

1. ALL EXISTING FEATURES DEPICTED ON THE DIMENSION PLANS WERE BASED ON PUBLICLY AVAILABLE IMAGERY AND UTILITY MARKOUTS OBSERVED IN THE FIELD. ALL INFORMATION DEPICTED ON THE PLANS SHOULD BE VERIFIED IN THE FIELD BY THE CONTRACTOR.
2. ALL RIGHT-OF-WAY LINES, PROPERTY LINES, AND EASEMENTS ARE APPROXIMATE AND BASED UPON TAX MAPS, PUBLICLY AVAILABLE DOCUMENTS AND PUBLICLY AVAILABLE GIS FOR UNION COUNTY.
3. EXISTING FEATURES SHOWN ON CURB RAMP GRADING PLAN FOR INTERSECTION OF MANSION TERRACE AND NORTH LEHIGH AVENUE WERE BASED ON INFORMATION FROM THE SURVEY ENTITLED "TOPOGRAPHIC SURVEY FOR MANSION TERRACE" DATED 06/29/20, LATEST REVISION, DATED 12/09/20, FOR THE TOWNSHIP OF CRANFORD, PREPARED BY MASER CONSULTING, INC.
4. EXISTING FEATURES SHOWN ON CURB RAMP GRADING PLAN FOR INTERSECTION OF BROAD STREET AND NORTH LEHIGH AVENUE WERE BASED ON INFORMATION FROM THE SURVEY ENTITLED "TOPOGRAPHIC SURVEY FOR BROAD STREET" DATED 06/25/20 FOR THE TOWNSHIP OF CRANFORD, PREPARED BY MASER CONSULTING, INC.
5. EXISTING FEATURES SHOWN ON CURB RAMP GRADING PLAN FOR INTERSECTION OF STRATFORD TERRACE AND NORTH LEHIGH AVENUE WERE BASED ON INFORMATION FROM THE SURVEY ENTITLED "TOPOGRAPHIC SURVEY FOR STRATFORD TERRACE" DATED 06/24/20, LATEST REVISION, DATED 12/09/20, FOR THE TOWNSHIP OF CRANFORD, PREPARED BY MASER CONSULTING, INC.
6. EXISTING FEATURES SHOWN ON CURB RAMP GRADING PLAN FOR INTERSECTION OF LAWN TERRACE AND NORTH LEHIGH AVENUE WERE BASED ON INFORMATION FROM THE SURVEY ENTITLED "TOPOGRAPHIC SURVEY FOR LAWN TERRACE" DATED 06/27/20, LATEST REVISION, DATED 12/09/20, FOR THE TOWNSHIP OF CRANFORD, PREPARED BY MASER CONSULTING, INC.
7. THE HORIZONTAL POSITION OF THE SURVEYS FOR MANSION TERRACE, BROAD STREET, STRATFORD TERRACE AND LAWN TERRACE IS BASED ON GPS OBSERVATIONS TIED TO THE KEYNET VIRTUAL REFERENCE STATION SYSTEM RELATIVE TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM, NAD 83.
8. THE VERTICAL POSITION OF THE SURVEYS FOR MANSION TERRACE, BROAD STREET, STRATFORD TERRACE AND LAWN TERRACE IS BASED ON GPS OBSERVATIONS TIED TO THE KEYNET VIRTUAL REFERENCE STATION SYSTEM, ADJUSTED AND RELATIVE TO THE NORTH AMERICAN DATUM (NAVD 88).
9. ALL RIGHT-OF-WAY LINES AND LOT LINES ARE APPROXIMATE PER TAX MAPS OF THE TOWNSHIP OF CRANFORD, UNION COUNTY, NEW JERSEY.
10. THE LOCATION OF ALL UNDERGROUND UTILITIES AS SHOWN HEREON ARE APPROXIMATE AND ARE BASED ON VISIBLE ABOVE GROUND STRUCTURES AND UTILITY MARK OUTS. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED. THE CONTRACTOR SHALL HAVE ALL UNDERGROUND UTILITIES FIELD VERIFIED BY THE PROPER UTILITY COMPANIES BEFORE ANY CONSTRUCTION BEGINS.

1. ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION RELATED TO THE PROPOSED IMPROVEMENTS SHOWN HEREIN SHALL BE IN ACCORDANCE WITH THE FOLLOWING, UNLESS SPECIFICALLY AMENDED OR SUPPLEMENTED BY THE CONTRACT DOCUMENTS:
 - A. N.J. DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2019", AS CURRENTLY AMENDED;
 - B. N.J. DEPARTMENT OF TRANSPORTATION "STANDARD ROADWAY CONSTRUCTION/TRAFFIC CONTROL/BRIDGE CONSTRUCTION DETAILS, 2016", AS CURRENTLY AMENDED;
 - C. "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", AS CURRENTLY AMENDED;
 - D. CURRENT PREVAILING MUNICIPAL, COUNTY AND/OR STATE AGENCY SPECIFICATIONS, STANDARDS, CONDITIONS AND REQUIREMENTS;
 - E. CURRENT PREVAILING UTILITY COMPANY/AUTHORITY SPECIFICATIONS, STANDARDS, AND REQUIREMENTS;
 - F. CURRENT MANUFACTURER'S SPECIFICATIONS, STANDARDS AND REQUIREMENTS.
2. THE CONTRACTOR IS RESPONSIBLE FOR PROJECT SAFETY INCLUDING PROVISION OF ALL SAFETY DEVICES AND TRAINING REQUIRED.
3. THE CONTRACTOR IS RESPONSIBLE FOR THOROUGHLY EXAMINING THE PROJECT PLANS, SPECIFICATIONS, DETAILS, AND SITE. THE CONTRACTOR SHALL NOTIFY THE UNDERSIGNED PROFESSIONAL IMMEDIATELY IF ANY SITE CONDITIONS DIFFER MATERIALLY FROM THOSE REPRESENTED HEREIN.
4. THE CONTRACTOR SHALL OBTAIN PERMITS REQUIRED FOR THE PROPOSED IMPROVEMENTS.
5. ALL MATERIALS MUST BE AMERICAN MADE. THE CONTRACTOR MUST PROVIDE THE ENGINEER WITH SHIPPING AND DELIVERY TICKETS/RECEIPTS FOR ALL MATERIALS TO BE USED FOR THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS.
6. THE CONTRACTOR SHALL OBTAIN SHOP DRAWING APPROVAL PRIOR TO THE INSTALLATION OF EACH ITEM. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL AT LEAST TWO (2) WEEKS PRIOR TO ORDERING MATERIALS.
7. THE CONTRACTOR IS RESPONSIBLE FOR ALL STAKEOUT AND LAYOUT, AS NECESSARY, TO CONSTRUCT THE PROPOSED IMPROVEMENTS IN STRICT CONFORMANCE WITH THE PROJECT PLANS, SPECIFICATIONS AND DETAILS.
8. ACTUAL FIELD LIMITS OF MILLING, PAVING, CURB AND SIDEWALK WORK WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
9. NO "SIDE PROJECTS" FOR RESIDENTS, UTILITIES OR BUSINESSES MAY BE CONSTRUCTED WITH MATERIAL PURCHASED FOR THE COMPLETION OF THE PROPOSED IMPROVEMENTS SHOWN HEREIN.
10. THE CONTRACTOR MUST REVIEW AND AGREE TO AS-BUILT QUANTITIES WITH THE ENGINEER.
11. THE ENGINEER MUST BE CONTACTED IMMEDIATELY UPON THE CONTRACTOR RECEIVING A COMPLAINT FROM ANY PERSON WITHIN THE PROJECT AREA OR MUNICIPAL OFFICIAL.
12. FLUSH CONCRETE CURB SHALL BE INSTALLED IN FRONT OF CURB RAMPS.

1. NOT ALL UTILITY POLES, UTILITY VALVES AND UTILITY LINES ARE SHOWN ON THE PLAN. THE CONTRACTOR SHALL FIELD VERIFY ALL UTILITIES PRIOR TO THE START OF CONSTRUCTION.
2. THE CONTRACTOR SHALL CALL FOR A UTILITY MARK-OUT PRIOR TO THE START OF CONSTRUCTION (CALL 1-800-272-1000).
3. UTILITY RELOCATIONS SHOWN ON THE PLAN, IF ANY, ARE FOR INFORMATIONAL PURPOSES ONLY AND MAY NOT REPRESENT ALL REQUIRED WORK. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH ALL UTILITY COMPANIES/AUTHORITIES IMPACTED BY THE PROPOSED WORK AND PERFORMING UTILITY RELOCATIONS IN ACCORDANCE WITH THE REQUIREMENTS OF THE PERTINENT UTILITY COMPANIES/AUTHORITIES.
4. ALL UTILITY MANHOLES, VALVE BOXES, CLEANOUTS, METERS, ETC. SHALL BE RESET BY THE CONTRACTOR TO MEET PROPOSED ROAD, SIDEWALK AND DRIVEWAY GRADES. THE CONTRACTOR SHALL COORDINATE WITH IMPACTED UTILITY COMPANIES/AUTHORITIES AS NECESSARY.
5. WATER VALVE BOXES & GAS VALVE BOXES WITHIN THE ROADWAY SHALL BE RESET TO MEET PROPOSED GRADES.
6. MISCELLANEOUS UTILITY EQUIPMENT WITHIN THE SIDEWALK AND DRIVEWAYS SHALL BE RESET TO MEET PROPOSED GRADES DURING THE PROGRESS OF CURB, SIDEWALK AND DRIVEWAY CONSTRUCTION. NO SEPARATE PAYMENT WILL BE MADE. COST TO BE INCLUDED IN VARIOUS PROPOSAL ITEMS.
7. THE CONTRACTOR SHALL TAKE PRECAUTION WHEN WORKING ADJACENT TO UTILITIES AND TEMPORARILY SUPPORT UTILITY POLES, IF REQUIRED, DURING THE PROGRESS OF WORK.
8. THE CONTRACTOR SHALL CLEAN AND MAINTAIN ALL STORM SEWER STRUCTURES, AS NECESSARY, FOR THE DURATION OF THE PROJECT.

1. THE CONTRACTOR SHALL COORDINATE ALL TRAFFIC CONTROL MEASURES WITH THE LOCAL POLICE DEPARTMENT AND OWNER. TRAFFIC CONTROL DETAILS PROVIDED HEREIN ARE TYPICAL AND SUBJECT TO MODIFICATION BY THE LOCAL POLICE DEPARTMENT AND OWNER.
2. THE CONTRACTOR SHALL MAKE PROVISIONS FOR MATERIAL AND EQUIPMENT STORAGE. NO EQUIPMENT OR MATERIALS SHALL BE STORED WITHIN THE R.O.W. WITHOUT EXPRESS WRITTEN CONSENT FROM THE LOCAL POLICE DEPARTMENT AND OWNER.
3. THE CONTRACTOR SHALL PREPARE AND SUBMIT A TRAFFIC CONTROL SCHEDULE AND STAGING PLAN TO THE LOCAL POLICE DEPARTMENT AND OWNER FOR REVIEW AND APPROVAL. THE PLAN MUST BE APPROVED BY THE LOCAL POLICE DEPARTMENT AND OWNER PRIOR TO THE START OF CONSTRUCTION.
4. THE CONTRACTOR SHALL NOTIFY THE OWNER AND LOCAL POLICE DEPARTMENT SEVENTY-TWO (72) HOURS PRIOR TO THE START OF ANY WORK.
5. THE CONTRACTOR SHALL COORDINATE WITH THE LOCAL POLICE DEPARTMENT TO DETERMINE THE NEED FOR POLICE TRAFFIC DIRECTORS. THE CONTRACTOR SHALL PROVIDE THE LOCAL POLICE DEPARTMENT WITH AT LEAST ONE (1) WEEK NOTICE PRIOR TO REQUESTING POLICE TRAFFIC DIRECTORS.
6. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND PLACING TEMPORARY NO PARKING SIGNS AS REQUIRED BY THE LOCAL POLICE DEPARTMENT. IF REQUIRED, TEMPORARY NO PARKING SIGNS MUST BE POSTED AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE OF CONSTRUCTION.

1. THE CONTRACTOR SHALL WORK ON WEEKDAYS ONLY. APPROVAL TO WORK ON WEEKENDS MUST BE GRANTED BY THE LOCAL POLICE DEPARTMENT AND OWNER.
2. THE CONTRACTOR SHALL NOT COMMENCE ANY CONSTRUCTION RELATED ACTIVITIES BEFORE 7 AM ON WEEKDAYS. ALL CONSTRUCTION RELATED ACTIVITIES MUST BE FINISHED AND THE SITE SHALL BE CLEANED AND SECURED BY 5 PM DAILY.
3. ALL MOTORIZED EQUIPMENT USED IN CONSTRUCTION OR DEMOLITION ACTIVITIES SHALL BE OPERATED WITH A MUFFLER.

1. THE CONTRACTOR SHALL INSTALL AND MAINTAIN SOIL EROSION AND SEDIMENT CONTROL MEASURES FOR THE DURATION OF THE PROJECT IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL MEASURES IN NEW JERSEY.
2. INLET FILTERS ARE TO BE INSTALLED ON ALL EXISTING AND NEW INLETS WITHIN THE PROJECT LIMITS AND IMMEDIATELY ADJACENT TO PROJECT LIMITS.
3. SILT FENCE SHALL BE INSTALLED AS DIRECTED IN THE FIELD BY THE ENGINEER, AS NECESSARY.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING DUST CONTROL MEASURES, AS NECESSARY. ALL VEHICLES SHALL BE CLEAN AND ALL ROADWAYS SHALL BE MAINTAINED TO AVOID DUST POLLUTION.
5. THE CONTRACTOR SHALL PROTECT ALL TREES SCHEDULED TO REMAIN DURING CONSTRUCTION. DAMAGE TO EXISTING TREES WILL BE EVALUATED BY THE OWNER AND ENGINEER. DAMAGED TREES WILL BE REPLACED AS REQUIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
6. WHERE EXISTING TREES AND ROOT SYSTEMS MAY CONFLICT WITH THE PROPOSED IMPROVEMENTS, THE CONTRACTOR MUST RETAIN A CERTIFIED TREE EXPERT TO EVALUATE TREES IN QUESTION. ALL EVALUATIONS SHALL BE IN WRITING AND SHALL ACCURATELY IDENTIFY THE TREE IN QUESTION BY STATION AND OFFSET (LEFT OR RIGHT). ALL EVALUATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.
7. TREES THAT ARE TO REMAIN, WHERE IT IS DETERMINED THAT ROOT CUTTING MAY SEVERELY DAMAGE THE TREE, SHALL HAVE A CURB BULK AND STEEL CURB FACE PLATE INSTALLED AS DIRECTED BY THE ENGINEER.
8. ALL EXCAVATED MATERIAL SHALL BE DISPOSED OF OFF-SITE. NO EXCAVATED MATERIAL SHALL BE STOCKPILED AND STORED WITHIN THE PROJECT LIMITS.

1. ALL EXCAVATED MATERIALS ARE TO BE DISPOSED OF IN ACCORDANCE WITH APPROVED NIDOT AND NIDEP METHODS AND MEANS. THE CONTRACTOR MUST NOT DEPOSIT EXCESS MATERIALS WITHIN THE MUNICIPAL LIMITS WITHOUT EXPRESS PERMISSION OF THE OWNER.
2. ALL EXCAVATED AND DEMOLISHED MATERIALS, DEBRIS, AND EQUIPMENT, INCLUDING STONE, TOPSOIL, TREES, BLOCK AND CONCRETE FORMS, MUST BE REMOVED FROM THE PROJECT AREA AT THE CONCLUSION OF EACH DAY, UNLESS OTHERWISE APPROVED BY THE ENGINEER AND LOCAL POLICE DEPARTMENT.
3. THE CONTRACTOR SHALL NOTE THAT ROADWAY BASE MATERIAL MAY CONSIST OF COBBLESTONES, CONCRETE AND/OR ASPHALT. NO ADDITIONAL PAYMENTS WILL BE MADE TO THE CONTRACTOR FOR DAMAGES TO EQUIPMENT OR ADDITIONAL LABOR REQUIRED TO MAKE IMPROVEMENTS AS DESCRIBED ON THE PLANS, DUE TO VARIATIONS IN ROADWAY BASE MATERIALS.
4. ALL EXISTING GRATES AND CASTINGS ARE THE PROPERTY OF THE MUNICIPALITY OR RESPECTIVE UTILITY AUTHORITY. ALL EXISTING GRATES AND CASTINGS THAT ARE TO BE REPLACED AS A PART OF THE PROPOSED IMPROVEMENTS SHALL BE RETURNED TO THE MUNICIPALITY OR RESPECTIVE UTILITY AUTHORITY.
5. THE CONTRACTOR MUST PROTECT CONCRETE UNTIL CONCRETE IS CURED. DAMAGED AND VANDALIZED CONCRETE SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
6. RECYCLED AGGREGATE (CONCRETE OR ASPHALT) MUST BE NIDOT APPROVED. CONTRACTOR MUST PROVIDE DOCUMENTATION FOR APPROVED MATERIAL PRIOR TO PLACEMENT.
7. THE CONTRACTOR SHALL RESET ALL RAILINGS, GATES AND FENCES AS REQUIRED TO COMPLETE THE PROPOSED IMPROVEMENTS.
8. THE CONTRACTOR IS RESPONSIBLE TO REPLACE/RESET ANY SPRINKLERS DAMAGED/DISTURBED DURING CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.

1. THE CONTRACTOR SHALL MAINTAIN SAFE PEDESTRIAN AND VEHICULAR ACCESS TO ALL RESIDENCES AND BUSINESSES FOR THE DURATION OF THE PROJECT.
2. THE CONTRACTOR SHALL MAINTAIN VEHICULAR ACCESS TO ALL DRIVEWAYS DURING CONSTRUCTION. THE CONTRACTOR SHALL TEMPORARILY INSTALL AND MAINTAIN DENSE GRADED AGGREGATE OR HOT MIX ASPHALT TO PROVIDE A RIDING SURFACE FOR VEHICLE ACCESS TO EACH PROPERTY DURING CONSTRUCTION.
3. THE CONTRACTOR MUST ENSURE ACCESS FOR EMERGENCY VEHICLES AND GARBAGE COLLECTION VENDORS FOR THE DURATION OF THE PROJECT.
4. THE CONTRACTOR SHALL PROVIDE TEMPORARY ACCESSIBLE CURB RAMPS WITH HAND RAILS WHEN EXISTING ACCESSIBLE ACCESS IS REMOVED OR LIMITED DUE TO CONSTRUCTION.
5. NO SEPARATE PAYMENT SHALL BE MADE FOR THE PROVISION OF SAFE PEDESTRIAN AND VEHICULAR ACCESS AS DESCRIBED ABOVE AND AS DIRECTED IN THE FIELD BY THE ENGINEER.

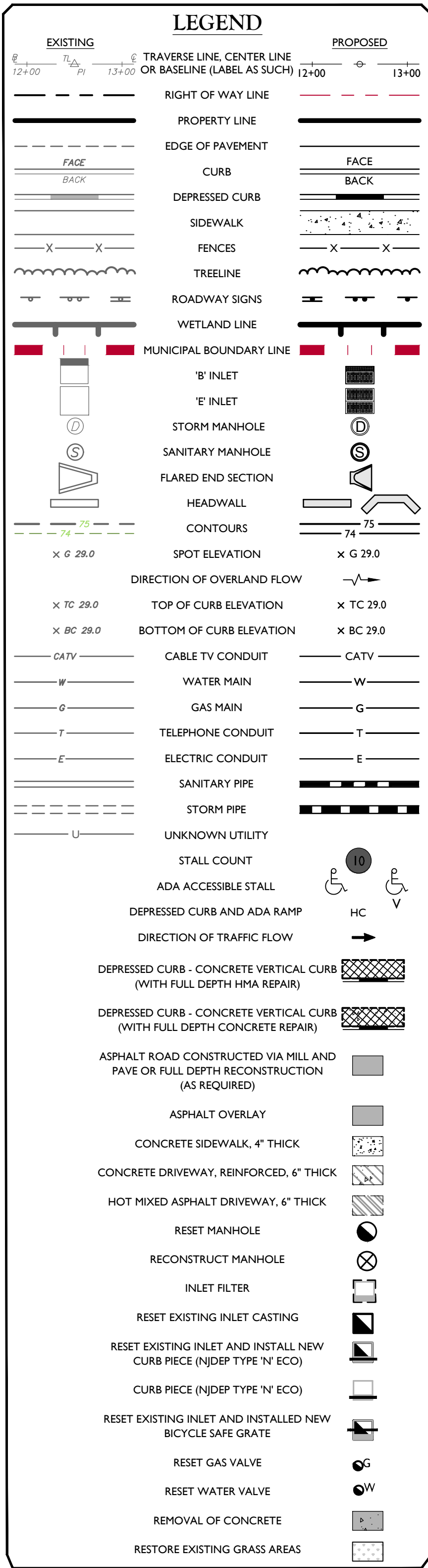
1. THE CONTRACTOR IS RESPONSIBLE FOR LAYING OUT FORMS, POURING CONCRETE AND CONSTRUCTING ACCESSIBLE CURB RAMPS TO MEET ADA STANDARDS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF FIELD CONDITIONS CONFLICT WITH INDICATED ACCESSIBLE CURB RAMP TYPES AND DETAILS PROVIDED HEREIN.
2. THIS PROJECT MAY REQUIRE THE USE OF RECTANGULAR, RADIAL AND A COMBINATION OF RADIAL/RECTANGULAR DETECTABLE WARNING SURFACES. THE DETECTABLE WARNING SURFACES WILL BE MEASURED BASED ON ACTUAL FINISHED GRADE AND NOT INCLUDE SECTIONS THAT ARE CUT AND DISCARDED.
3. DETECTABLE WARNING SURFACES SHALL BE CAST-IN-PLACE AND THE COLOR SHALL CONTRAST FROM THE SURROUNDING MATERIAL.
4. THE ENGINEER WILL INSPECT AND MEASURE THE FINAL CONDITION OF EACH CONSTRUCTED CURB RAMP. ALL CURB RAMPS FOUND NOT TO COMPLY WITH ADA STANDARDS SHALL BE DEMOLISHED AND REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

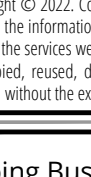


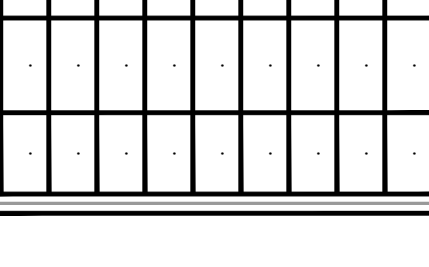

1. ALL SIGNAGE, TRAFFIC STRIPING AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.), AS CURRENTLY AMENDED.
2. REGULATORY SIGNS SHALL BE REINSTALLED AS SOON AS SIDEWALKS ARE POURED.
3. ALL EXISTING SIGNS SHALL BE RESET/RELOCATED WITH NEW POSTS. SIGNS SHALL BE RESET USING EXISTING SIGN BLADES WITH NEW SIGN POSTS PLACED IN SLEEVES. SLEEVES FOR NEW SIGN POSTS SHALL BE FILLED

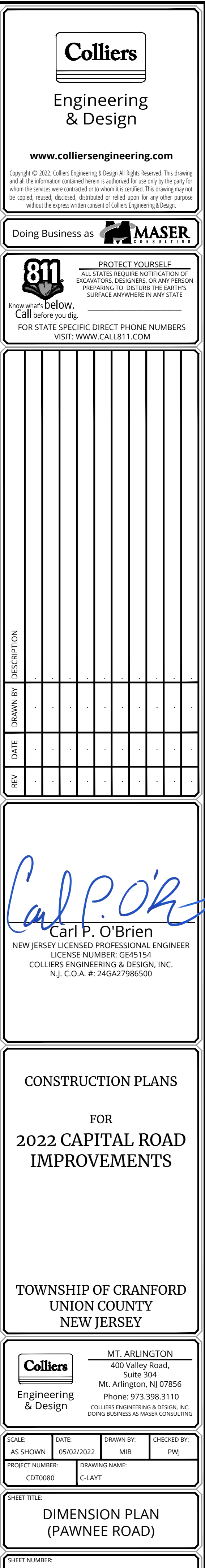
1. THE CONTRACTOR MUST PROVIDE A SMOOTH SAWCUT EDGE WHERE PROPOSED PAVEMENT ABANDS EXISTING PAVEMENT.
2. AFTER MILLING AND PRIOR TO PAVING, THE CONTRACTOR SHALL PROOF ROLL THE ROAD TO DETERMINE THE CONDITION OF THE BASE COURSE. SOFT SPOTS AND UNSUITABLE ROAD BASE SHALL BE REPAIRED. THE CONTRACTOR MUST ALLOW ADEQUATE TIME FOR THE ENGINEER TO INSPECT THE MILLED SURFACE TO EVALUATE THE NEED FOR REPAIRS IN THE PAVEMENT BASE. IF A WHERE DIRECTED BY THE ENGINEER, SAWCUT, REMOVE, REPLACE EXISTING BASE COURSE AND AGGREGATE AS REQUIRED, CONSTRUCT NEW AGGREGATE AND BASE COURSE TO MEET EXISTING DEPTHS. SEE HOT MIX ASPHALT PAVEMENT REPAIR DETAIL.
3. IF REPAIRS IN THE PAVEMENT BASE ARE NECESSARY AS DETERMINED BY THE ENGINEER, THE CONTRACTOR SHALL NOT COMMENCE PAVING OPERATIONS UNTIL SUCH TIME THAT ALL REPAIRS IN THE PAVEMENT BASE ARE COMPLETE.
4. THE CONTRACTOR SHALL MARK ALL RAISED UTILITY MANHOLES, INLETS AND VALVE BOXES THAT ARE EXPOSED AS A RESULT OF MILLING. IN ADDITION, THE CONTRACTOR SHALL INSTALL TEMPORARY PAVEMENT RAMPS AROUND RAISED UTILITIES AS DIRECTED BY THE ENGINEER WHERE SUCH UTILITIES MAY BE IN CONFLICT WITH VEHICULAR AND PEDESTRIAN TRAFFIC.
5. ALL JOINTS BETWEEN EXISTING AND PROPOSED ASPHALT SHALL BE SEALED WITHIN 48 HOURS OF PAVING.

