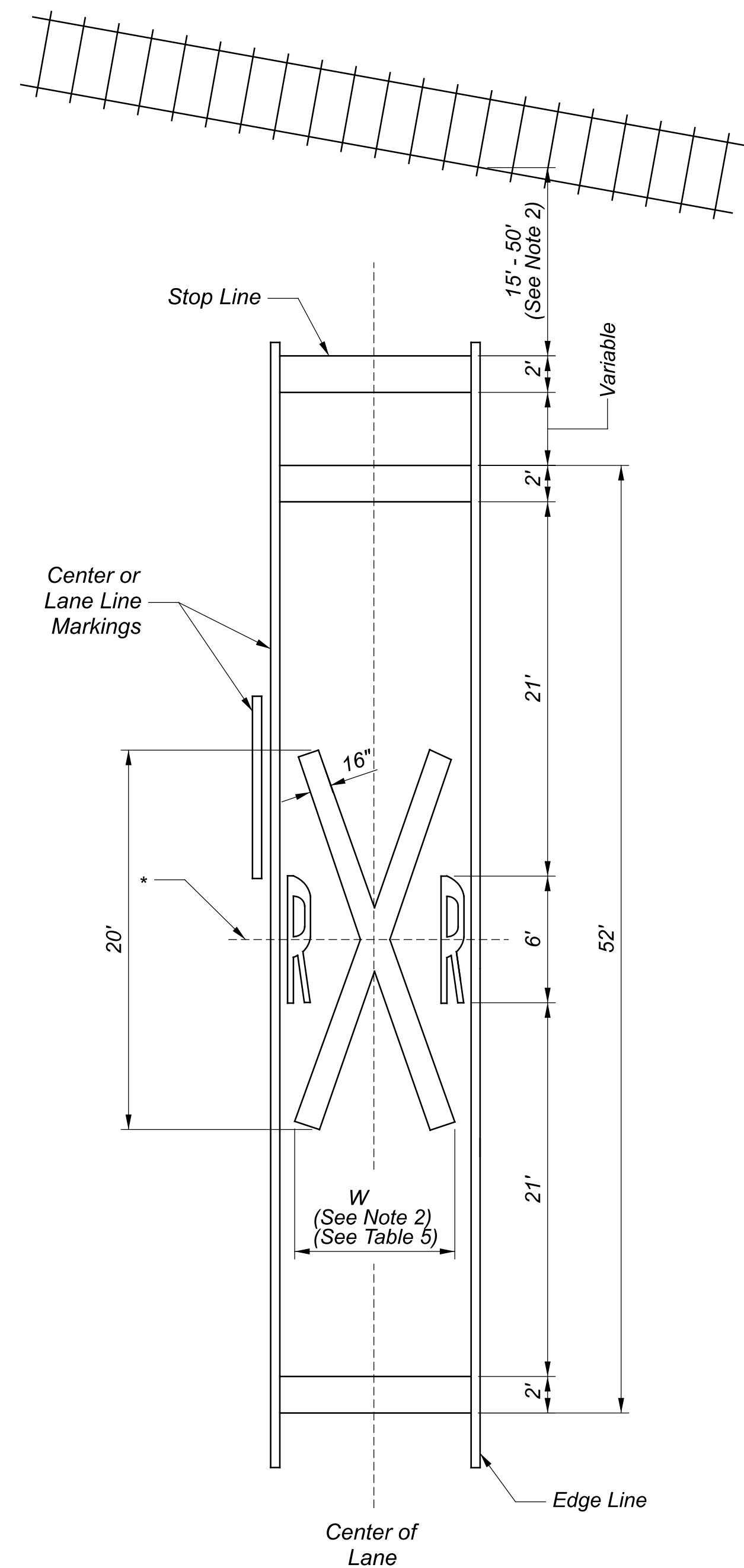


HANDICAP SYMBOL MARKING



SHARED LANE MARKING
 (See Note 7)