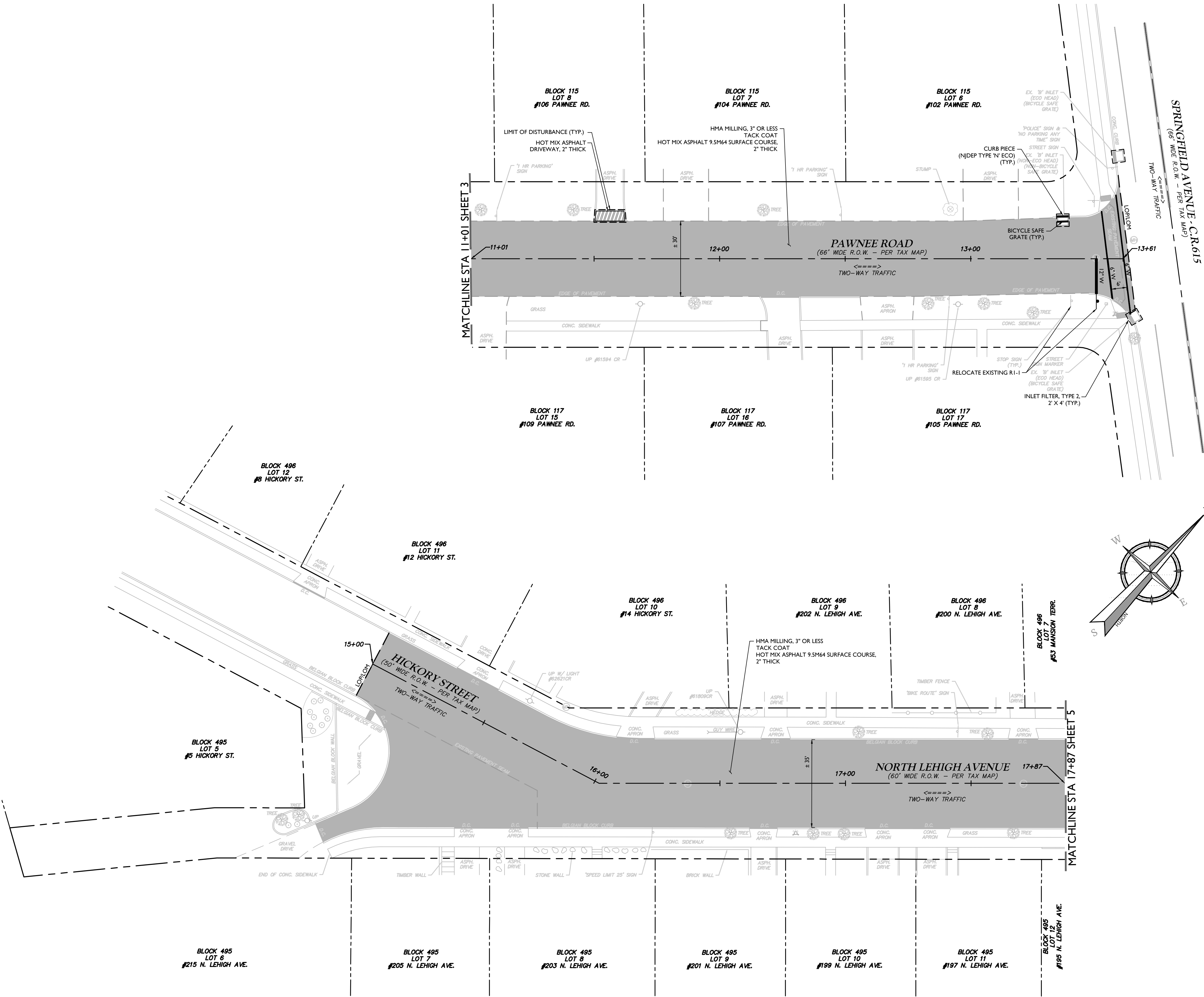
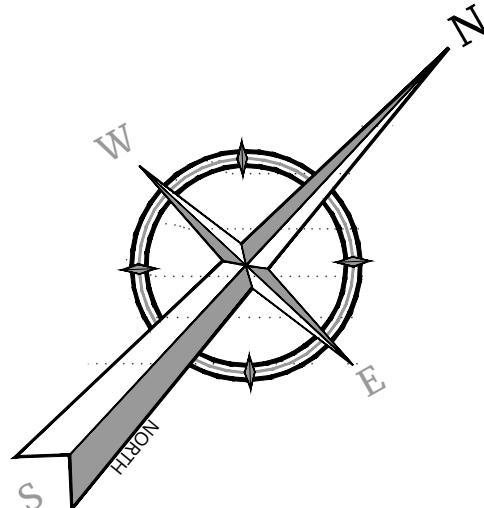
1. PRIOR TO FINAL ACCEPTANCE, ALL PROPERTY CORNERS OR MONUMENTS REMOVED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED BY A NEW JERSEY LICENSED LAND SURVEYOR AT NO ADDITIONAL COST TO THE OWNER.
2. THE CONTRACTOR MUST REPLACE ANY DAMAGED CONCRETE CURB AND SIDEWALK BEFORE ACCEPTANCE OF THE PROJECT BY THE OWNER.
3. ALL AREAS OUTSIDE OF THE PROJECT LIMITS THAT ARE DISTURBED AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE RESTORED AT NO ADDITIONAL COST TO THE OWNER PRIOR TO PROJECT ACCEPTANCE.
4. ALL GRASSED AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED BY TOPSOILING, SEEDING, FERTILIZING AND MULCHING.
5. THE CONTRACTOR SHALL NOT TRACK TACK COAT OR ANY OTHER CONSTRUCTION MATERIAL OR DEBRIS ONTO ADJOINING ROADS OUTSIDE THE PROJECT LIMITS. ANY EXISTING STRIPING AND/OR PAVEMENT MARKINGS LOCATED OUTSIDE THE PROJECT LIMITS THAT ARE IMPACTED, MARKED OR DAMAGED AS A RESULT OF THE CONTRACTOR'S CONSTRUCTION ACTIVITIES, INCLUDING BUT NOT LIMITED TO PAVEMENT OPERATIONS, MUST BE RE-STRIPPED BY THE CONTRACTOR AT THE END OF CONSTRUCTION AT NO ADDITIONAL COST TO THE MUNICIPALITY.

PAY ITEM NO.	BASE BID - 2022 CAPITAL ROAD IMPROVEMENTS	UNIT	TOTAL BASE BID QUANTITY	IF/WHERE DIRECTED QUANTITY	PLAN SHEET QUANTITY	PAWNEE ROAD (SHEET 3)	PAWNEE ROAD & NORTH LEHIGH AVENUE (SHEET 4)	NORTH LEHIGH AVENUE (SHEET 5)	NORTH LEHIGH AVENUE & EDGEBROOK PLACE (SHEET 6)	WALL STREET (SHEET 7)	WALL STREET (SHEET 8)	WATCHUNG AVENUE & CRANFORD AVENUE (SHEET 9)	CRANFORD AVENUE & ALBANY AVENUE (SHEET 10)	SAILER STREET	YARMOUTH ROAD	SAMOSSET ROAD	MYRTLE STREET	BROOKDALE ROAD	GLENWOOD ROAD
1	INLET FILTER, TYPE 2, 2' X 4'	UNIT	62	0	62	1	3	13	5	2	0	0	0	3	0	0	4	9	22
2	BREAKAWAY BARRICADE	UNIT	25	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	DRUM	UNIT	50	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	TRAFFIC CONE	UNIT	100	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	CONSTRUCTION SIGNS	SF	250	250	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	POLICE TRAFFIC DIRECTORS	HOURL	230	230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	FUEL PRICE ADJUSTMENT	DOLLAR	1,300	1,300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	ASPHALT PRICE ADJUSTMENT	DOLLAR	2,100	2,100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	CLEARING SITE	LS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	HMA MILLING, 3" OR LESS	SY	36,482	0	36,482	4,097	2,403	4,730	2,721	3,573	1,156	2,026	1,718	3,594	1,315	0	0	0	0
11	HOT MIX ASPHALT PAVEMENT REPAIR	SY	14	669	14	0	3	28	10	0	0	0	0	0	12	0	926	1,775	4,694
12	TACK COAT	GAL	4,982	0	4,982	559	328	645	235	488	158	240	277	491	180	240	127	242	640
13	HOT MIX ASPHALT 9.5MM64 SURFACE COURSE	TON	4,982	0	4,982	559	328	645	372	488	158	240	277	491	180	240	127	242	640
14	FULL DEPTH CONCRETE PAVEMENT REPAIR, HMA	SY	238	126	112	0	0	0	0	78	0	26	0	8	0	0	0	0	0
15	BICYCLE SAFE GRATE (PHASE II STORMWATER COMPLIANT GRATE)	UNIT	7	0	7	1	0	1	0	0	0	0	0	3	0	0	0	0	0
16	CURB PIECE (NIDEP TYPE 'N' ECO)	UNIT	16	0	16	1	1	8	3	0	0	0	0	3	0	0	0	0	0
17	REPAIR INTERIOR OF DRAINAGE STRUCTURE	UNIT	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	HOT MIX ASPHALT SIDEWALK, 2" THICK	SY	66	54	12	0	0	12	0	0	0	0	0	0	0	0	0	0	0
19	CONCRETE SIDEWALK, 4" THICK	SY	407	136	271	0	0	147	29	23	0	12	0	0	33	27	0	0	0
20	HOT MIX ASPHALT DRIVEWAY, 2" THICK	SY	148	0	296	49	0	0	0	22	0	0	0	51	9	0	0	0	56
21	CONCRETE DRIVEWAY, REINFORCED, 6" THICK	SY	66	22	44	0	0	0	0	22	0	10	0	0	0	0	0	0	0
22	DETECTABLE WARNING SURFACE	SY	20	0	20	1	0	12	2	4	1	0	0	0	0	0	0	0	0
23	9" X 18" CONCRETE VERTICAL CURB	LF	828	181	647	59	0	123	41	232	77	12	22	22	34	25	0	0	0
24	BELGIAN BLOCK CURB	LF	256	181	75	0	0	0	0	0	0	0	0	0	28	0	0	0	0
25	TRAFFIC STRIPES, 4"	LF	1,114	0	0	0	0	0	392	0	100	0	0	0	0	0	522	0	0
26	TRAFFIC MARKING LINES, 6"	LF	477	0	477	0	83	234	57	103	0	0	0	0	0	0	0	0	0
27	TRAFFIC MARKING LINES, 8"	LF	71	0															






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Doing Business as			
 Know what's below. Call before you dig.		PROTECT YOURSELF <small>ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE</small>	
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM			
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CONSTRUCTION PLANS FOR 2022 CAPITAL ROAD IMPROVEMENTS			
TOWNSHIP OF CRANFORD UNION COUNTY NEW JERSEY			
 Engineering & Design		MT. ARLINGTON 400 Valley Road, Suite 304 Mt. Arlington, NJ 07856 Phone: 973.398.3110 <small>COLLIERS ENGINEERING & DESIGN, INC. DOING BUSINESS AS MASER CONSULTING</small>	
SCALE: AS SHOWN	DATE: 05/02/2022	DRAWN BY: MIB	CHECKED BY: PWJ
PROJECT NUMBER: CDD080		DRAWING NAME: C-CV8	
SHEET TITLE: GENERAL NOTES & QUANTITIES			
SHEET NUMBER: 2 of 27			





LEGEND

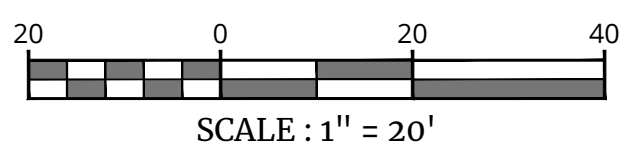
- | | |
|---|--|
|  | HMA MILLING, 3" OR LESS, AND INSTALLATION OF HOT MIX ASPHALT 9.5M64 SURFACE COURSE, 2" THICK |
|  | HOT MIX ASPHALT DRIVEWAY, 2" THICK (TYP.) |
|  | HOT MIX ASPHALT PAVEMENT REPAIR, HMA (TYP.) |

NOTES:

1. ALL EXISTING FEATURES DEPICTED ON THIS PLAN WERE BASED ON AERIAL IMAGERY AND UTILITY MARKOUTS OBSERVED IN THE FIELD. ALL INFORMATION DEPICTED ON THE PLAN SHOULD BE VERIFIED IN THE FIELD BY THE CONTRACTOR. THE LOCATION OF ALL UNDERGROUND UTILITIES AS SHOWN HEREON ARE APPROXIMATE AND ARE BASED ON VISIBLE ABOVE GROUND STRUCTURES AND UTILITY MARK OUTS. NO EXCAVATIONS WERE MADE. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED. THE CONTRACTOR SHALL HAVE ALL UNDERGROUND UTILITIES FIELD VERIFIED BY THE PROPER UTILITY COMPANIES BEFORE ANY CONSTRUCTION BEGINS.
2. AFTER MILLING AND PRIOR TO PAVING, THE CONTRACTOR SHALL PROOF ROLL THE ROAD TO DETERMINE THE CONDITION OF THE BASE COURSE. SOFT SPOTS AND UNSUITABLE ROAD BASE SHALL BE REPAIRED. IF A WHERE DIRECTED BY THE ENGINEER, SAWCUT, REMOVE, REPLACE HMA AND AGGREGATE AS REQUIRED. CONSTRUCT NEW AGGREGATE AND BASE COURSE TO MEET EXISTING DEPTHS. SEE FULL DEPTH REPAIR DETAIL.

THIS PROJECT IS EXEMPT FROM SOIL COMPACTION TESTING AND REMEDIATION AS IT IS LOCATED IN AN URBAN REDEVELOPMENT AREA

SOIL EROSION & SEDIMENT CONTROL PLAN



NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION

[illegible]

Carl P. O'Brien
NEW JERSEY LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: GE45154
COLLIERS ENGINEERING & DESIGN, INC.
N.J. C.O.A. #: 24GA27986500

FOR
2022 CAPITAL ROAD
IMPROVEMENTS

Colliers
Engineering
& Design

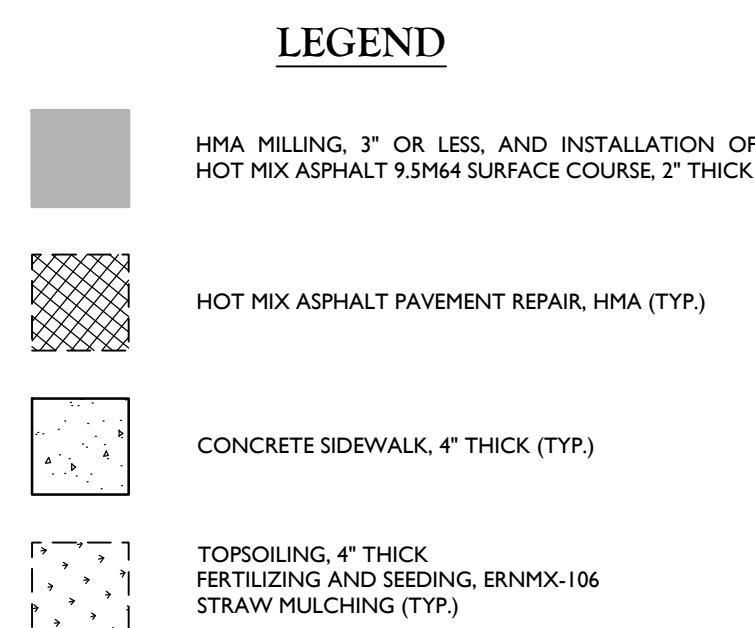
MT. ARLINGTON
400 Valley Road,
Suite 304
Mt. Arlington, NJ 07856
Phone: 973.398.3110
COLLIERS ENGINEERING & DESIGN, INC.

SHEET TITLE:

DIMENSION PLAN
(N. LEHIGH AVENUE)

SHEET NUMBER: 5 of 27

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION

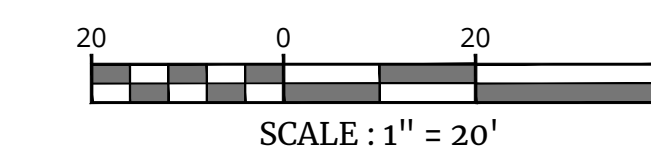


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THIS PROJECT IS EXEMPT FROM SOIL COMPACTION TESTING AND REMEDIATION AS IT IS LOCATED IN AN URBAN REDEVELOPMENT AREA

SOIL EROSION & SEDIMENT CONTROL PLAN



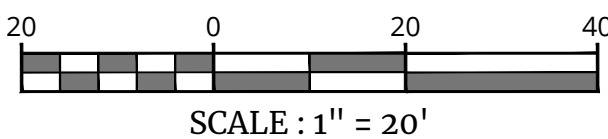
C:\Users\pobrien\OneDrive\Documents\2022 Capital Road Improvements\2022 Capital Road Improvements.dwg - L.A. Lehigh Ave. & Edgebrook Pl. By: MBERKELMAN

NOTES:

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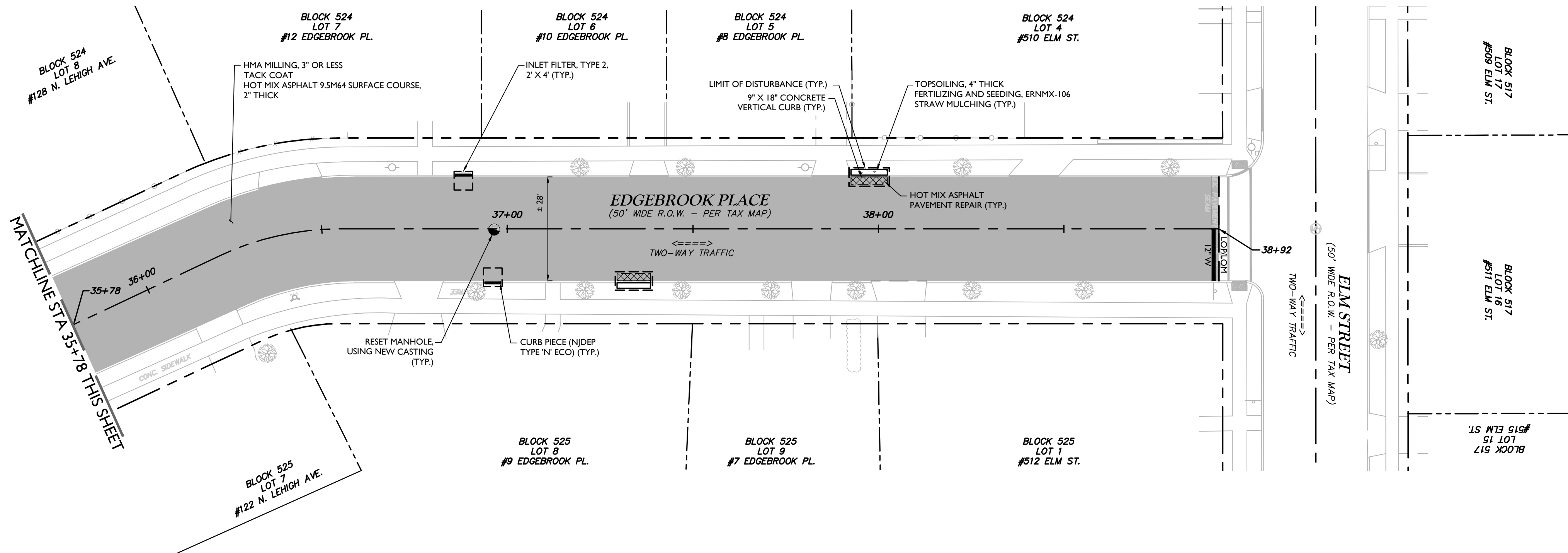
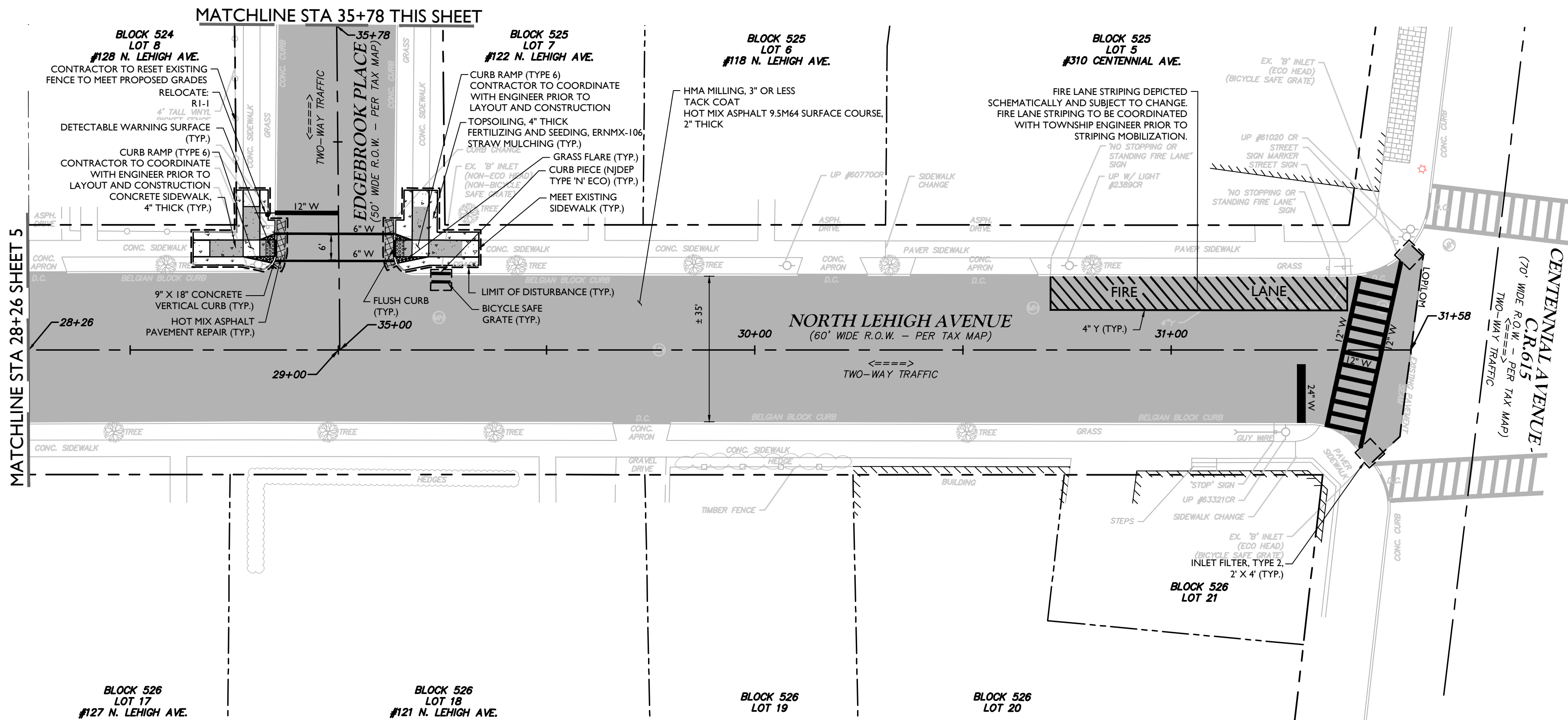
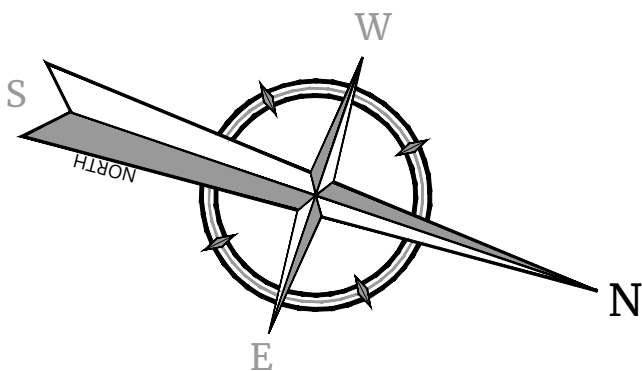
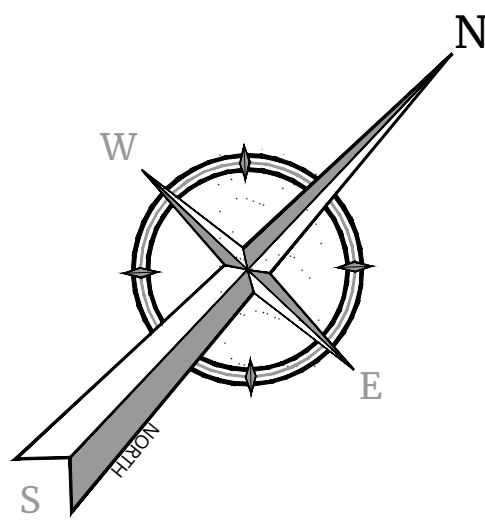
THIS PROJECT IS EXEMPT FROM SOIL COMPACTION TESTING AND REMEDIATION AS IT IS LOCATED IN AN URBAN REDEVELOPMENT AREA

SOIL EROSION & SEDIMENT CONTROL PLAN

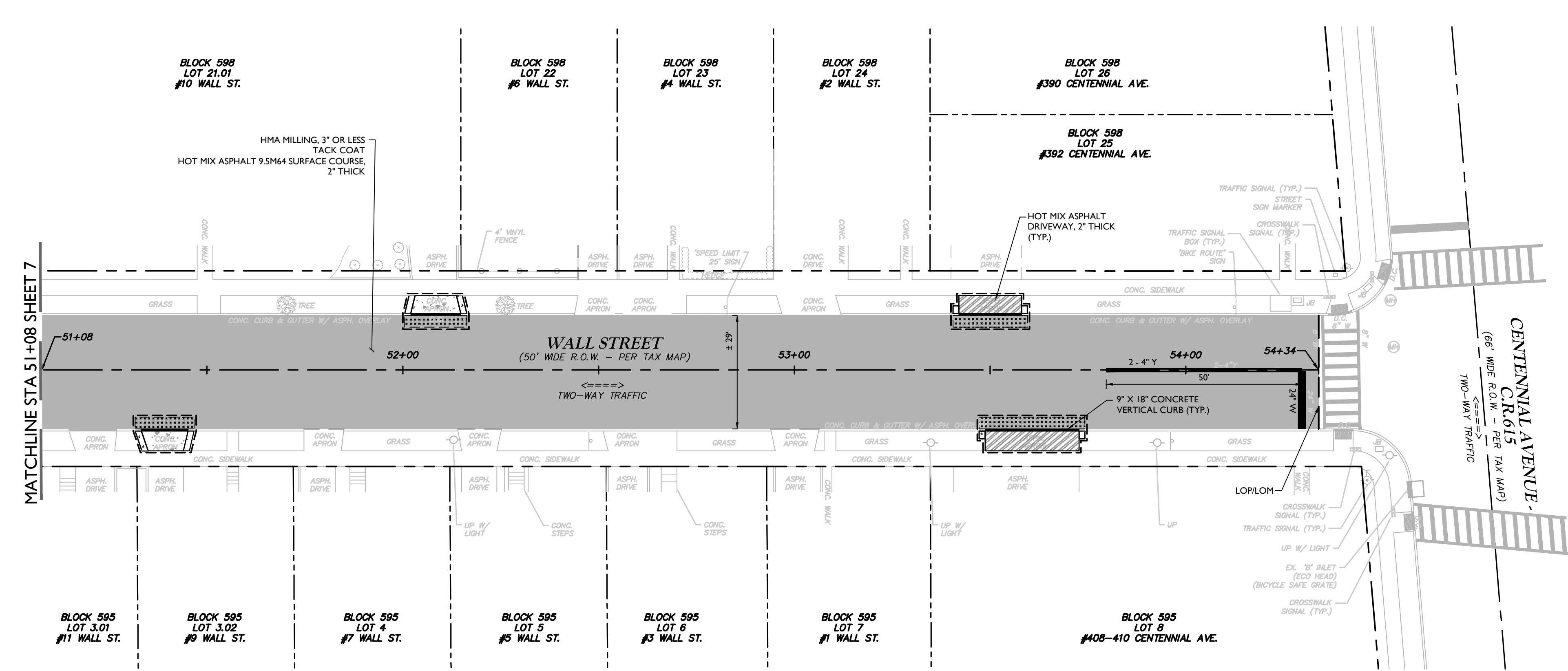


LEGEND

- HMA MILLING, 3" OR LESS, AND INSTALLATION OF HOT MIX ASPHALT 9.5M64 SURFACE COURSE, 2" THICK
- HOT MIX ASPHALT PAVEMENT REPAIR, HMA (TYP.)
- CONCRETE SIDEWALK, 4" THICK (TYP.)
- TOPSOILING, 4" THICK FERTILIZING AND SEEDING, ERNMX-106 STRAW MULCHING (TYP.)



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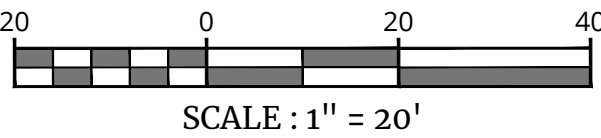
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THIS PROJECT IS EXEMPT FROM SOIL COMPACTION TESTING AND REMEDIATION AS IT IS LOCATED IN AN URBAN REDEVELOPMENT AREA

SOIL EROSION & SEDIMENT CONTROL PLAN

LEGEND	
	HMA MILLING, 3" OR LESS, AND INSTALLATION OF HOT MIX ASPHALT 9.5M64 SURFACE COURSE, 2" THICK
	HOT MIX ASPHALT DRIVEWAY, 2" THICK (TYP.)
	CONCRETE DRIVEWAY, REINFORCED, 6" THICK
	FULL DEPTH CONCRETE PAVEMENT REPAIR, HMA (TYP.)
	TOPSOILING, 4" THICK FERTILIZING AND SEEDING, ERNMX-106 STRAW MULCHING (TYP.)



Engineering & Design

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Doing Business as



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REV. DATE DRAWN BY DESCRIPTION

Carl P. O'Brien

Carl P. O'Brien
NEW JERSEY LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 6445154
COLLIERS ENGINEERING & DESIGN, INC.
N.J. C.O.A. #: 24GA27986500

CONSTRUCTION PLANS

FOR
2022 CAPITAL ROAD
IMPROVEMENTS

TOWNSHIP OF CRANFORD
UNION COUNTY
NEW JERSEY



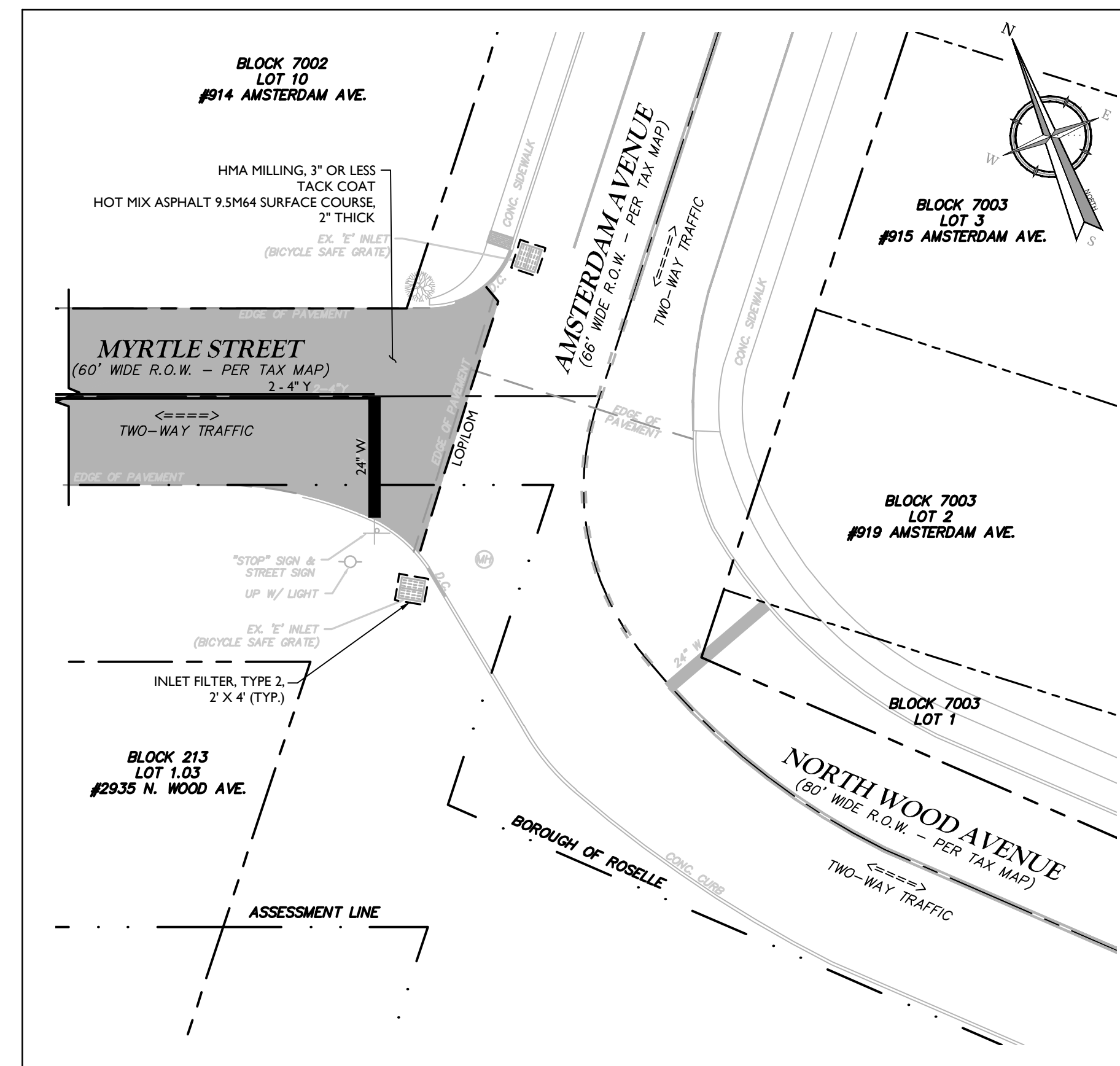
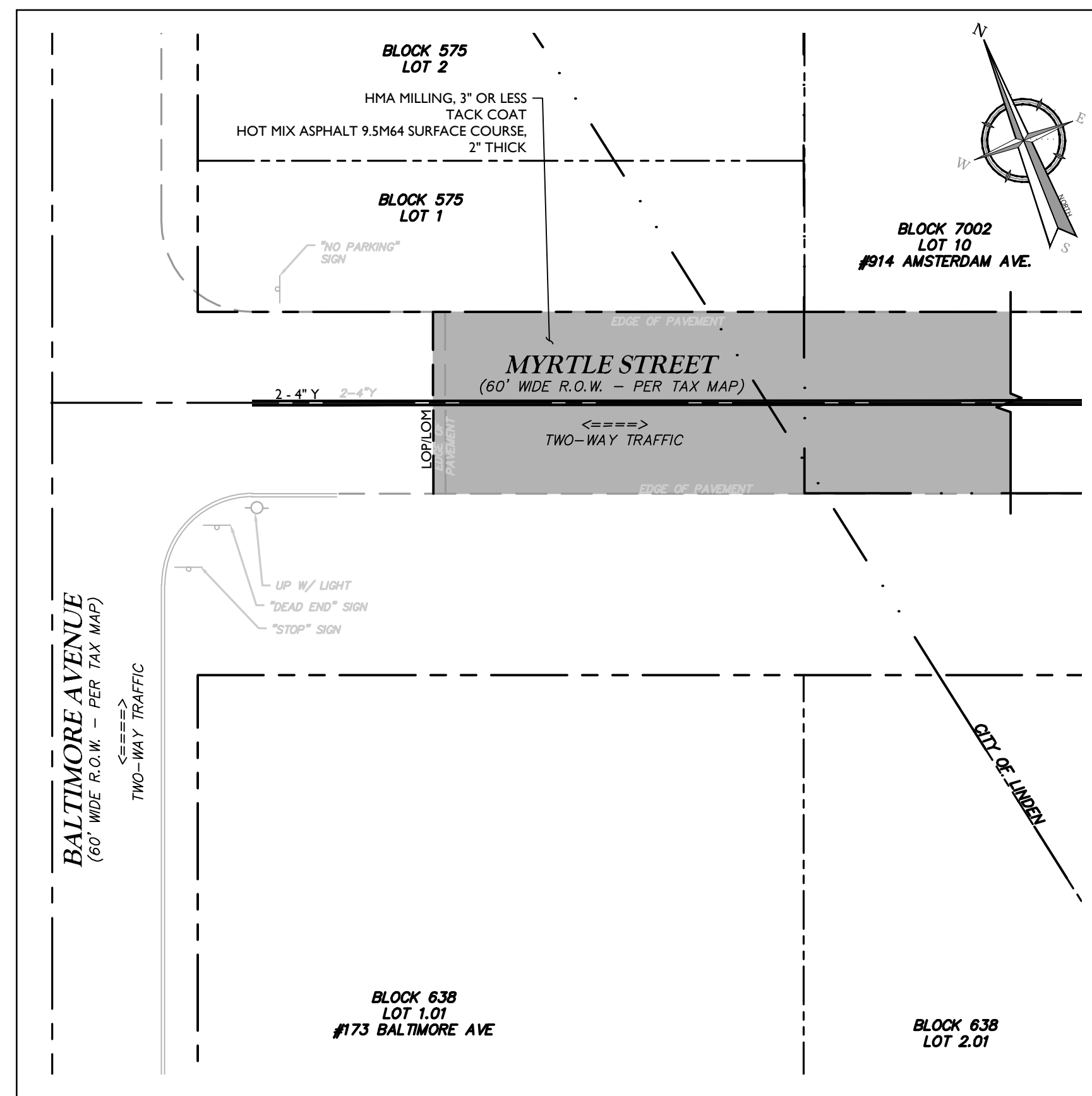
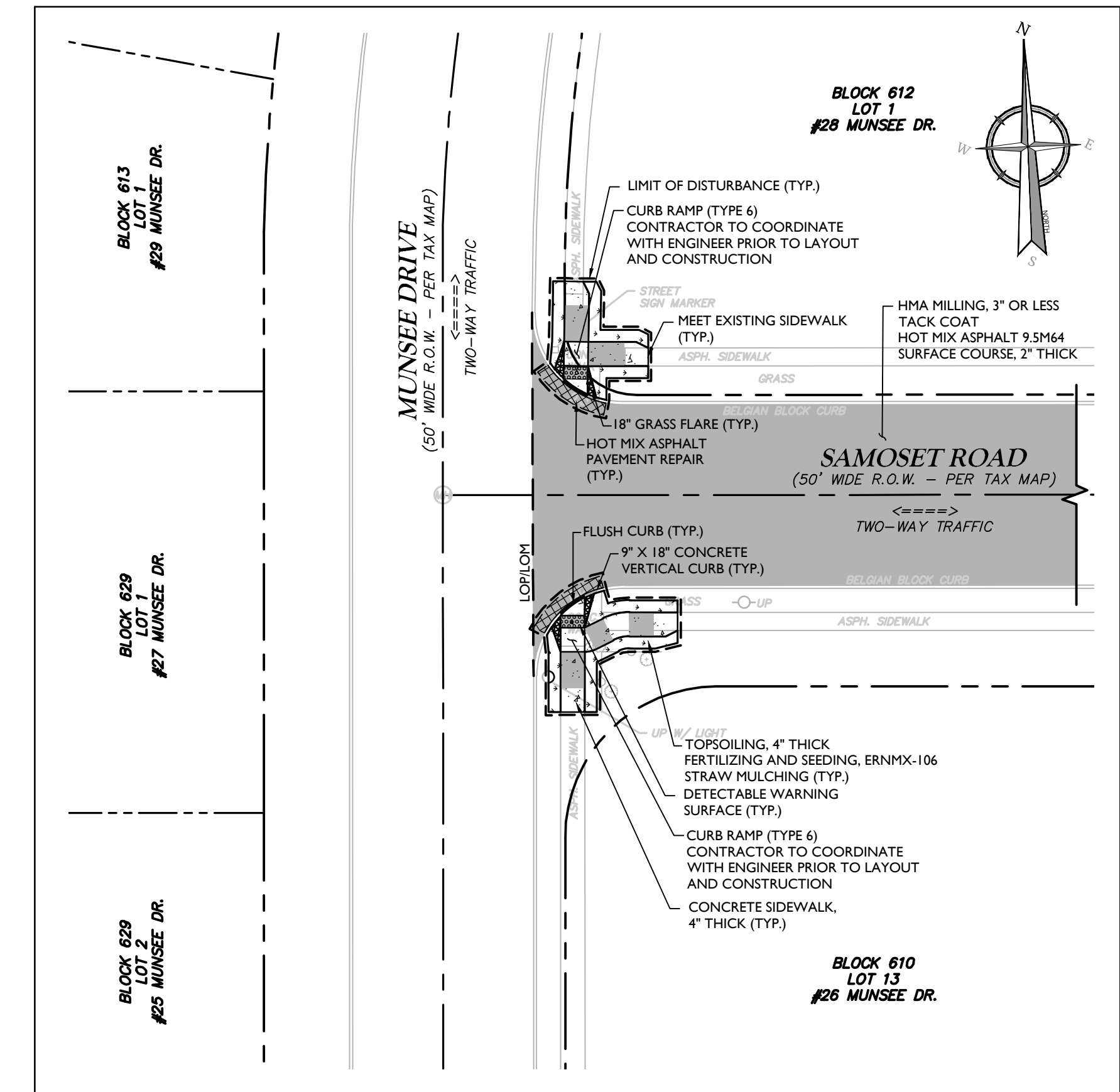
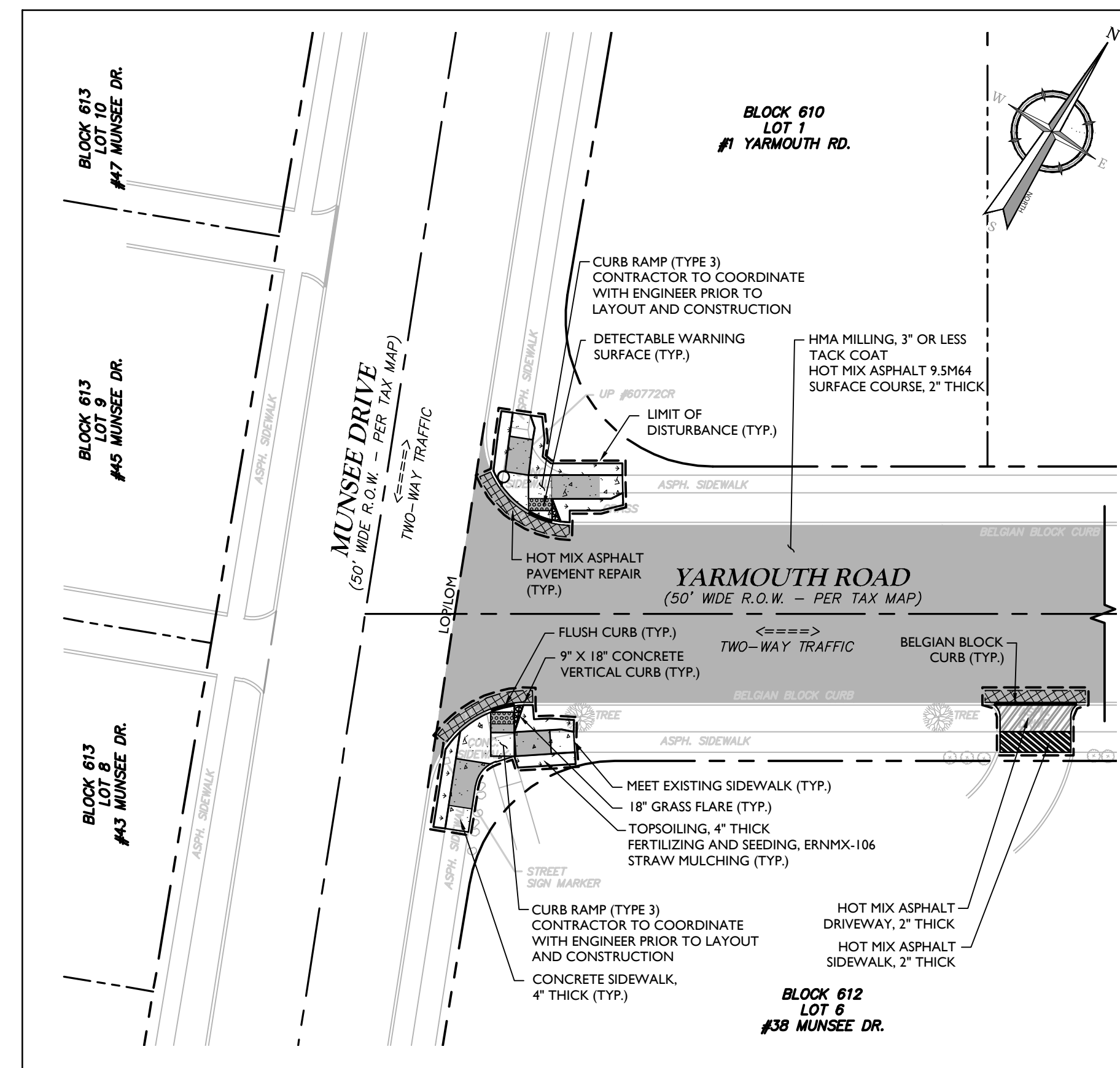
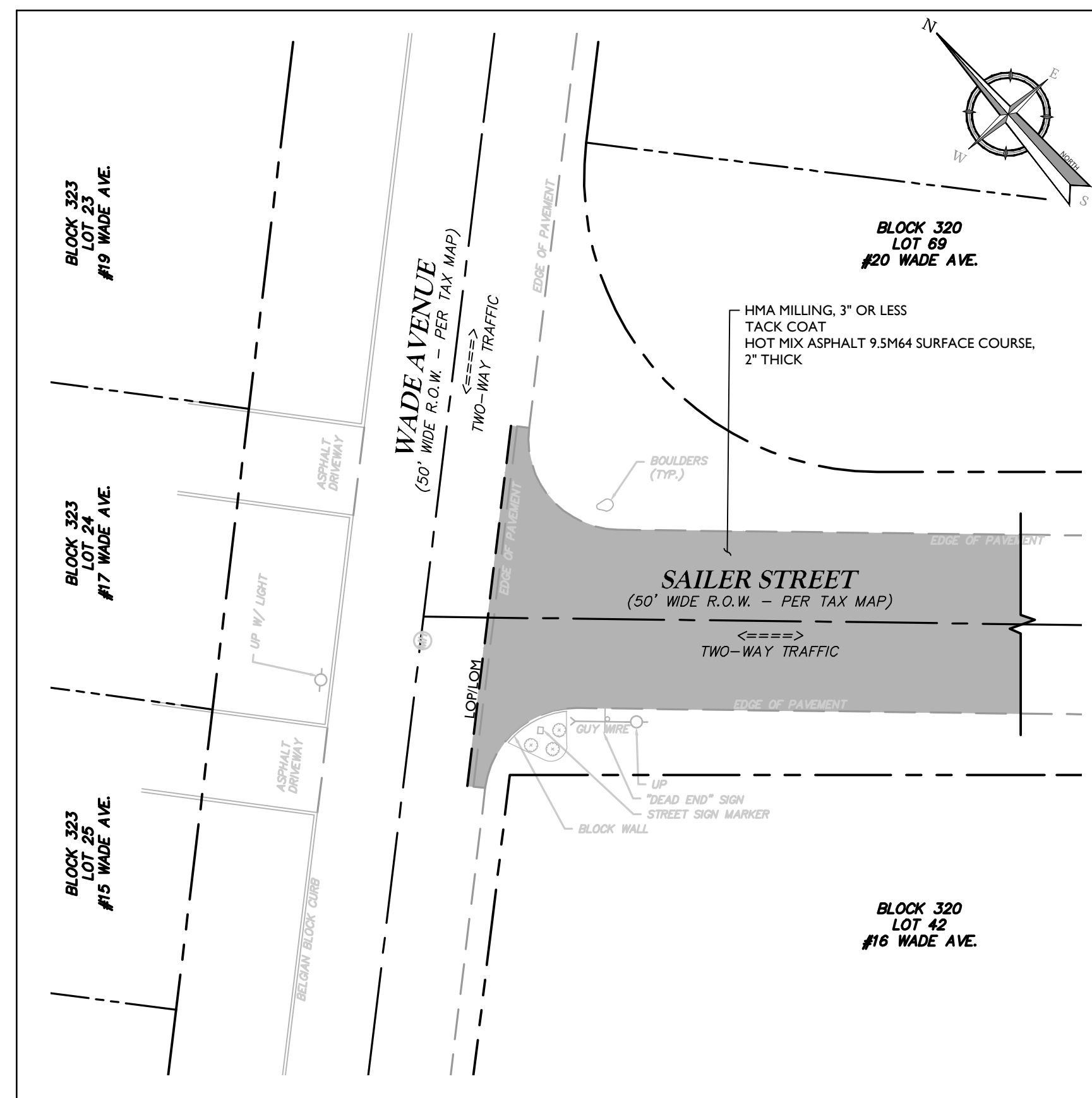
MT. ARLINGTON
400 Valley Road,
Suite 304
Mt. Arlington, NJ 07856
Phone: 973.398.3110
COLLIERS ENGINEERING & DESIGN, INC.
DOING BUSINESS AS MASER CONSULTING

SCALE: AS SHOWN
DATE: 05/02/2022
DRAWN BY: MIB
CHECKED BY: PWJ
PROJECT NUMBER: CDT0080
DRAWING NAME: C-LAY

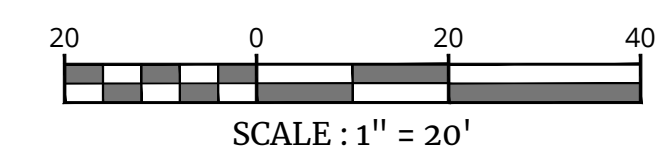
SHEET TITLE
DIMENSION PLAN
(WALL ST.)