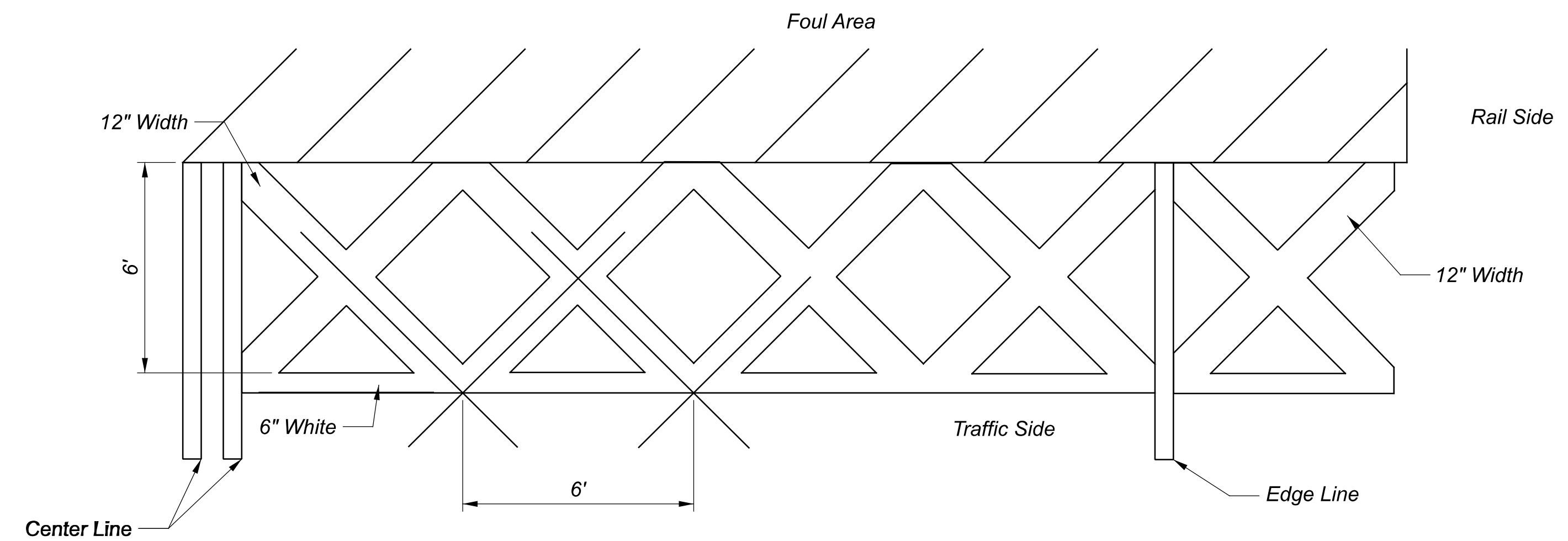


RAILROAD SYMBOL MARKING

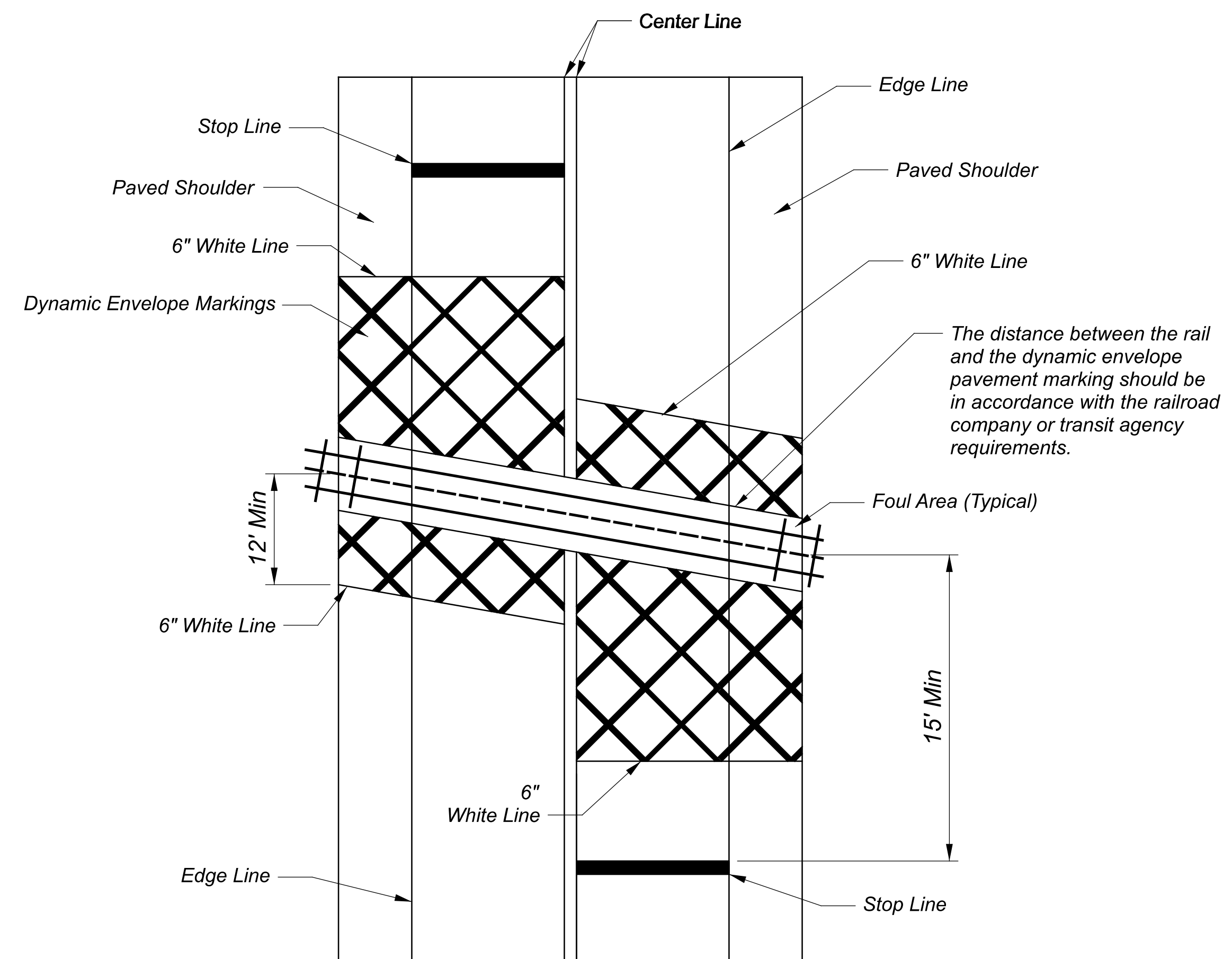
(See Note 2)

TABLE 5 - R X R SYMBOL

| R X R | WIDTH (W) (FT) | 8 | 9 | 10 | 11 | 12 |
|-------|-------------------|---|----|----|----|----|
| | AREA (SQ FT) | | 67 | 68 | 70 | 71 |



DYNAMIC ENVELOPE MARKINGS



DYNAMIC ENVELOPE AND DO NOT OCCUPY INTERSECTION MARKINGS LAYOUT

NOTES:

SCHOOL Marking

- 1A. The SCHOOL markings shall be installed on all paved approaches in advance of all School Zones.
- 1B. The SCHOOL markings should be placed at least 100' in advance of the School Zone. The preferred placement of the SCHOOL marking is adjacent to the School Zone Advance sign.
- 1C. On two-way, two-lane highways the following shall apply:
 - 1.) When the approach lane to the School Zone is 11' or more in width -
 - a.) The SCHOOL word marking and transverse lines shall be contained in, and centered in, the lane.
 - b.) The character height shall be 6' for urban areas and 8' for rural areas.
 - 2.) When the approach lane to the School Zone is less than 11' in width -
 - a.) One installation of the SCHOOL word marking and transverse lines shall extend across both lanes of traffic.
 - b.) The characters shall be 10' in height.
- 1D. On multi-lane approaches the following shall apply -
 - 1.) When the approach lanes to the School Zone are 11' or more in width -
 - a.) The SCHOOL word marking and transverse lines shall be contained in, and centered in, each lane.
 - b.) The character height shall be 6' for urban areas and 8' for rural areas.
 - 2.) When the approach lanes to the School Zone are less than 11' in width -
 - a.) One installation of the SCHOOL word marking shall extend to the width of two approach lanes.
 - b.) Transverse lines shall extend across all approach lanes of traffic.
 - c.) The characters shall be 10' in height.
- 1E. Center or lane lines shall not pass through the SCHOOL word marking.
- 1F. 6' and 8' high SCHOOL word marking shall be marked with 4" strokes.