SHEET NUMBER
8 of 27

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



INTERSECTIONS ARE SHOWN FOR THE PURPOSE OF DEPICTING PAVING LIMITS ONLY.
NOT ALL IMPROVEMENTS INCLUDED IN THE PROJECT ARE DEPICTED ON THIS PLAN.



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Paul P. O'Rourke

Carl P. O'Brien
NEW JERSEY LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: GE45154
COLLIERS ENGINEERING & DESIGN, INC.
N.J. C.O.A. #: 24GA27986500

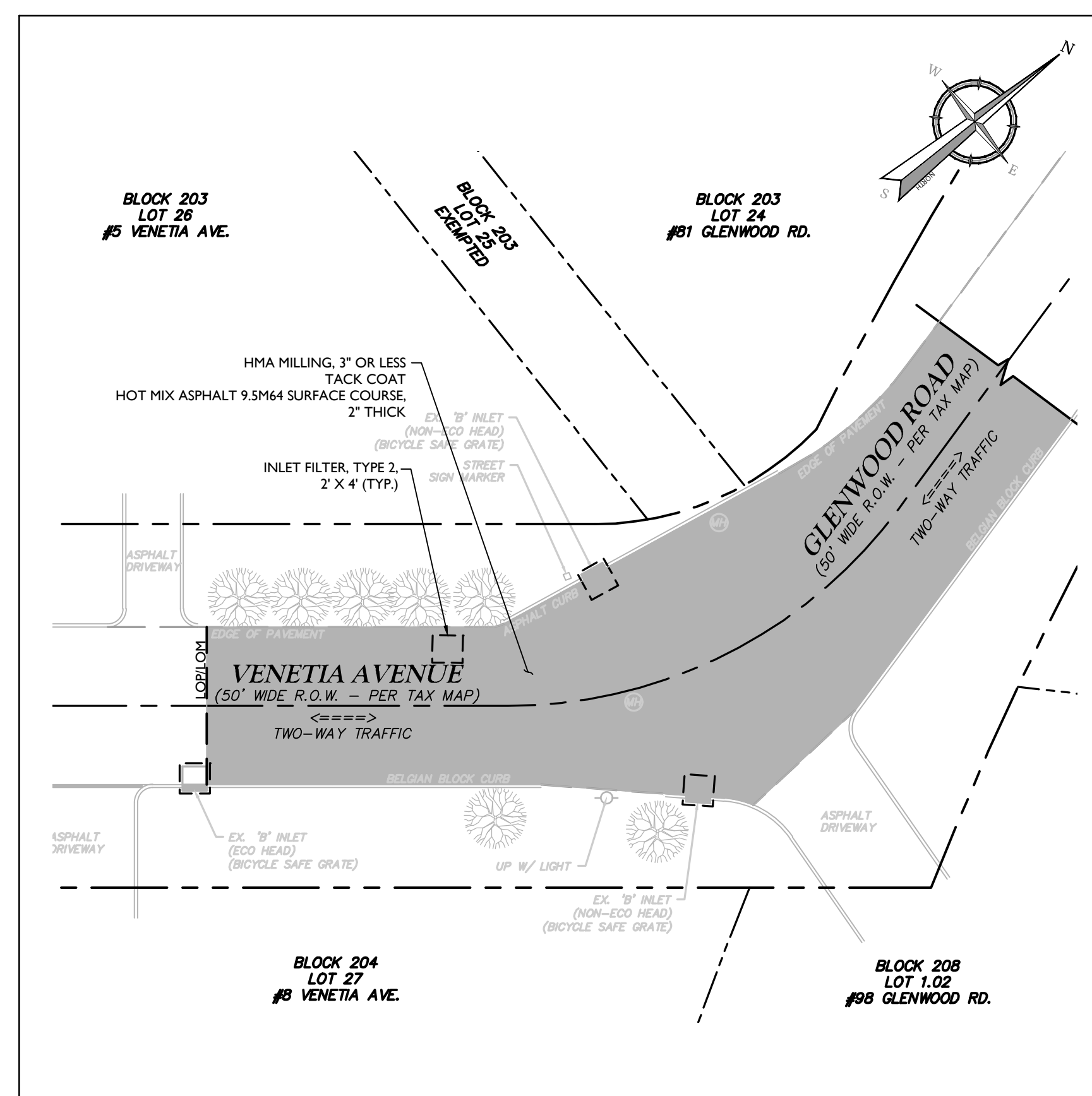
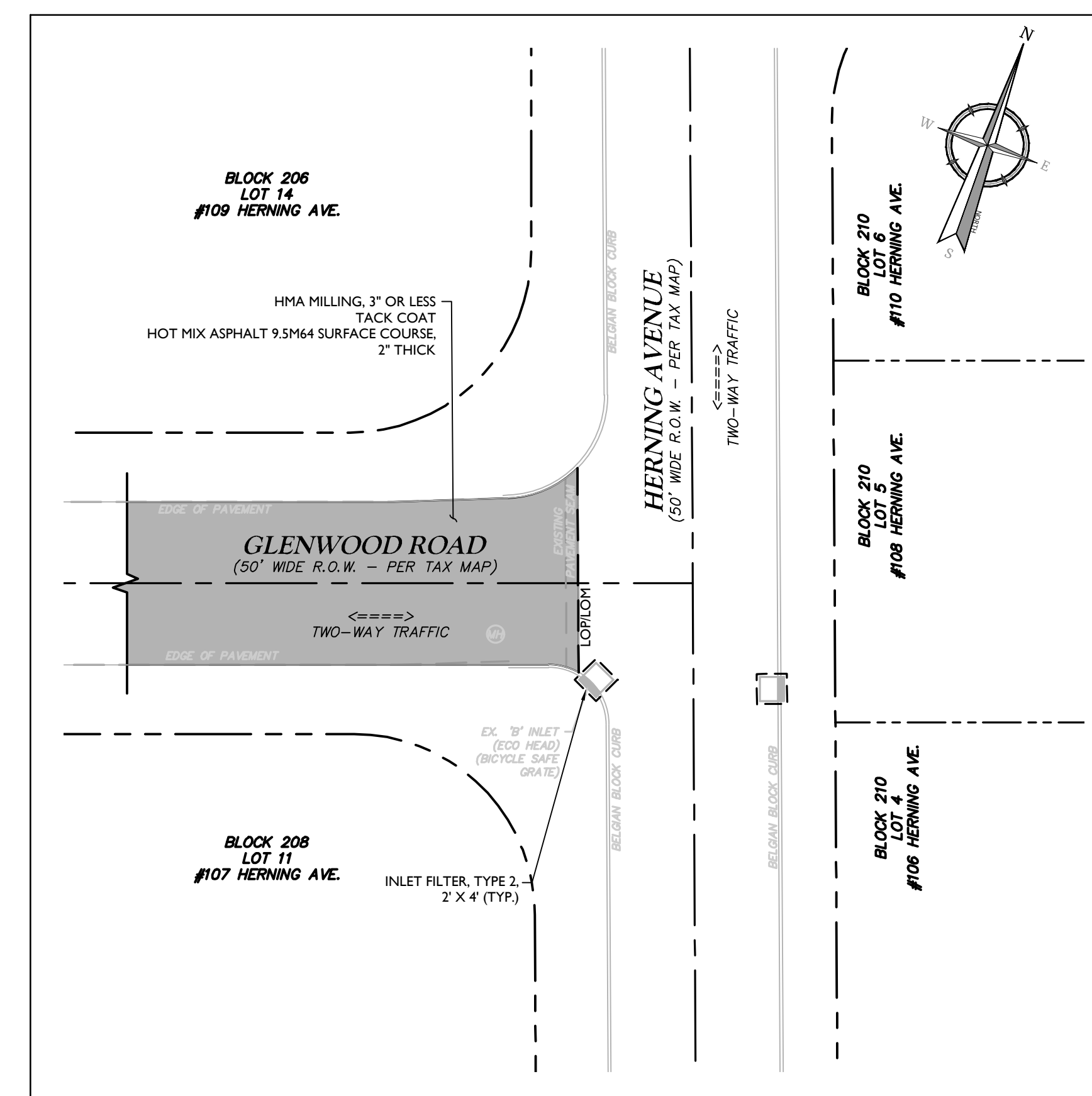
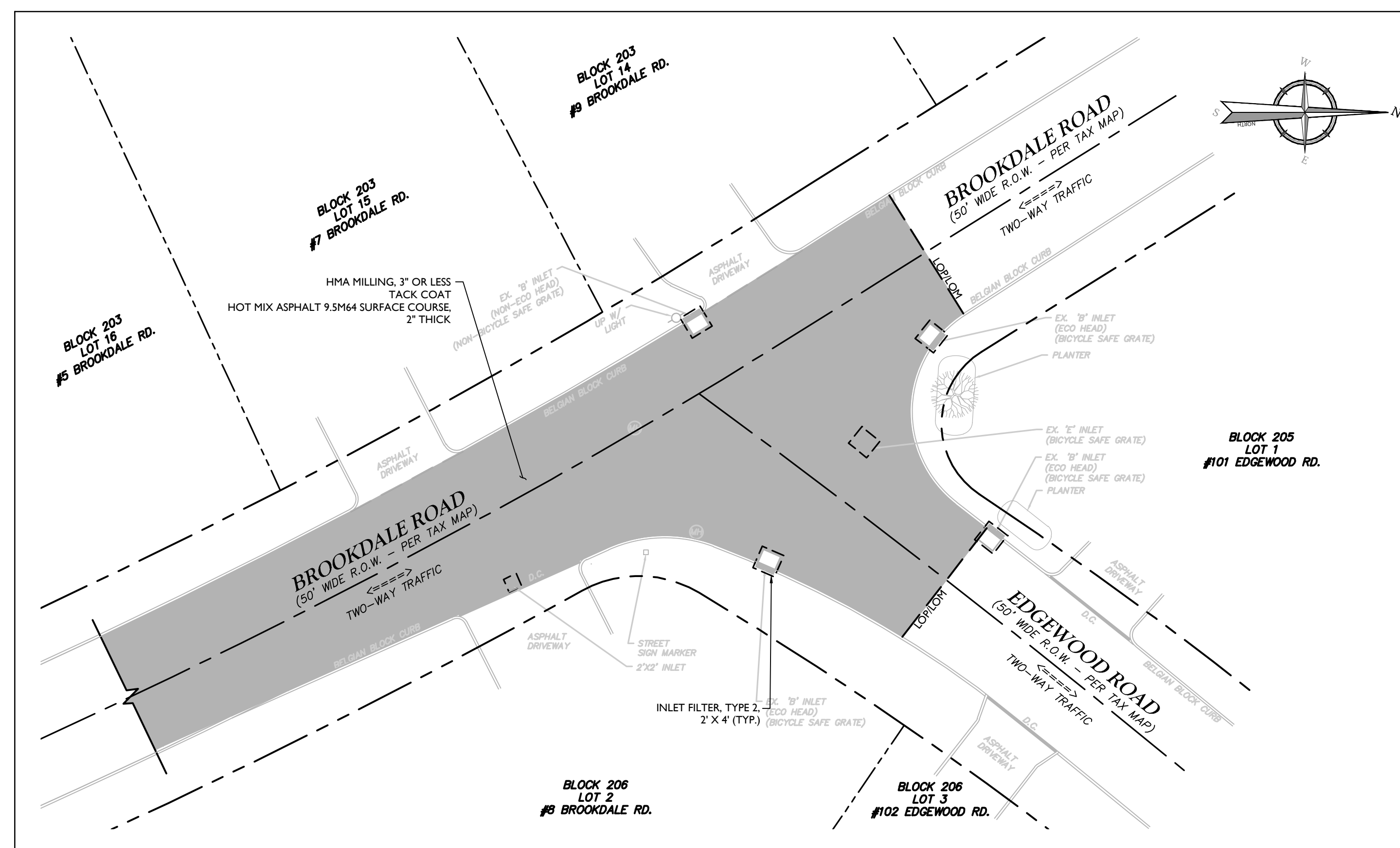
CONSTRUCTION PLANS

FOR
2022 CAPITAL ROAD
IMPROVEMENTS

TOWNSHIP OF CRANFORD
UNION COUNTY
NEW JERSEY

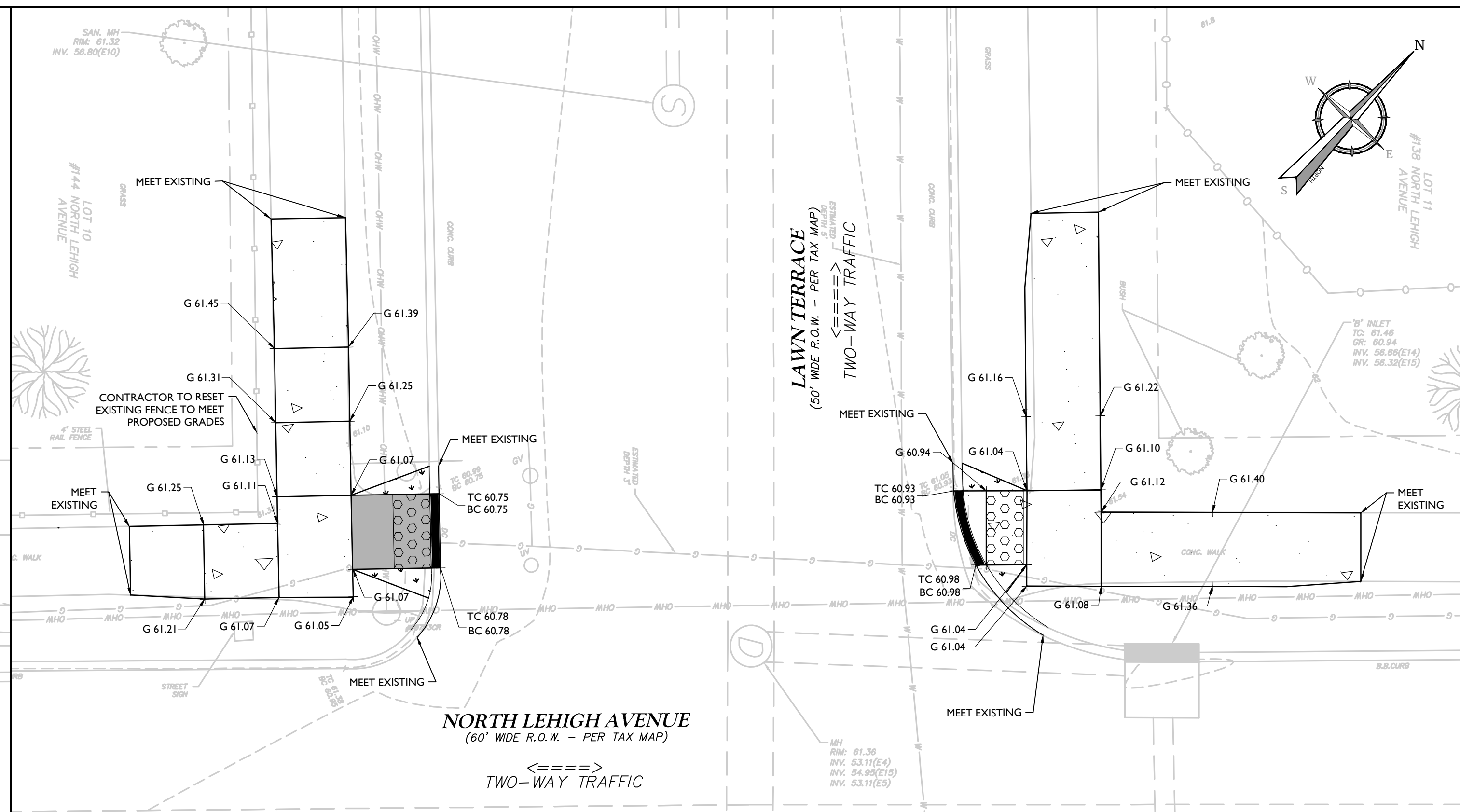
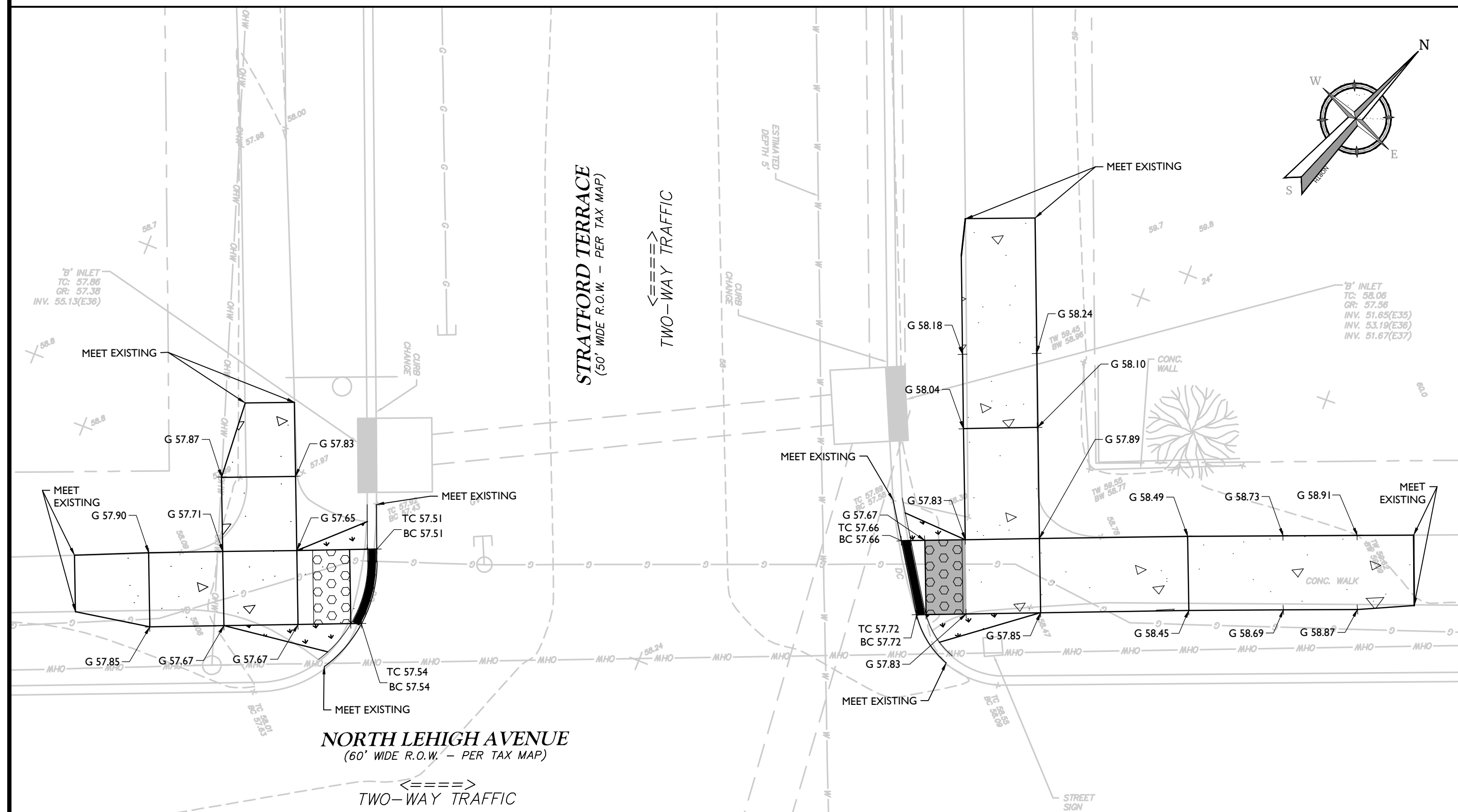
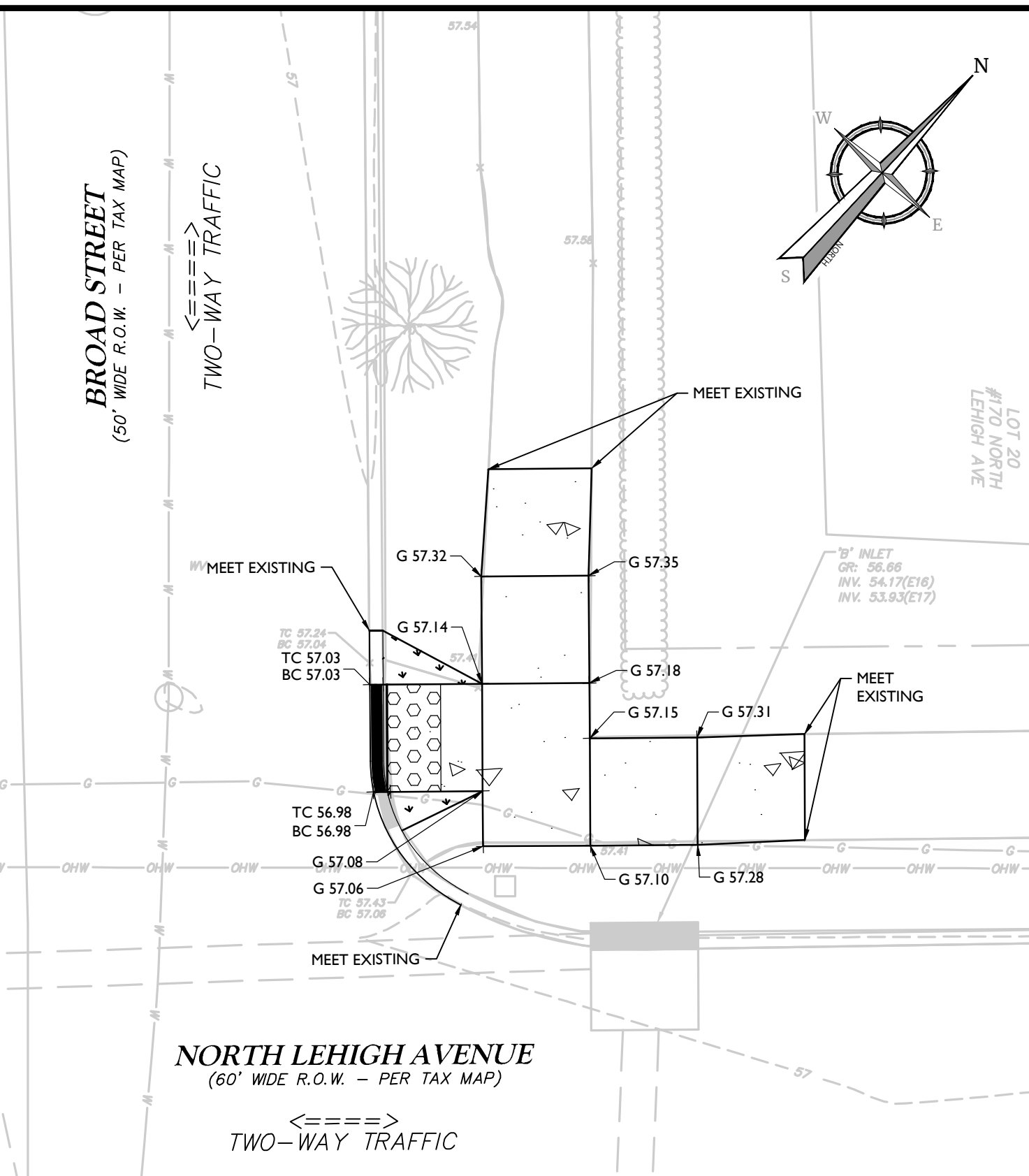
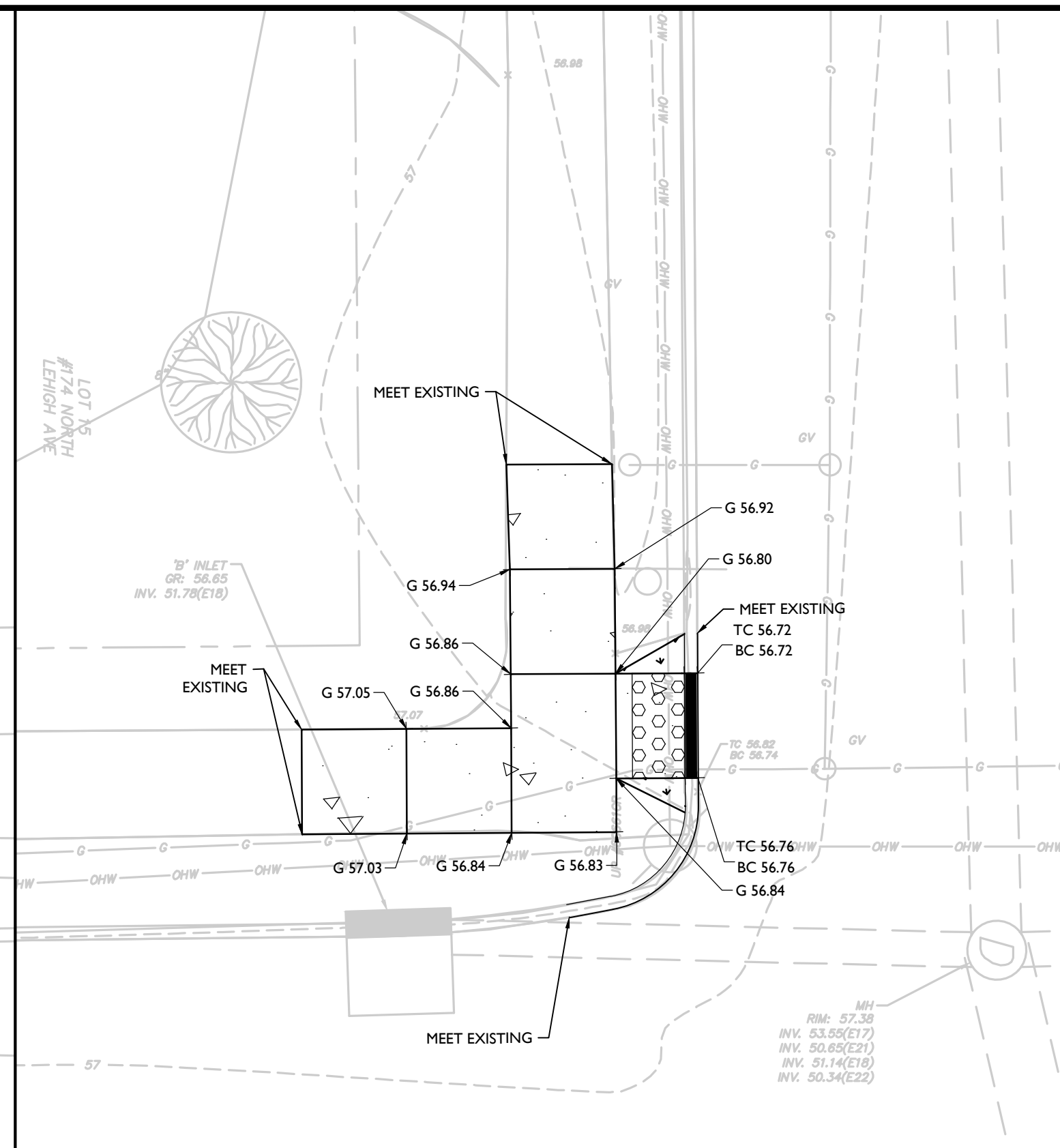
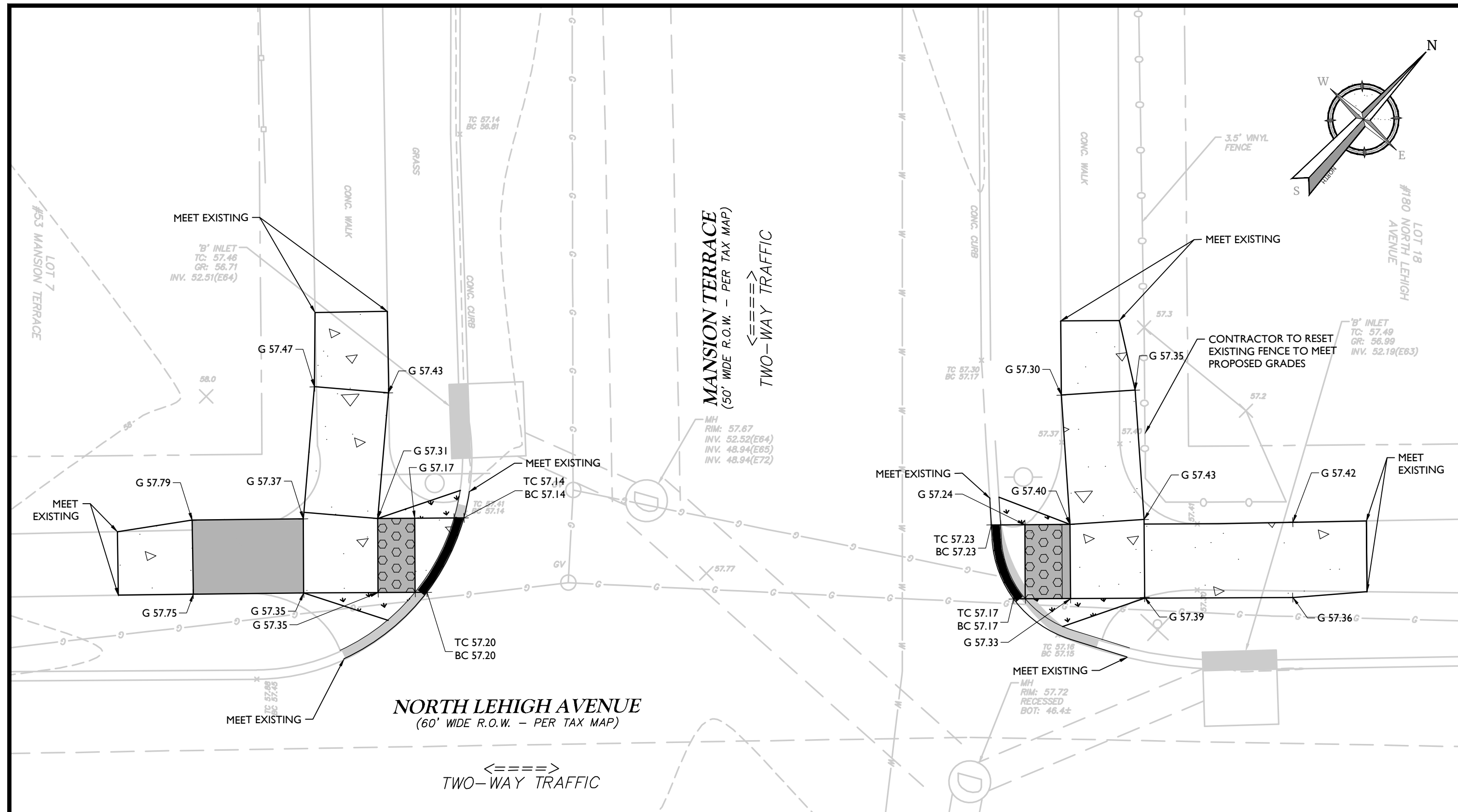
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AS SHOWN	05/02/2022	MIB	PWJ
PROJECT NUMBER:		DRAWING NAME:	
CDT0080		C-LAYT	

PAVING LIMITS MAP



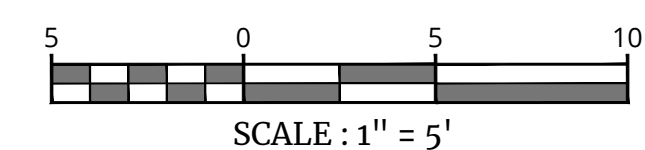
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SCALE : 1" = 20'



CURB RAMP NOTES:

1. THE MAXIMUM CROSS SLOPE OF SIDEWALKS SHALL BE 2%.
2. THE MAXIMUM LONGITUDINAL TRANSITION SLOPE OF SIDEWALKS SHALL BE 5%.
3. THE MAXIMUM LONGITUDINAL SLOPE OF CURB RAMPS SHALL BE 8.33%.
4. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE ALONG ALL SIDEWALKS, CURB RAMPS AS WELL ADJACENT TO ALL SIDEWALKS. STORMWATER RUNOFF SHALL NOT BE BLOCKED BY SIDEWALKS OR CURBS.
5. FOR TYPE 5 & TYPE 6 RAMPS, LEADING EDGE OF DETECTABLE WARNING SURFACE MUST BE LOCATED A MAXIMUM OF 5 FEET FROM EDGE OF TRAVELWAY - THIS REQUIREMENT MAY WARRANT MULTIPLE DETECTABLE WARNING SURFACES FOR A SINGLE RAMP.
6. THERE MUST BE A MINIMUM OF 24 INCHES OF DETECTABLE WARNING SURFACE IN THE DIRECTION OF PEDESTRIAN TRAVEL, THE FULL WIDTH OF THE SIDEWALK - THIS REQUIREMENT MAY WARRANT MULTIPLE DETECTABLE WARNING SURFACES FOR A SINGLE RAMP.
7. A MINIMUM 4' X 4' LANDING AREA, GRADED AT A MAXIMUM SLOPE OF 2% IN ALL DIRECTIONS, MUST BE PROVIDED AT THE TOP OF EVERY RAMP.



MCJN-SOL-NOTE-1013

05/01/17

THE SOMERSET-UNION SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED IN WRITING 48 HOURS IN ADVANCE OF ANY LAND DISTURBING ACTIVITY.

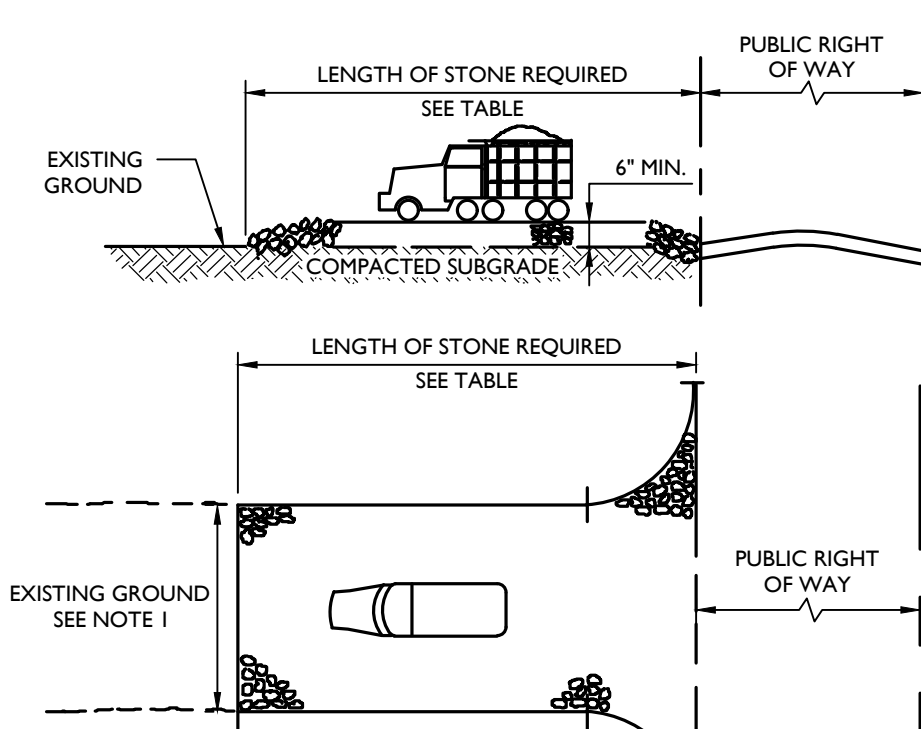
ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCES, OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.

ANY STOCKPILE OR DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE **THAN 14 DAYS** AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF A TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MULCH AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO NJ STATE STANDARDS

PERMANENT VEGETATION SHALL BE SEED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING. MULCH WILL BE USED FOR PROTECTION UNTIL SEEDING IS ESTABLISHED

NO WORK SHALL BE DONE IN ACCORDANCE WITH THE NJ STATE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.

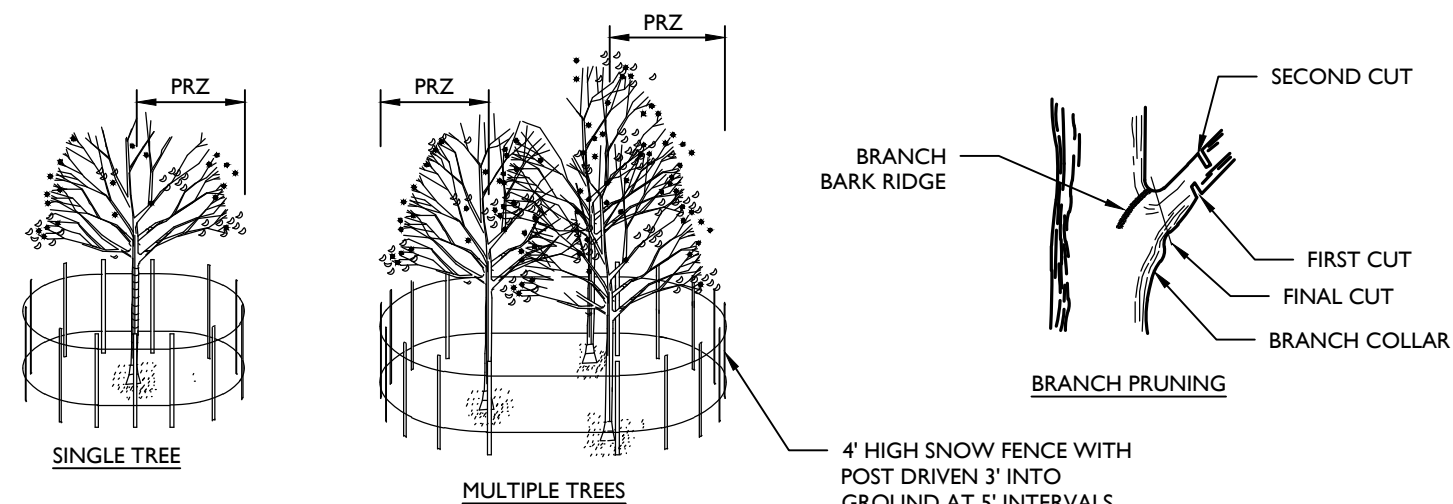
A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS IN ORDER TO STABILIZE STREETS, ROADS, DRIVEWAYS AND PARKING AREAS IN AREAS WHERE NO UTILITIES ARE PRESENT. THE SUB-BASE SHALL BE INSTALLED WITHIN 15 DAYS OR PRELIMINARY GRADING.



- NOTES:**
1. THE WIDTH OF CONSTRUCTION ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF POINTS OF INGRESS OR EGRESS OR AS SHOWN ON THE PLAN.
 2. THICKNESS SHOWN IS FOR STONE CONSTRUCTION ENTRANCE ONLY.
 3. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO ROADWAYS.
 4. THE ENTRANCE SHALL BE PERIODICALLY TOP DRESSED WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS ON-SITE CONDITIONS REQUIRE.
 5. SPILLED, DROPPED, WASHED, OR TRACKED SEDIMENT ONTO ROADWAYS OR OTHER IMPERVIOUS SURFACES SHALL BE IMMEDIATELY CLEANED.
 6. WHERE ACCUMULATION OF DUST AND SEDIMENT IS INADEQUATELY CLEANED OR REMOVED BY CONVENTIONAL METHODS, A POWER BROOM OR STREET SWEEPER SHALL BE USED TO CLEAN PAVED AREAS.
 7. ALL OTHER ACCESS POINTS TO THE SITE WHICH DO NOT CONTAIN A CONSTRUCTION ACCESS PAD SHALL BE BLOCKED OFF.
 8. STONE SIZE PER ASTM C33, SIZE #2 (2 1/2" TO 1 1/2") OR #3 (2" TO 1") STONE.
 9. INDIVIDUAL INTERIOR LOT INGRESS/EGRESS CONSTRUCTION ACCESS SHALL HAVE #3 (1 1/2" TO 2") STONE, MINIMUM 10' (L) X 10' (W) AND 6" THICK.

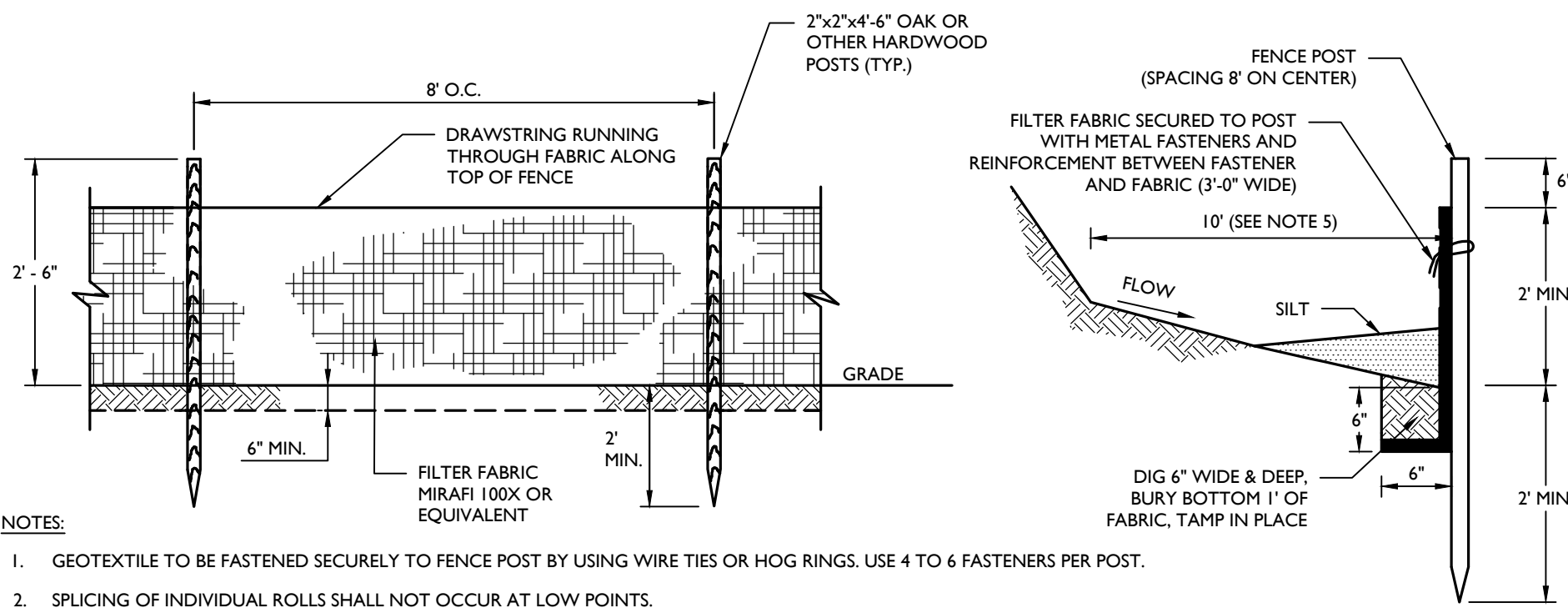
PERCENT SLOPE OF ROADWAY	LENGTH OF STONE REQUIRED	
	COARSE GRAINED SOILS	FINE GRAINED SOILS
0% TO 2%	50 FT	100 FT
2% TO 5%	100 FT	200 FT
> 5%	ENTIRE SURFACE STABILIZED WITH HMA BASE COURSE, MIX 1-2	

NOT TO SCALE MCNJ-SOIL-EROS-1000 05/01/17



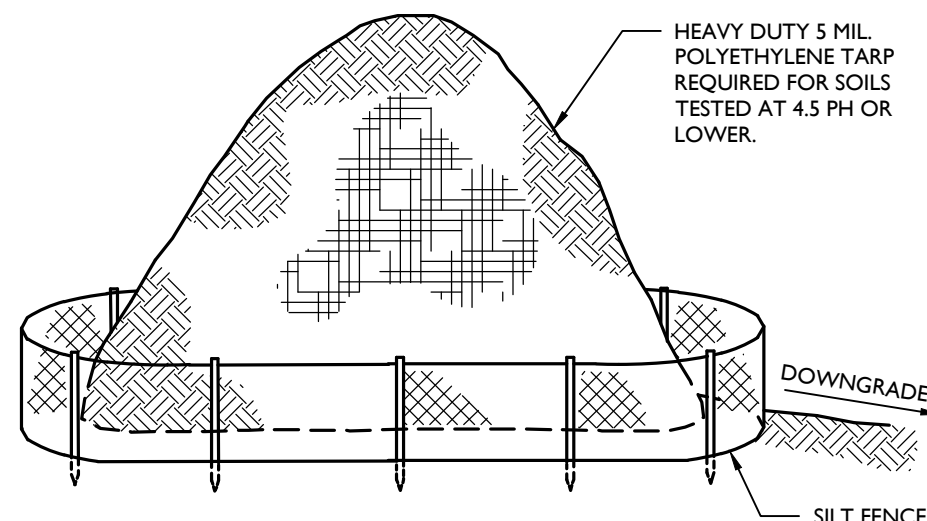
- NOTES:
1. PROTECTIVE FENCING IS TO BE ERECTED PRIOR TO CONSTRUCTION AND MAINTAINED DURING CONSTRUCTION AS DIRECTED BY THE LANDSCAPE ARCHITECT, SOIL CONSERVATION DISTRICT AND/OR MUNICIPAL ENGINEER.
 2. NO CONSTRUCTION ACTIVITY IS PERMITTED WITHIN THE PROTECTIVE FENCING.
 3. AS CONSTRUCTION NEARS COMPLETION THE FENCING WILL BE REMOVED AS DIRECTED.
 4. AT THE COMPLETION OF CONSTRUCTION, ALL TREES WILL BE PRUNED AS NECESSARY TO CORRECT ANY DAMAGE RESULTING FROM CONSTRUCTION ACTIVITY.
 5. GENERAL MECHANICAL DAMAGE - SEE CRITICAL ROOT ZONE CALCULATION (CRZ) FOR CORRECT PLACEMENT OF TREE PROTECTION.
 6. BOX TREES WITHIN 25 FEET OF A BUILDING SITE TO PREVENT MECHANICAL INJURY. FENCING OR OTHER BARRIER SHOULD BE INSTALLED BEYOND THE CRITICAL ROOT ZONE.
 7. BOARDS WILL NOT BE NAILED TO TREES DURING BUILDING OPERATIONS.
 8. FEEDER ROOTS SHOULD NOT BE CUT IN AN AREA INSIDE THE PROTECTED ROOT ZONE (PRZ) OR CRITICAL ROOT ZONE (CRZ). TREE ROOT SYSTEM COMMONLY EXTEND BEYOND THE DRAIN LINE.
 9. DAMAGED TRUNKS OR EXPOSED ROOTS SHOULD HAVE DAMAGED BARK REMOVED IMMEDIATELY AND NO PAINT SHALL BE APPLIED. EXPOSED ROOTS SHOULD BE COVERED WITH MULCH. IMMEDIATELY AFTER EXCAVATION IS COMPLETE, ROOTS SHALL BE PRUNED TO GIVE A CLEAN, SHARP SURFACE AMENABLE TO HEALING. ROOTS EXPOSED DURING HOT WEATHER SHOULD BE IRRIGATED TO PREVENT PERMANENT TREE INJURY. CARE FOR SERIOUS INJURY SHOULD BE PRESCRIBED BY A PROFESSIONAL FORESTER OR CERTIFIED TREE EXPERT.
 10. TREE LIMB REMOVAL WHERE NECESSARY, WILL BE DONE AS NATURAL TRADING PRUNING TO REMOVE THE DESIRED BRANCH COLLAR. THERE SHOULD BE NO FLUSH CUTS. FLUSH CUTS AND NOTCHES OR V-CUTS OF THE TREE, NO TREE PAINT SHALL BE APPLIED. ALL CUTS SHALL BE MADE AT THE OUTSIDE EDGE OF THE BRANCH COLLAR. CUTS MADE TOO FAR BEYOND THE BRANCH COLLAR MAY LEAD TO EXCESS SPROUTING, CRACKS AND ROT. REMOVAL OF A "Y" CROTCH SHOULD BE CONSIDERED FOR FREE STANDING SPECIMEN TREES TO AVOID FUTURE SPLITTING DAMAGE.
 11. CRITICAL ROOT ZONE (CRZ) OR PROTECTED ROOT ZONE (PRZ) CALCULATION:
MEASURE DBH OF THE TREE (DIAMETER OF TREE IN BREAST HEIGHT OR 4.5' ABOVE GROUND ON THE UPHILL SIDE) IN INCHES.
CRZ OR PRZ = DBH TIMES 1.5 (FOR OLD/UNHEALTHY/SENSITIVE TREES) OR DBH X 1.0 (FOR YOUNG/HEALTHY/TOLERANT TREES), EXPRESS IN FEET.

NOT TO SCALE MCN|SOIL-EROS-2100 05/01/17



- | NOTES: | EQUIVALENT | FABRIC, TA |
|--|------------|------------|
| 1. GEOTEXTILE TO BE FASTENED SECURELY TO FENCE POST BY USING WIRE TIES OR HOG RINGS. USE 4 TO 6 FASTENERS PER POST. | | |
| 2. SPACING OF INDIVIDUAL ROLLS SHALL NOT OCCUR AT LOW POINTS. | | |
| 3. ALL SILT FENCE TO BE INSPECTED AND REGULAR MAINTENANCE PERFORMED BY THE CONTRACTOR WITHIN 24 HOURS AFTER EACH RAINFALL RESULTING THE SILT ACCUMULATION WHEN IT REACHES THE FENCE FABRIC HEIGHT. | | |
| 4. FOR EVERY 100 FEET OF SILT FENCE, OR 1/4 ACRE OF DRAINAGE AREA, PROVIDE AN OVERTFLOW POINT TO REDUCE PONDING IN FRONT OF THE FENCE. | | |
| 5. IF SPACE PERMITTED, LOCATE SILT FENCE 10' AWAY FROM TOE OF SLOPE IF THE SLOPE IS STEEPER THAN 1:1. | | |

NOT TO SCALE MCNI-SOIL-EROS-1100 11/01/18



- NOTES:
- I. ALL STOCKPILES SHALL NOT BE LOCATED WITHIN 50 FEET OF A FLOODPLAIN, SLOPE ROADWAY OR DRAINAGE FACILITY.