10' high SCHOOL word marking shall be marked with 8" strokes.
- 1G. The area of the transverse lines varies with the width of the pavement; therefore, the area must be added to the value in Table 3 (sheet 2).

Railroad Crossing Markings

- 2A. On multi-lane approaches, markings shall be as follows -
 - a.) The RXR symbol shall be placed in each approach lane.
 - b.) Transverse lines used with the railroad symbols shall extend across all approach lanes.
- 2B. The railroad symbol should be located so that the Railroad Advance Warning (W10-1) sign is within the two transverse boundary lines of the railroad symbol.
- 2C. The stop line shall be located for best sight distance between 15' - 50' of the near edge of the tracks.
- 2D. The stop line shall be approximately 8' from a gate (if present).
- 2E. Width (W) of the "X" will vary according to the lane width.
- 2F. The height of the "R" shall be 6'.
- 2G. The area of the transverse lines and stop lines varies with the width of the pavement; therefore the area must be added to the value in Table 5 (sheet 3).
- 2H. Dynamic Envelope Markings consist of a 6-inch white channelizing line placed a minimum of 6-feet away and parallel to the nearest outside edge of rail at a highway-rail grade crossing. The Dynamic Envelope Markings also consists of 12-inch white diagonal markings arranged at 6-foot centers in a 6-foot by 6-foot "X" layout (sheet 3).

Stop Line Marking

- 3A. Except as specified in Notes 3B and 3C, the stop line should be placed as follows:
 - a.) The stop line should be placed where cross-corner vision is maximum.
 - b.) In no case shall the stop line be placed more than 30' or less than 4' from the nearest edge of the intersecting roadway.
 - c.) For normal intersections the maximum distance should be 10'.
- 3B. If a marked crosswalk is present the stop line should be placed 4' in advance of, and parallel to, the nearest crosswalk line.
- 3C. For signalized intersections the stop line should be placed at a minimum distance of 40' from the nearest signal head.

ONLY Word Marking

- 4A. The ONLY word marking is optional.
- 4B. Where used, the spacing between ONLY and arrow markings should be based on Table 4 (sheet 2).
- 4C. When lane-use arrow markings are used and the ONLY marking is not, an additional lane-use arrow should be used in its place to retain the spacing as shown in Table 4 (sheet 2).

Lane-Use Arrow Markings

- 5A. Lane-use arrow markings are optional except where a through traffic lane(s) approaching an intersection becomes a mandatory turn lane(s).
- 5B. Where used, the spacing between markings should be based on Table 4 (sheet 2). However, based on the turn lane length, the spacing between the markings may be adjusted.

Two-Way Left-Turn Only (TWLTO) Arrows

- 6A. Arrow sets should be longitudinally spaced at intervals of:
 - a.) 500' - 1000' for speeds less than or equal to 40 mph,
 - b.) 1000' - 1500' for speeds over 40 mph
- 6B. In addition, an arrow set should be placed:
 - a.) 100' - 200' from the near edge of an intersecting roadway, or
 - b.) Inside both ends of TWLTO lanes.

Shared Lane Marking

- 7A. When chevron markings are used, its area must be added to the value of the bike symbol markings (see Table 2 on sheet 1).
- 7B. When used, the shared lane marking should be placed immediately after an intersection and spaced at intervals not greater than 250' thereafter.

Lane-Reduction Arrow Markings

- 8A. Lane-reduction arrow markings should be placed where a lane reduction transition occurs on a roadway as follows:
 - a.) Lane-reduction arrow markings may be placed for speeds of less than 45 mph, if determined to be appropriate based on engineering judgement.
 - b.) Lane-reduction arrow markings should be placed for speeds of 45 mph or over.
 - c.) Lane-reduction arrow markings may be placed in long acceleration lanes.
 - d.) Where lane-reduction arrows are used, they should be placed as follows:
 - i.) First lane-reduction arrow 100' in advance of the 'Begin Taper' point.
 - ii.) Second lane-reduction arrow placed at the 3/4d point.

Handicap Symbol Markings

- 9A. For the handicap symbol marking, a blue background and white border shall not be used.