NOT TO SCALE	MCN1-SOIL-EROS-2500	05/01/17	NOT TO SCALE
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Common Name
Tall Fescue, 'Fawn'
Perennial Ryegrass, 'Fastball RGL' (turf type)
Kentucky Bluegrass, 'Shamrock'
Kentucky Bluegrass, 'Volt'
Annual Ryegrass

Botanical Name	
30.00 %	<i>Festuca arundinacea</i> , 'Fawn'
30.00 %	<i>Lolium perenne</i> , 'Fastball RGL
15.00 %	<i>Poa pratensis</i> , 'Shamrock'
15.00 %	<i>Poa pratensis</i> , 'Volt'
10.00 %	<i>Lolium multiflorum</i>

100.00 %

Seeding Rate: 75-150 lb per acre, or 3-5 lb per 1,000 sq ft
Lawn & Turfgrass Sites

This mix is good for high-traffic areas. Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.

NOT TO SCALE	MCN1-SOIL-EROS-2500	05/01/17	NOT TO SCALE
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IMPLEMENTATION OF SOIL EROSION & SEDIMENT CONTROL MEASURES INCLUDING
- INLET FILTERS 2 DAYS

CONSTRUCT IMPROVEMENTS:	
- SITE CLEARING	2 DAYS
- COMPLETE MILLING OPERATIONS	4 WEEKS
- INSTALL DRAINAGE IMPROVEMENTS	2 DAYS
- INSTALL CURBING AND DRIVEWAYS	2 WEEKS
- INSTALL CURB RAMPS	1 WEEK
- PAVEMENT IMPROVEMENTS	2 WEEKS
- UNIFORMLY APPLY TOPSOIL TO AVERAGE DEPTH OF 5".	
MINIMUM OF 4" FIRMED IN PLACE	2 DAYS
- TOPDRESSING, FERTILIZING, SEEDING AND STRAW MULCHING	2 DAYS
REMOVAL OF SOIL EROSION & SEDIMENT CONTROL	2 DAYS
MEASURES	

NOTE: TOTAL ESTIMATED PROJECT DURATION: 11 WEEKS

THIS SCHEDULE IS FOR SOIL EROSION AND SEDIMENT CONTROL PURPOSES ONLY.

STOCKPILE

- I. ALL EXCAVATED MATERIAL SHALL BE DISPOSED OF OFF-SITE. NO EXCAVATED MATERIAL SHALL BE STOCKPILED AND STORED WITHIN THE PROJECT LIMITS.

TOTAL PROJECT AREA OF DISTURBANCE = 10,313 SF OR 0.24 ACRES

[illegible]


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N.J. C.O.A. #: 24GA27986500

CONSTRUCTION PLANS

FOR
2022 CAPITAL ROAD
IMPROVEMENTS

TOWNSHIP OF CRANFORD
UNION COUNTY
NEW JERSEY

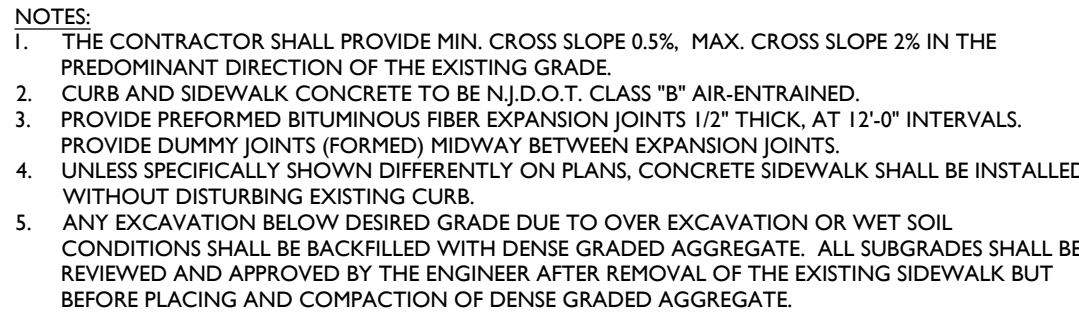
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SCALE: AS SHOWN	DATE: 05/02/2022	DRAWN BY: MIB	CHECKED BY: PWJ
PROJECT NUMBER: CDT0080		DRAWING NAME: C-DTLS	

SHEET TITLE: SOIL EROSION & SEDIMENT CONTROL NOTES AND DETAILS

SHEET NUMBER: 14 of 27



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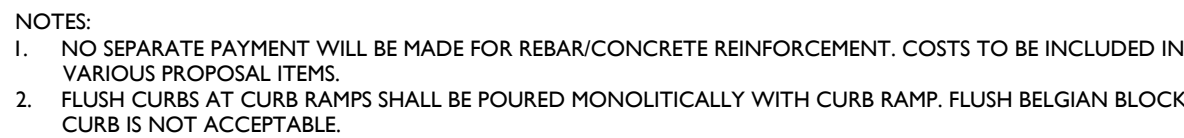


N.T.S.



- AFTER MIXING, PERFORM REPAIR AS DIRECTED IN THE FIELD BY THE ENGINEER, PRIOR TO OVERLAYING SURFACE.
TO DETERMINE BASE PREPARE, THE CONTRACTOR SHALL NOOT THE ROAD TO DETERMINE THE CONDITION OF THE BASE COURSE. SOFT SPOTS AND UNSTABLE AREAS MUST BE REPAIRED. SAW CUT
AND PATCH WITH NEW ASPHALT AS REQUIRED. CONTRACTOR MUST MEET EXISTING DEPTH OF FULL-DEPTH BASE REPAIR. DETAIL
WHEN PROPOSED HMA SURFACE IS 0" - 2" ABOVE EXISTING HMA SURFACE COURSE, INSTALL EXISTING HMA SURFACE COURSE TO ACHIEVE 2". BETWEEN EXISTING HMA SURFACE COURSE AND PROPOSED
HMA SURFACE COURSE, COMPACTED LIFT THICKNESS SHALL BE 1.5 INCHES.
WHEN PROPOSED HMA SURFACE IS 2" - 4" ABOVE EXISTING HMA SURFACE COURSE, INSTALL 9.5MM# 27 - 4" COMPACTED LIFT THICKNESS. LIFTS MAY BE SEPARATED INTO MULTIPLE THINNER LIFTS AS LONG AS
MINIMUM COMPACTED THICKNESSES ARE ADHERED TO. PERFORM CRACK SEALING AND BASE REPAIR AS DIRECTED IN THE FIELD BY THE ENGINEER, PRIOR TO OVERLAYING SURFACE.
WHEN PROPOSED HMA SURFACE IS 4" - 6" ABOVE EXISTING HMA SURFACE COURSE, INSTALL A LIFT OF 1.5 INCHES, ADHERING TO MINIMUM AND MAXIMUM COMPACTED LIFT
THICKNESSES DESCRIBED ABOVE. WHEN PROPOSED HMA SURFACE IS 6" - 8" ABOVE EXISTING HMA SURFACE COURSE, INSTALL A LIFT OF 1.5 INCHES, ADHERING TO MINIMUM AND MAXIMUM COMPACTED LIFT
THICKNESSES DESCRIBED ABOVE. WHEN PROPOSED HMA SURFACE IS 8" - 10" ABOVE EXISTING HMA SURFACE COURSE, INSTALL A LIFT OF 1.5 INCHES, ADHERING TO MINIMUM AND MAXIMUM COMPACTED LIFT
THICKNESSES DESCRIBED ABOVE. WHEN PROPOSED HMA SURFACE IS 10" OR MORE ABOVE EXISTING HMA SURFACE COURSE, CONTRACTOR SHALL BE REMBURSED BY THE TON FOR THE HMA INSTALLED. NO SEPARATE PAYMENT SHALL BE MADE FOR INSTALLING MULTIPLE LIFTS OF HMA. INCLUDE COSTS IN HOT MIX
ASPHALT PAY ITEM.
CONTRACTOR SHALL APPLY TACK COAT PRIOR TO PAVING AS REQUIRED. INCLUDE COST IN TACK COAT PAY ITEM.

N.T.S.



- NOTES:
1. NO SEPARATE PAYMENT WILL BE MADE FOR REBAR/CONCRETE REINFORCEMENT. COSTS TO BE INCLUDED IN VARIOUS PROPOSAL ITEMS.
 2. FLUSH CURBS AT CURB RAMPS SHALL BE POURED MONOLITICALLY WITH CURB RAMP. FLUSH BELGIAN BLOCK CURB IS NOT ACCEPTABLE.

N.T.S.



- NOTES:

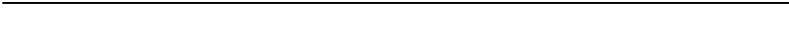
1. THE CONTRACTOR SHALL COMPLETE HOT MIX ASPHALT PAVEMENT REPAIRS, HOT MIX ASPHALT PAVEMENT REPAIRS SHALL CONSIST OF SAWCUTTING, ROADWAY EXCAVATION, BACKFILL AND COMPACTION OF DENSE-GRADED AGGREGATE BASE AND HOT MIX ASPHALT 19H64 BASE COURSE, THE COST TO SAWCUT THE PERIMETER OF FULL DEPTH REPAIR SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PAY ITEMS 'HOT MIX ASPHALT PAVEMENT REPAIR' AND 'FULL DEPTH CONCRETE PAVEMENT REPAIR, HMA'.
2. THE PROPOSED SURFACE COURSE SHALL NOT BE INCLUDED IN THE WORK ASSOCIATED WITH HMA PAVEMENT REPAIR. THE PROPOSED SURFACE COURSE SHALL BE PLACED IN ACCORDANCE WITH THE ITEM 'HOT MIX ASPHALT 9.5 M 64 SURFACE COURSE, 2" THICK'.
3. ALL COSTS ASSOCIATED WITH HOT MIX ASPHALT PAVEMENT REPAIRS, SHALL INCLUDE THE FOLLOWING WORK:
 - SAWCUTTING
 - EXCAVATION, UNCLASSIFIED
 - DENSE-GRADED AGGREGATE BASE COURSE, 6" THICK
 - HOT MIX ASPHALT BASE COURSE, MIX 19H64 (4" THICK)

N.T.S.



- NOTES:
1. USE HMA SURFACE COURSE IN THE MILLING TRANSITION WHEN LEADING EDGE DEVELOPED BY MILLING OPERATION IS EQUAL TO OR GREATER THAN 1 INCH. NONE REQUIRED FOR EDGE LESS THAN 1 INCH.
 2. ENSURE THAT THE THICKNESS OF THE HMA SURFACE COURSE IN THE MILLING TRANSITION IS NOT LESS THAN B. B IS EQUAL TO 2 INCHES OR A, WHICHEVER IS LESS.
 3. USE HMA SURFACE COURSE IN THE MILLING TRANSITION WHEN TRAILING EDGE DEVELOPED BY MILLING OPERATION IS EQUAL TO OR GREATER THAN 1 1/2 INCHES. NONE REQUIRED FOR EDGE LESS THAN 1 1/2 INCHES. ENSURE THAT THE THICKNESS OF THE HMA SURFACE COURSE IN THE MILLING TRANSITION IS NOT LESS THAN D. D IS EQUAL TO 2 INCHES OR C, WHICHEVER IS LESS.
 4. ENSURE THAT THE THICKNESS OF THE HMA SURFACE COURSE IN THE MILLING TRANSITION IS NOT LESS THAN D. D IS EQUAL TO 2 INCHES OR C, WHICHEVER IS LESS.

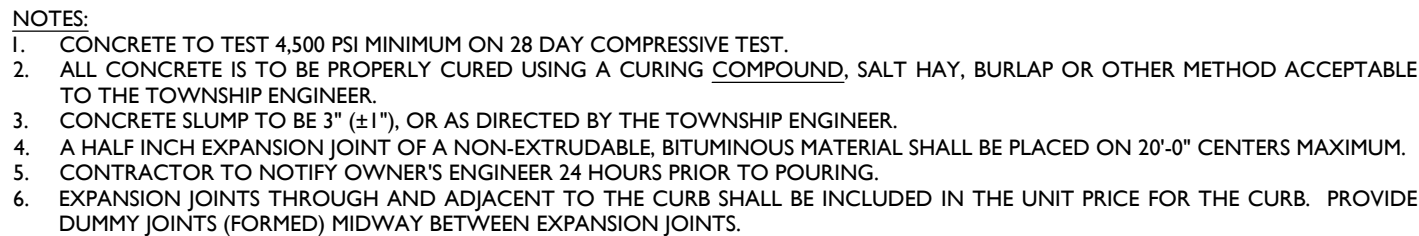
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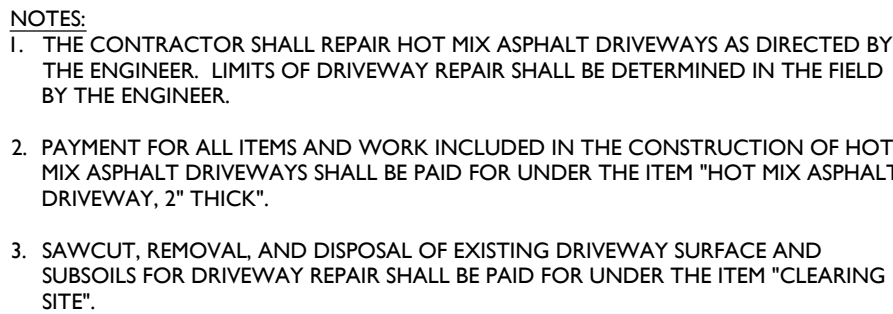
NOTE:
REMOVE THE HMA MATERIAL LEFT BY THE DRUM RADIUS AT THE LIMITS OF THE MILLING OPERATION. ENSURE THAT THE FACE IS CLEAN AND VERTICAL BY SAWCUTTING OR TRANSVERSE MILLING. THIS END TREATMENT IS NOT APPLICABLE TO TEMPORARY LIMITS OF MILLING (I.E. END OF WORKDAY). IT IS APPLICABLE TO ALL AREAS WHERE THE COMPLETED MILLING OPERATION IS TO JOIN WITH ANY EXISTING PAVEMENT INCLUDING BRIDGES



N.T.S.



N.T.S.



NTS



N.T.S.



N.T.S.


N.T.S.

[illegible]


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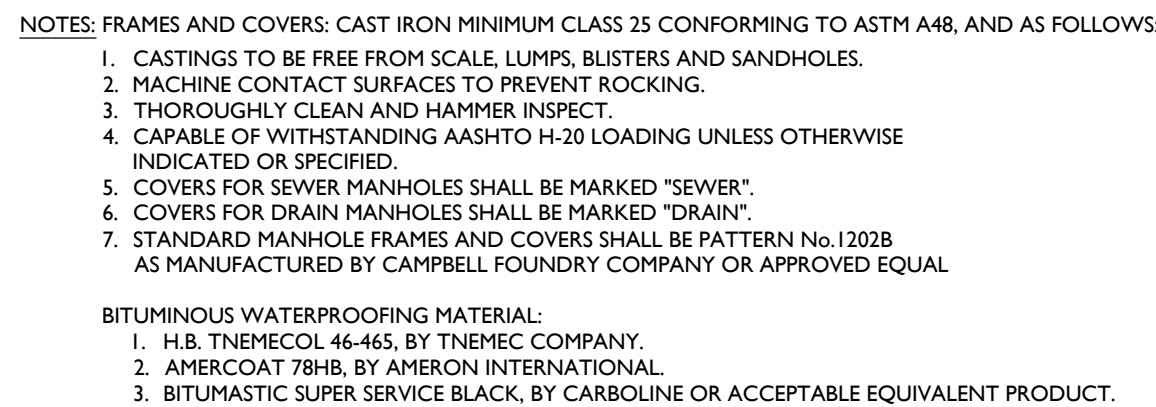
FOR
2022 CAPITAL ROAD
IMPROVEMENTS

TOWNSHIP OF CRANFORD
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NEW JERSEY

		MT. ARLINGTON 400 Valley Road, Suite 304 Mt. Arlington, NJ 07856 Phone: 973.398.3110 COLLIER'S ENGINEERING & DESIGN, INC. DOING BUSINESS AS MAER CONSTRUCTING	
		Engineering & Design	
SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	05/02/2022	MIB	PWJ
PROJECT NUMBER:		DRAWING NAME:	
CDT0080		C-DTLS	
SHEET TITLE: <div style="text-align: center; font-size: 2em; font-weight: bold; padding: 20px;">CONSTRUCTION DETAILS</div>			
SHEET NUMBER:			
15		of 27	

CD-401-1.1

CD 401.1



Top View: A rectangular plate with a width of 47-3/4" and a height of 21-3/4". The top section is labeled "DRAIN AND WATER DRAINS TO WATERWAYS". The bottom section contains a grid of 24 rectangular openings, arranged in 4 rows of 6.

Side View (NI Type D): Shows a cross-section of the plate with a total height of 48". The top section is 4" high. The bottom section is 36" high. The plate is 5-1/2" wide. The text "6" OR 8" AS REQ'D BY ENGINEER" is shown next to the plate.

Side View (NI Type B): Shows a cross-section of the plate with a total height of 48". The top section is 4" high. The bottom section is 42" high. The plate is 5-1/2" wide. The text "6" OR 8" AS REQ'D BY ENGINEER" is shown next to the plate.

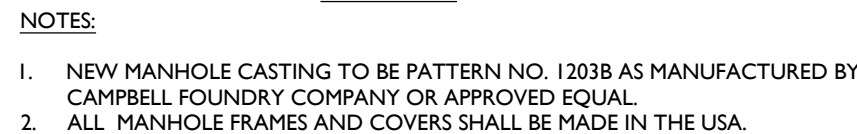
3D Brook Trout Design: A detailed view of the 3D Brook Trout Design. The plate is 7-1/2" wide and 20" high. The text "3D BROOK TROUT DESIGN" is shown above the plate. The plate is 3/8" thick. The text "6" OR 8" AS REQ'D BY ENGINEER" is shown next to the plate.

3D Brook Trout Design Options: A detailed view of the 3D Brook Trout Design Options. The plate is 7-1/2" wide and 20" high. The text "3D BROOK TROUT DESIGN" is shown above the plate. The plate is 3/8" thick. The text "6" OR 8" AS REQ'D BY ENGINEER" is shown next to the plate.

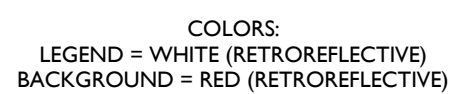
Notes:

1. MATERIAL: GRAY CAST IRON ASTM A48-83, CLASS 30B
2. AASHTO H520-44 HIGHWAY LOADING
3. SUPPLIED WITHOUT SURFACE COATING
4. NAME PLATE SHALL READ "DRAINS TO WATERWAYS"

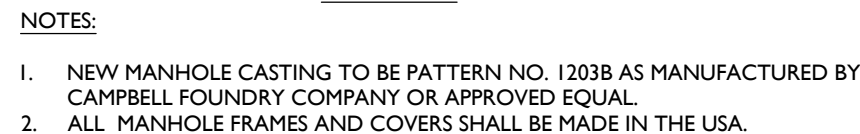
BICYCLE SAFE GRATE DETAIL
N.T.S.



STANDARD MANHOLE COVER/FRAMES
N.T.S.



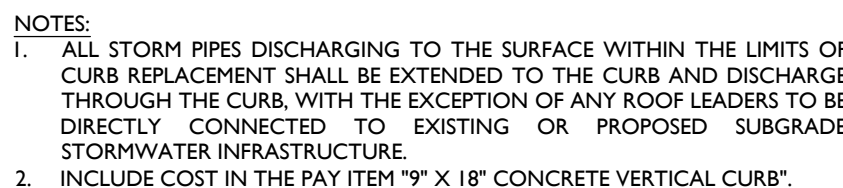
RI-I SIGN DETAIL
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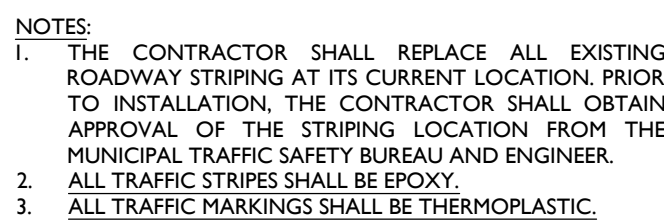
STANDARD MANHOLE COVER/FRAMES
N.T.S.



W5-I SIGN DETAIL
N.T.S.



PIPE DRAIN DETAIL
N.T.S.



STOP BAR MARKING DETAIL
N.T.S.

UNLESS OTHERWISE SHOWN, PAVEMENT MARKINGS SHALL CONFORM TO THE FOLLOWING:

STOP LINE	- 12" WIDE WHITE LINE - 24" WIDE WHITE LINE
CENTER LINE	- 2-4" WIDE YELLOW LINES
CROSSWALK LINES	- 6" WIDE WHITE LINES - 8" WIDE WHITE LINES
LONGITUDINAL CROSSWALK LINES	- 12" WIDE WHITE LINES SPACED 3' O.C.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE CURRENT
MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

EXISTING STRIPING THAT DOES NOT CONFORM TO THIS PLAN SHALL
BE REMOVED BY THE GRINDING METHOD.

GRADE CROSSING PAVEMENT MARKINGS TO CONFORM TO THE

CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

NEAREST CROSSWALK LINE IS TO BE LOCATED A MINIMUM OF 4'
FROM STOP LINE

W = WHITE STRIPE
Y = YELLOW STRIPE

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9	9	9	9
10	10	10	10


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CONSTRUCTION PLANS
FOR
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IMPROVEMENTS

TOWNSHIP OF CRANFORD
UNION COUNTY
NEW JERSEY

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SCALE: AS SHOWN	DATE: 05/02/2022	DRAWN BY: MIB	CHECKED BY: PWJ
PROJECT NUMBER: CDT0080		DRAWING NAME: C-DTLS	

CONSTRUCTION DETAILS

SHEET NUMBER:

16 of 27

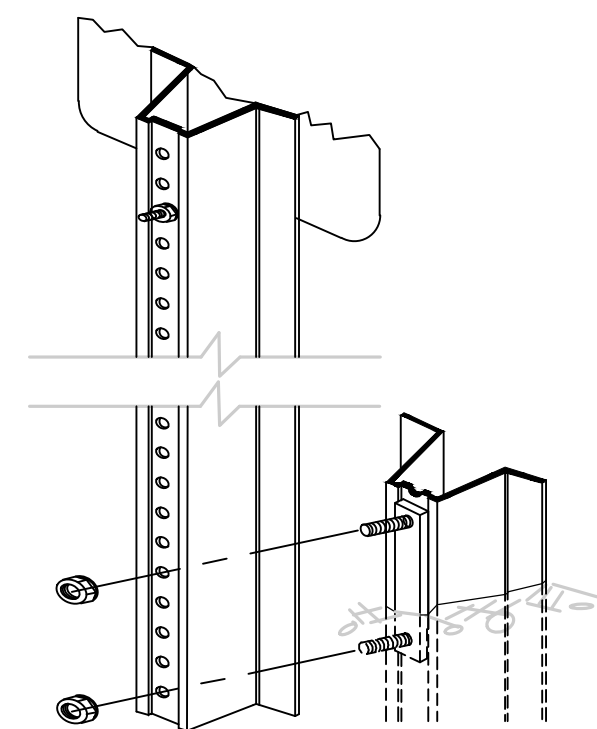
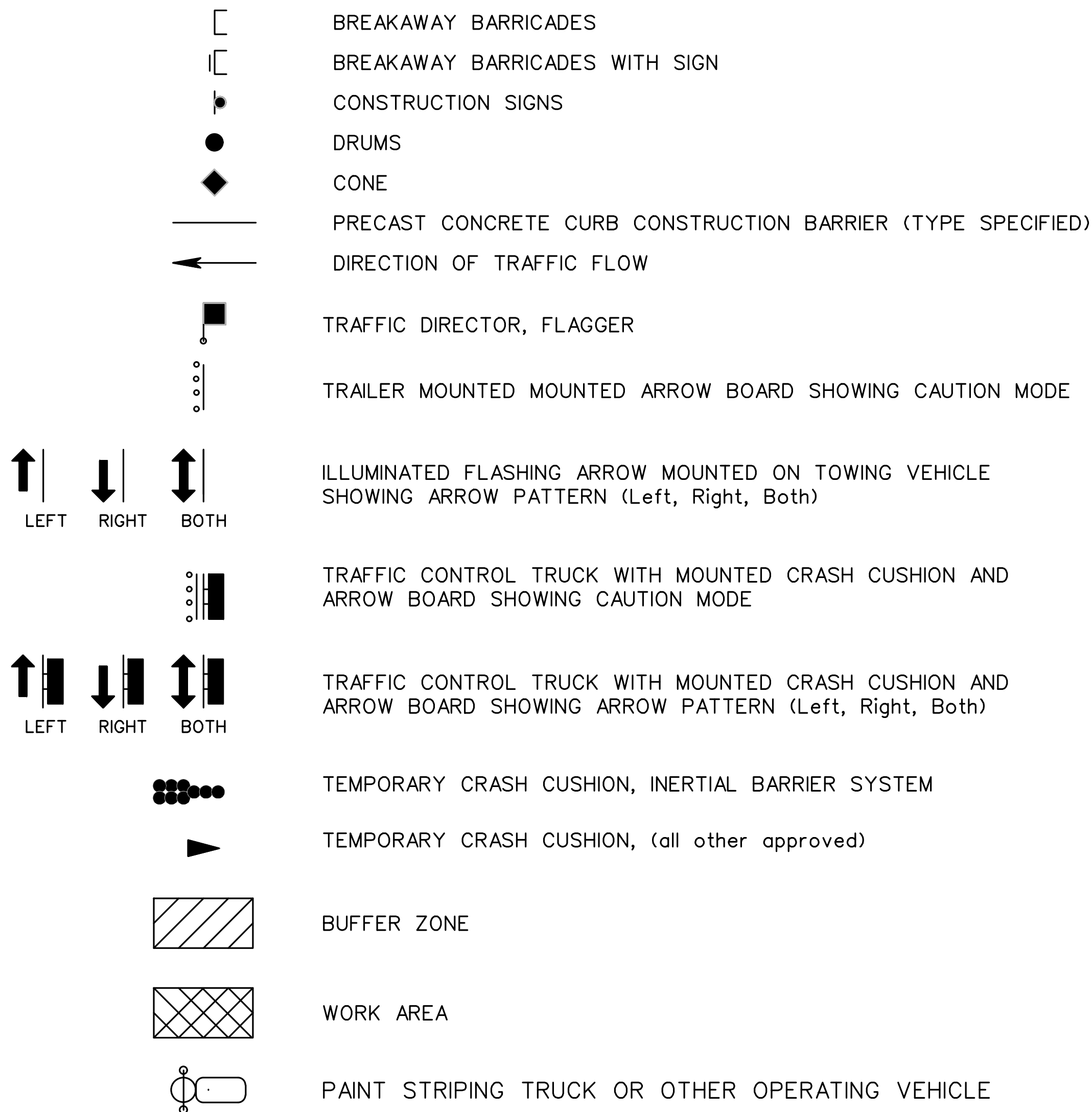


Diagram illustrating a cross-section of a composite beam. A central vertical section is labeled "SPACER BAR". The height of the central section is indicated by a dimension line labeled "x".

The diagram shows a cross-section of a pipe with a total diameter of 1.25 inches. A central section of the pipe is labeled '0.75" TYPE 2' and is shaded with diagonal lines. The remaining sections on either side are labeled '1.25" TYPE 1' and are unshaded. The pipe is shown in a longitudinal section, with a vertical line indicating the centerline.

CD-612-5.2

LEGEND



GENERAL NOTES:

1. ADVANCE WARNING SIGNS DISTANCES, AND TAPER LENGTHS MAY BE EXTENDED, AT DIRECTION OF THE DEPARTMENT, TO ADJUST FOR REDUCED VISIBILITY DUE TO HORIZONTAL AND VERTICAL CURVATURE OF THE ROADWAY.
2. THE APPROXIMATE LOCATIONS OF THE ILLUMINATED FLASHING ARROW BOARDS ARE SHOWN ON THE TRAFFIC CONTROL PLANS. THESE LOCATIONS MAY BE MODIFIED AS APPROVED BY RE TO ADJUST FOR VISIBILITY DUE TO HORIZONTAL OR VERTICAL CURVATURE OF THE ROADWAY OR TO POSITION AT A SAFER LOCATION. ILLUMINATED FLASHING ARROW BOARDS ARE TO BE USED FOR TEMPORARY LANE CLOSINGS AND AT LOCATIONS SHOWN ON THE TRAFFIC CONTROL PLANS.
3. PRIOR TO ANY ROAD CONSTRUCTION, TRAFFIC CONTROL SIGNS AND DEVICES SHALL BE IN PLACE.
4. RAMPS AND/OR SIDE STREETS ENTERING THE ROADWAY AFTER THE FIRST ADVANCE WARNING SIGN SHALL BE PROVIDED WITH AT LEAST ONE W20-IF SIGN (ROAD WORK AHEAD) AS A MINIMUM.
5. ALL EXISTING ROAD SIGNS, PAVEMENT MARKINGS AND/OR PLOWABLE PAVEMENT REFLECTORS WHICH CONFLICT WITH THE PROPOSED TRAFFIC CONTROL PLAN SHALL BE COVERED, REMOVED OR RELOCATED AS DIRECTED BY THE RE.
6. CONFLICTING OR NON-OPERATING SIGNAL INDICATIONS ON EITHER THE EXISTING, TEMPORARY, OR PROPOSED TRAFFIC SIGNAL SYSTEMS SHALL BE BAGGED OR COVERED.
7. MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES - PART VI "STANDARDS AND GUIDES FOR TRAFFIC CONTROL FOR STREET AND HIGHWAY CONSTRUCTION, MAINTENANCE, UTILITY, AND INCIDENT MANAGEMENT OPERATIONS", UNLESS OTHERWISE NOTED IN THE PLANS AND SPECIFICATIONS.
8. CONSTRUCTION SIGN W99-2 (GIVE US A BRAKE) SHALL BE LOCATED 200 FEET IN ADVANCE OF PROJECT LIMITS.
9. A W1-6 (ARROW) SIGN MOUNTED ON A BREAKAWAY BARRICADE AND CENTERED ON THE CLOSED WIDTH SHALL BE LOCATED 100 FEET BEYOND EACH INTERSECTION OR MAIN ACCESS POINT WITHIN THE AREA OF A LANE OR SHOULDER CLOSURE.
10. CONSTRUCTION SIGNS R11-4 (ROAD CLOSED TO THRU TRAFFIC) SHALL BE PLACED AT THE INTERSECTING STREETS WHICH ARE CLOSED TO TRAFFIC BECAUSE OF CONSTRUCTION.
11. CONSTRUCTION SIGNS W8-9A (SYMBOL FOR UNEVEN PAVEMENT) AND W8-14A (GROOVED PAVEMENT) SHALL BE USED WHEN SUCH PAVEMENT CONDITIONS EXIST. THE PLACEMENT OF THESE SIGNS SHALL BE AS DIRECTED BY THE RE.
12. MOVING WORK AREAS IN A LANE CLOSURE REQUIRE A TRAILER MOUNTED ILLUMINATED FLASHING ARROW TO REMAIN AT THE END OF THE TAPER, THE TRAFFIC CONTROL TRUCK WITH MOUNTED CRASH CUSHION THAT SHALL MOVE WITH THE WORK AREAS TO KEEP A 70 FEET MIN. AND 150 FEET MAX. BUFFER IN ADVANCE OF EACH WORK AREA.
13. THE CONTRACTOR SHALL SUBMIT A PLAN FOR THE SAFE ACCESS OF CONSTRUCTION VEHICLES THROUGHOUT THE WORK SITE WHERE SPACE CONSTRAINTS PREVENT THE USE OF LANE CLOSURES. THE PLAN SHALL BE SUBMITTED TO THE RE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
14. TRAFFIC SAFETY SERVICES SHALL BE USED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL.
15. ALL EXCAVATED AREAS WITHIN OR ADJACENT TO THE ROADWAY SHALL BE BACKFILLED AND PLACED ON AT LEAST 6H : 1V SLOPE BEFORE THE END OF EACH WORK DAY. OTHER EXCAVATED AREA WITHIN THE CLEAR ZONE SHALL BE BACKFILLED.
16. WHERE REQUIRED, THE CONTRACTOR SHALL MAKE PROVISIONS FOR MAINTAINING PEDESTRIAN CROSSING LOCATIONS AND TYPE AS DIRECTED BY THE RE.
17. BITUMINOUS CONCRETE PLACED DURING THE VARIOUS CONSTRUCTION STAGES SHALL BE TRANSITIONED ON A MINIMUM 20H : 1V SLOPE TO MEET THE ADJACENT EXISTING GRADE AT THE LONGITUDINAL AND TRANSVERSE LIMITS OF THE STAGE CONSTRUCTION AREAS UNLESS OTHERWISE NOTED ON THE STAGE CONSTRUCTION PLANS.
18. THE PLACEMENT AND OR RELOCATION OF PRECAST CONCRETE CURB, CONSTRUCTION BARRIER SHALL BE DONE DURING APPROVED OFF-PEAK HOURS WHEN TRAFFIC MAY BE REDUCED TO ONE LANE IN EACH DIRECTION.
19. CONSTRUCTION ZONE SPEED LIMIT WILL BE DETERMINED BY THE TRAFFIC SIGNAL & SAFETY ENGINEERING, REGIONAL TRAFFIC ENGINEER - WORK ZONE, AT THE TIME OF OR DURING CONSTRUCTION, AS REQUESTED BY THE R.E..
20. THE SPEED LIMIT, R2-1 (BLACK ON WHITE) WITH ADDED WORK ZONE PLATE (BLACK ON ORANGE) SIGNS SHALL BE LOCATED THROUGH WORK AREAS AS DIRECTED BY THE TRAFFIC SIGNAL & SAFETY ENGINEERING REGIONAL TRAFFIC ENGINEER - WORK ZONE.
21. THE REDUCED SPEED AHEAD SIGN, W3-5(S) (BLACK ON ORANGE) SHALL BE LOCATED IN ADVANCE OF SPEED LIMIT R2-1 SIGNS WHICH REDUCE THE NORMAL POSTED SPEED LIMIT THROUGH THE CONSTRUCTION ZONE.
22. TRAFFIC FINES DOUBLED IN WORK AREA R(N)5-17(S) , 4 FEET BY 2.5 FEET SIGN SHALL BE LOCATED 500 FEET AFTER THE FIRST ADVANCE WARNING SIGN, (W20 SERIES) AT EACH WORK AREA LOCATED WITHIN URBAN AREAS. THIS SIGN SHALL ALSO BE USED ON PROJECTS REQUIRING MOVING OPERATIONS IN WHICH CASE THE SIGN SHALL BE MOUNTED ON A SLOW MOVING CONSTRUCTION VEHICLE.
23. THE FINAL HMA SURFACE PAVEMENT SHALL NOT BE CONSTRUCTED UNTIL THE FINAL STAGE OF THE PROJECT UNLESS OTHERWISE DIRECTED BY THE RE OR INDICATED ON THE PLANS. MANHOLES AND INLETS SHALL BE SET TO FINISHED GRADE AND TEMPORARY PAVEMENT RAMPS ARE TO BE CONSTRUCTED AROUND THEM WITH A MINIMUM 20H : 1V SLOPE IN ALL DIRECTIONS USING HOT MIX ASPHALT PAVEMENT. THIS TEMPORARY MATERIAL WILL BE REMOVED IMMEDIATELY PRIOR TO PLACING THE SURFACE COURSE.

24. TRAFFIC CONTROL DEVICES FOR LANE CLOSURES INCLUDING SIGNS, CONES, BARRICADES, ETC. SHALL BE PLACED AS SHOWN ON PLANS. SIGNS SHALL NOT BE PLACED WITHOUT ACTUAL LANE CLOSURES AND SHALL BE IMMEDIATELY REMOVED UPON REMOVAL OF THE CLOSURES.
25. CONES MAY BE SUBSTITUTED FOR DRUMS AND INSTALLED UPON THE APPROVAL OF THE RE.
26. TRAFFIC IMPACT NOTICES AND CHANGES
 - A. TERMS:
WHEN THE FOLLOWING TERMS ARE USED, THE INTENT AND MEANING SHALL BE AS FOLLOWS:
 - i. IMPACTS TO NORMAL TRAFFIC FLOW - WORK THAT REQUIRES A PORTION OF THE PAVED ROADWAY BEING BLOCKED OR CLOSED WITH SAFETY DEVICES OR VEHICLES, INCLUDING, BUT NOT LIMITED TO, FULL OR PARTIAL LANE CLOSURES, FULL OR PARTIAL RAMP CLOSURES, SHOULDER CLOSURES, MOVING OPERATIONS SUCH AS TRAFFIC STRIPING OR SWEEPING, LANE SHIFTS, OR ALTERNATING TRAFFIC. THIS APPLIES EVEN WHEN DETOURS ARE PROVIDED.
 - ii. TEMPORARY LANE CLOSURES - WORK DESCRIBED UNDER "IMPACTS TO NORMAL TRAFFIC FLOW" WHICH IS ROUTINELY SET UP AND REMOVED ON A DAILY BASIS.
 - iii. PERMANENT LANE CLOSURES - WORK DESCRIBED UNDER "IMPACTS TO NORMAL TRAFFIC FLOW" WHICH REMAINS IN PLACE CONTINUOUSLY FOR 24 HOURS OR MORE.
 - B. ADVANCE NOTICES

FOR THE INITIAL START OF WORK THAT REQUIRES "IMPACTS TO NORMAL TRAFFIC FLOW", THE CONTRACTOR SHALL NOTIFY THE RE IN WRITING, ON THE ADVANCE FORM T-103 PROVIDED BY THE DEPARTMENT OF THE PROPOSED DATE. THE NOTICE SHALL BE SUBMITTED AT LEAST TWENTY-FOUR HOURS BEFORE THE PROPOSED DATE. THE NOTICE SHALL BE SUBMITTED BY THE PROPOSED DATE. START OF WORK THAT IMPACTS NORMAL TRAFFIC FLOW WILL NOT BE PERMITTED PRIOR TO THE DATE STATED IN THE NOTICE. THE CONTRACTOR SHALL CONFIRM, IN WRITING TO THE RE, THE PROPOSED DATE SEVEN (AND/OR FOURTEEN) CALENDAR DAYS BEFORE THE START OF THE ESTABLISHMENT OF THE TRAFFIC CONTROL MEASURES FOR THE TRAFFIC IMPACT. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE RE IF THE PROPOSED ESTABLISHMENT CAN NOT BE COMPLETED ON THE PROPOSED DATE.

FOR A "PERMANENT LANE CLOSURE", THE CONTRACTOR SHALL NOTIFY THE RE IN WRITING, ON ADVANCE FORM TO-103, OF THE PROPOSED DATE A NEW TRAFFIC PATTERN WILL BE ESTABLISHED. THE NOTICE SHALL BE SUBMITTED AT LEAST TWENTY-EIGHT CALENDAR DAYS, BUT NOT MORE THAN SIXTY CALENDAR DAYS, IN ADVANCE OF THE PROPOSED DATE. START OF A NEW TRAFFIC PATTERN WILL NOT BE PERMITTED PRIOR TO THE DATE STATED IN THE NOTICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING THE RE-ADVISED DATE OF THE NEW TRAFFIC PATTERN SEVEN (AND/OR FOURTEEN) DAYS BEFORE STARTING TRAFFIC CONTROL MEASURES. FOR THE ESTABLISHMENT OF THE NEW PATTERN, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE RE IF THE PROPOSED ESTABLISHMENT CAN NOT BE COMPLETED ON THE PROPOSED DATE.

STARTING THE ESTABLISHMENT OF A NEW PERMANENT TRAFFIC PATTERN SHALL BEGIN NO EARLIER THAN 11:00 PM FRIDAY AND SHALL BE COMPLETED AND READY FOR OPERATIONS BY 6:00 PM THE FOLLOWING SUNDAY. THE ESTABLISHMENT SHALL BE COMPLETED IN ACCORDANCE WITH THE LANE CLOSURE HOURS SPECIFIED IN THE CONTRACT.

ADVANCE NOTICES SENT PRIOR TO THE PRE-CONSTRUCTION MEETING SHALL BE ADDRESSED TO THE CONTACT PERSON AS SPECIFIED IN SUBSECTION 101.04 OF THE SPECIAL PROVISIONS.

- ### C. PROGRESS NOTICES

ALL "IMPACTS TO NORMAL TRAFFIC FLOW" SCHEDULED FOR THE SEVEN DAY PERIOD STARTING ON THE FOLLOWING MONDAY SHALL BE SUBMITTED TO THE RE BY 9:00 AM OF EACH FRIDAY ON WEEKLY FORM TO-101 PROVIDED BY THE DEPARTMENT.

EACH DAY OF "TEMPORARY LANE CLOSURES" SHALL BE SUBMITTED TO THE RE BY 9:00 AM THE DAY IN ADVANCE OF THE START OF THOSE OPERATIONS ON DAILY FORM TO-102 PROVIDED BY THE DEPARTMENT.

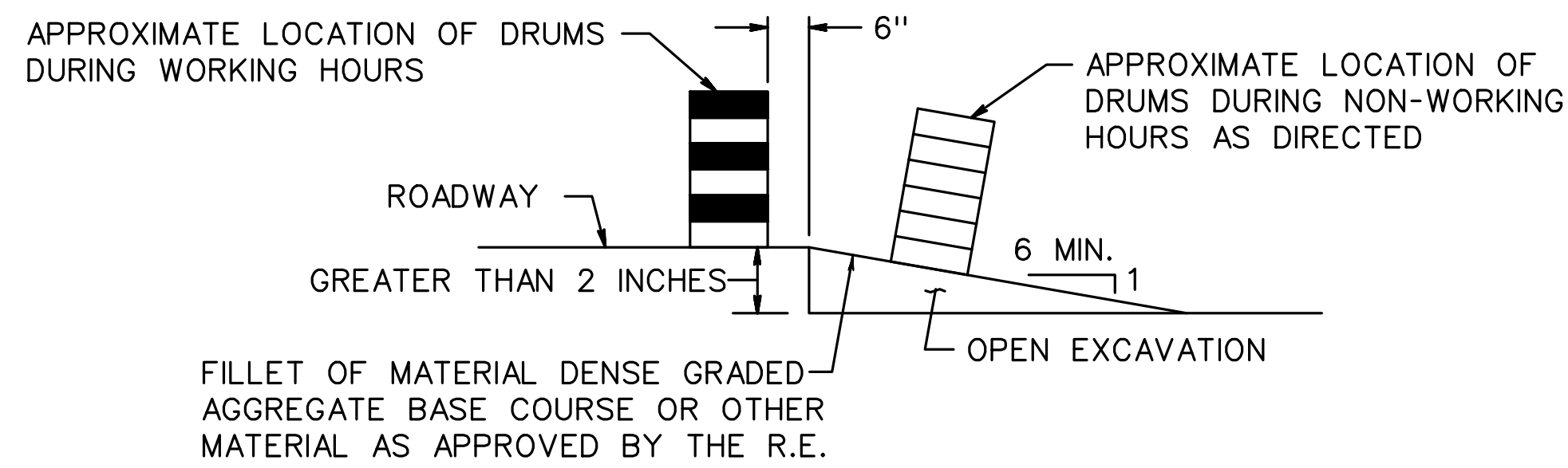
"TEMPORARY LANE CLOSURES" FOR WEEKENDS SHALL BE SUBMITTED TO THE RE BY 9:00 AM ON THE IMMEDIATELY PRECEDING FRIDAY ON THE DAILY FORM TO-102 PROVIDED BY THE DEPARTMENT.

- #### D. CHANGES TO THE SCHEDULED CLOSURES

REQUEST FOR A CHANGE TO THE TRAFFIC CONTROL REQUIREMENTS IN THE CONTRACT DOCUMENTS SHALL BE SUBMITTED IN WRITING TO THE RE AS FOLLOWS:

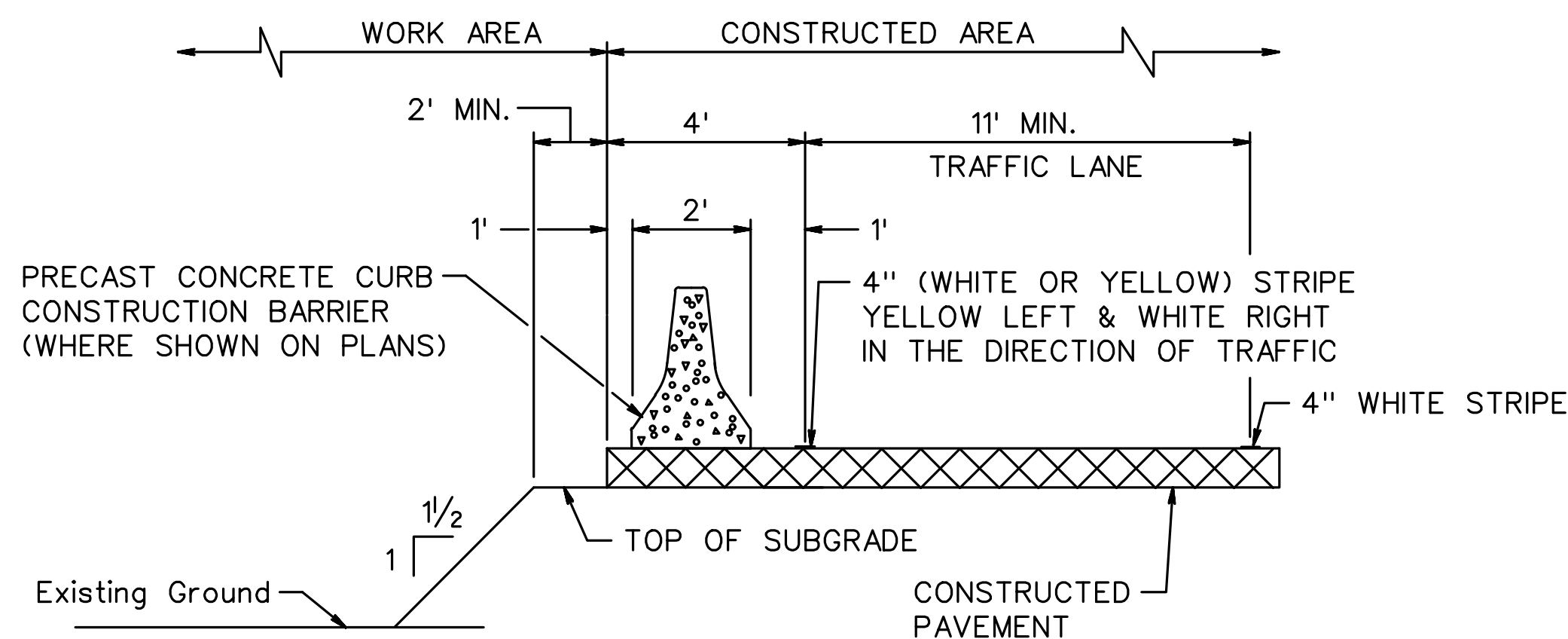
CHANGES TO THE SCHEDULED HOURS FOR "TEMPORARY LANE CLOSURES" SHALL BE SUBMITTED TO THE R.E. AT LEAST EIGHT CALENDAR DAYS IN ADVANCE OF WHEN THE CHANGE IS PROPOSED TO START.

OTHER PROPOSED CHANGES TO "TEMPORARY LANE CLOSURES" AND ALL CHANGES TO "PERMANENT LANE CLOSURES" SHALL BE SUBMITTED TO THE RE AS SPECIFIED IN THE SPECIFICATIONS.



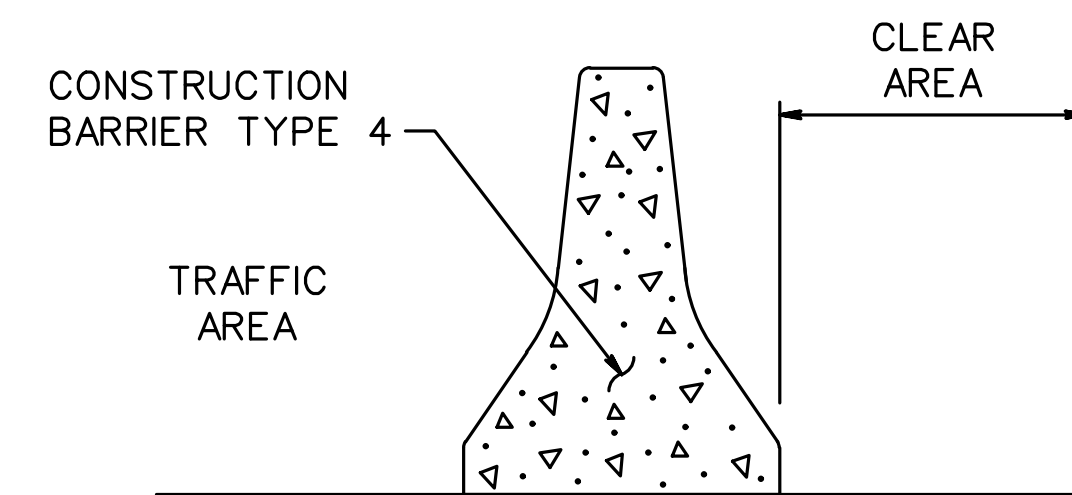
NOTE:
ESCAPE RAMPS MUST BE CONSTRUCTED AND MAINTAINED DURING NON-WORKING HOURS WHERE A VERTICAL DROP GREATER THAN 2 INCHES EXISTS ADJACENT TO TRAVELED LANE.

ESCAPE RAMP DETAIL



TYPICAL SECTION

PLACEMENT OF PRECAST CONCRETE CONSTRUCTION BARRIER



- NOTES:
- CHANGES TO THE PROPOSED JOINT CLASS AT ANY LOCATION MUST BE APPROVED BY THE DEPT.
 - NO ROADWAY DROP OFFS, OBSTRUCTIONS, STORAGE OF MATERIALS OR WORK WILL BE PERMITTED IN THE CLEAR AREA UNLESS APPROVED BY THE R.E.

STAGE	LOCATION		JOINT CLASS
	RTE.	STA. TO	

JOINT CLASS	CLEAR AREA
A	20 INCHES
B	16 INCHES
C	11 INCHES

CONSTRUCTION BARRIER, TYPE 4
JOINT CLASS AND CLEAR AREA

REGULATORY APPROACH SPEED OF TRAFFIC MILES/HOUR	RECOMMENDED SIGHT DISTANCE TO BEGINNING OF CHANNELIZING TAPERS		
	DESIRABLE		MINIMUM
	RURAL FEET	URBAN FEET	RURAL AND URBAN FEET
25	375	525	150
30	450	625	200
35	525	725	250
40	600	825	325
45	675	925	400
50	750	1025	475
55	875	1150	550
60	1000	1275	650
65	1050		725

- NOTES:
- AVOIDANCE MANEUVER IS FOR A SPEED, PATH, AND/OR DIRECTION CHANGE PRIOR TO THE BEGINNING OF CHANNELIZING TAPERS.
 - RECOMMENDED DISTANCES BETWEEN TWO SEPARATE LANE CLOSURES SHALL BE DOUBLE THE VALUES SHOWN ABOVE.
 - RURAL AND URBAN ROAD DESIGNATIONS SHALL BE AS DEFINED IN THE NJDOT STATE HIGHWAY STRAIGHT LINE DIAGRAMS.
 - DESIRABLE VALUES SHALL BE PROVIDED WHEREVER POSSIBLE. IF IT IS NOT FEASIBLE OR PRACTICAL TO PROVIDE DESIRABLE VALUES BECAUSE OF HORIZONTAL OR VERTICAL CURVATURE OR IF RELOCATION OF THE TAPER IS NOT POSSIBLE, THEN MINIMUM VALUES CAN BE APPLIED. WHEN MINIMUM VALUES ARE USED, SPECIAL ATTENTION SHOULD BE GIVEN TO THE USE OF SUITABLE TRAFFIC CONTROL DEVICES FOR PROVIDING ADVANCED WARNING OF THE CONDITIONS THAT ARE LIKELY TO BE ENCOUNTERED.
 - TAPERS SHALL BE LOCATED TO MAXIMIZE THE VISIBILITY OF THEIR TOTAL LENGTH.

RECOMMENDED TAPER LENGTH AND SPACING FOR CHANNELIZING TAPERS					RECOMMENDED SPACING ALONG TANGENTS	
REGULATORY APPROACH SPEED OF TRAFFIC MILES/HOUR	MINIMUM TAPER RATIO IN LENGTH PER FOOT OF WIDTH	MINIMUM TAPER LENGTH L - FOR LANE WIDTHS			MAXIMUM DEVICE (B) SPACING ALONG TAPERS IN FEET	MAXIMUM DEVICE (D) SPACING ALONG TANGENTS IN FEET
		10'	11'	12'		
25	10.5:1	105	115	125	25	50
30	15:1	150	165	180	30	60
35	20.5:1	205	225	245	35	70
40	27:1	270	300	325	40	80
45	45:1	450	495	540	45	90
50	50:1	500	550	600	50	100
55	55:1	550	605	660	55	110
60	60:1	600	660	720	60	120
65	65:1	650	715	780	65	130

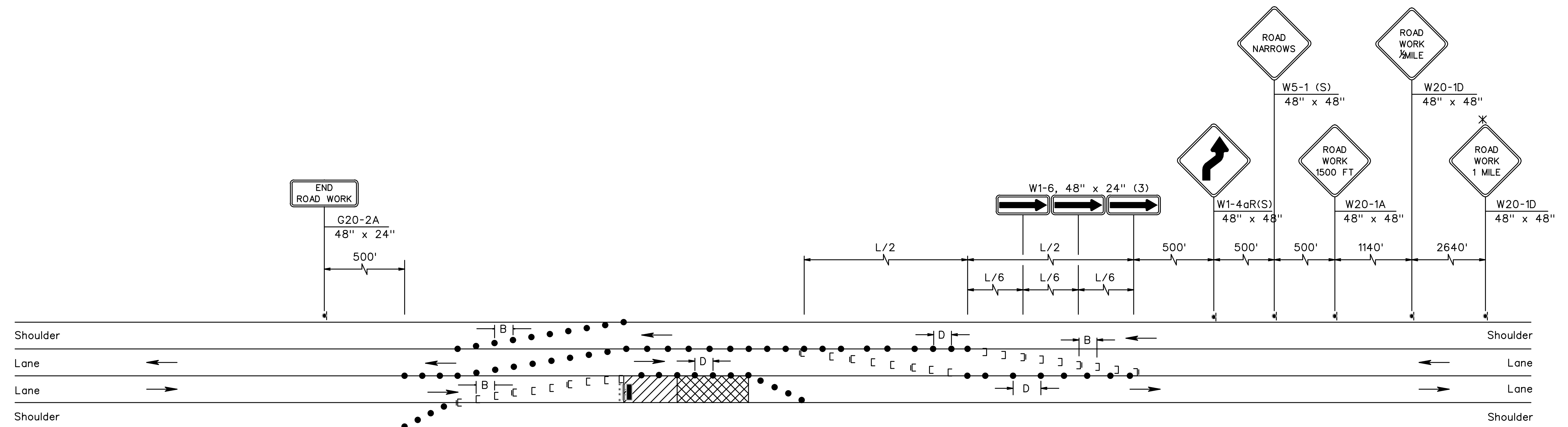
NOTE:
THE MAXIMUM DEVICE SPACING ALONG CURVES SHALL BE AS DEFINED FOR TAPERS (B) IN THE ABOVE TABLE.

N.T.S.

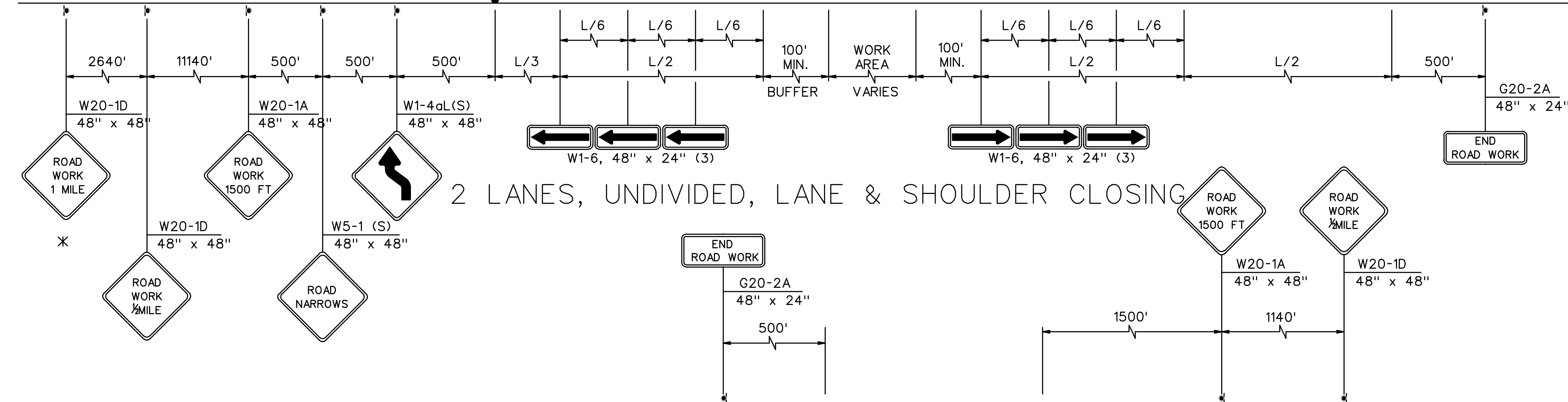
TCD-2

NEW JERSEY DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DETAILS



2 LANES, UNDIVIDED, LANE & SHOULDER CLOSING



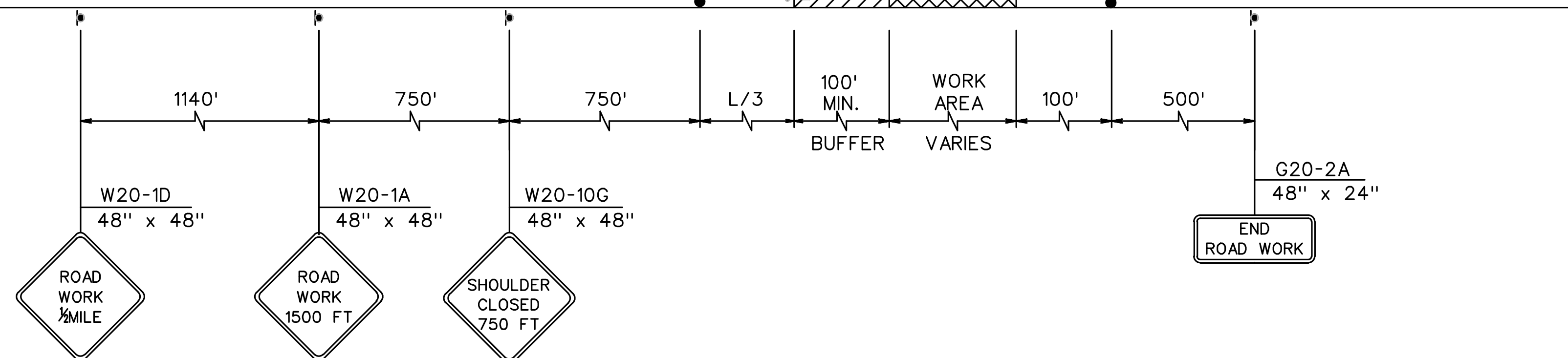
* THIS SIGN SHALL BE INSTALLED FOR ROADS WITH A SPEED LIMIT OF 45 M.P.H. OR GREATER UNLESS OTHERWISE DIRECTED BY THE RE.

NOTE:
SEE RECOMMENDED TAPER LENGTH AND SPACING TABLE ON SHEET TCD-2 FOR VALUES OF L, B AND D.

N.T.S.



R8-8 SIGN DETAIL
NOT TO SCALE

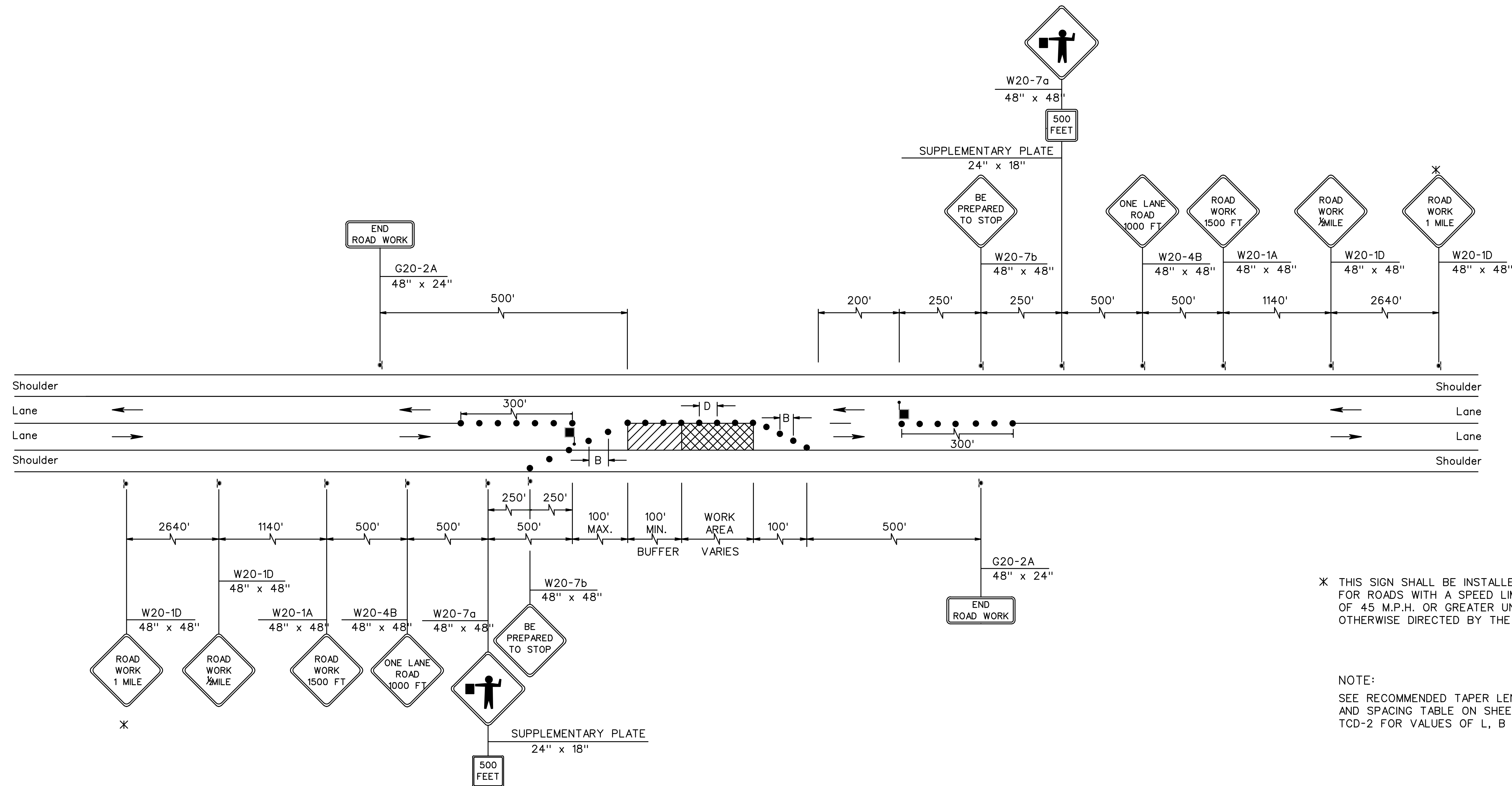


2 LANES, UNDIVIDED, SHOULDER CLOSING

TCD-3

NEW JERSEY DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DETAILS



* THIS SIGN SHALL BE INSTALLED FOR ROADS WITH A SPEED LIMIT OF 45 M.P.H. OR GREATER UNLESS OTHERWISE DIRECTED BY THE RE.

NOTE:
SEE RECOMMENDED TAPER LENGTH AND SPACING TABLE ON SHEET TCD-2 FOR VALUES OF L, B AND D.

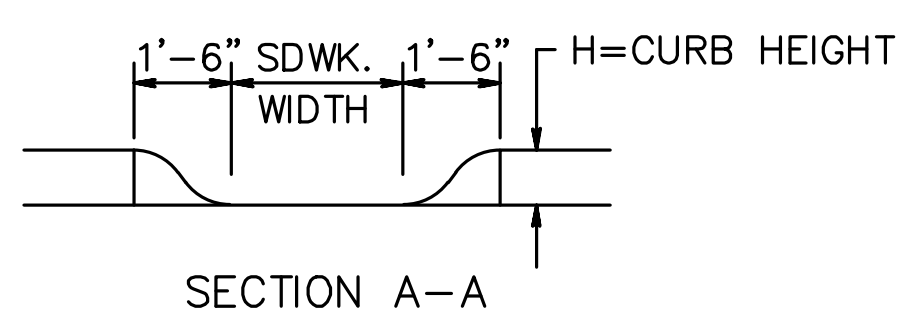
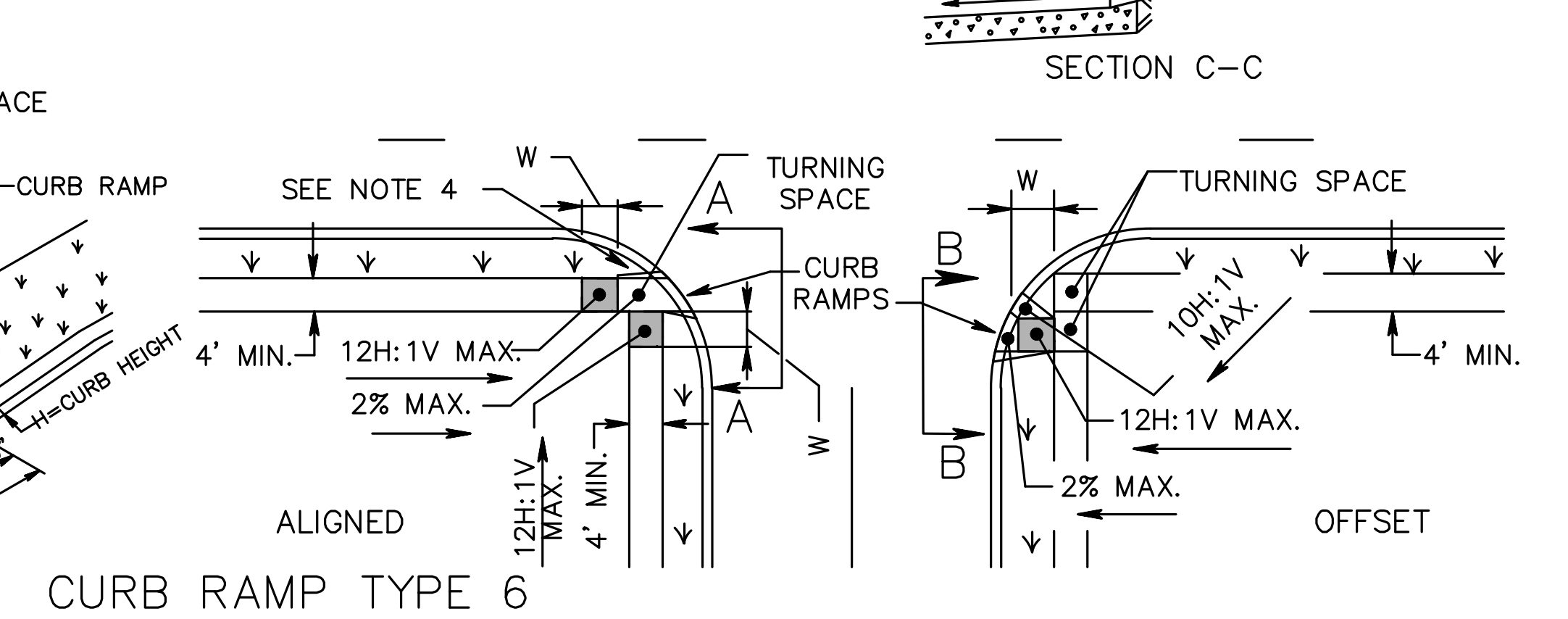
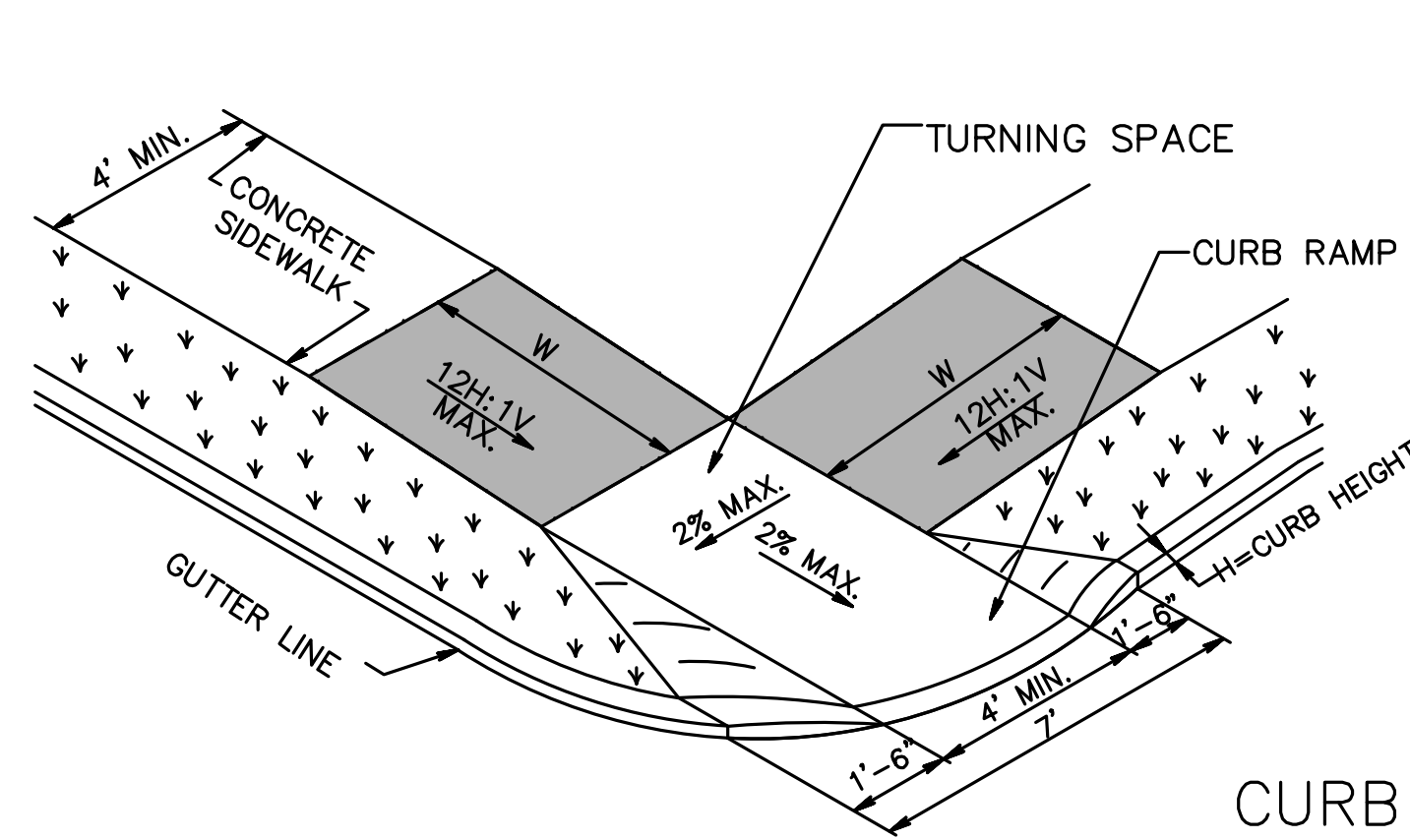
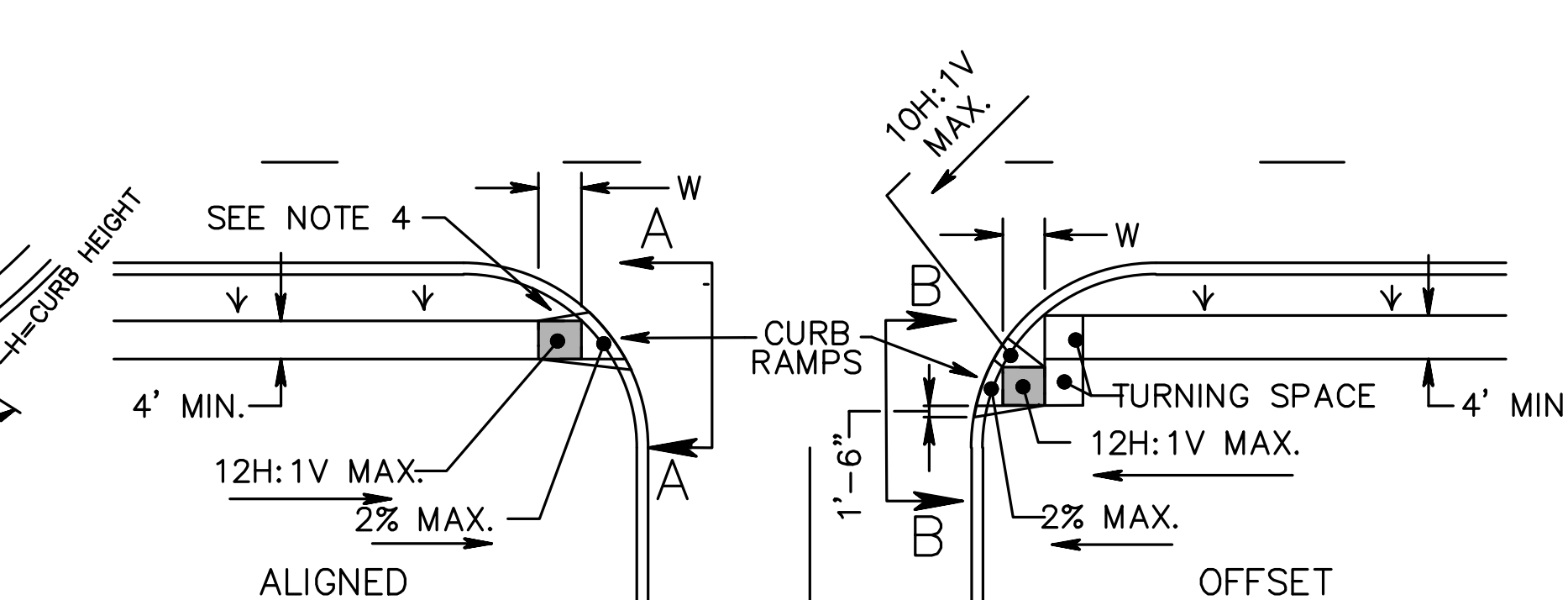
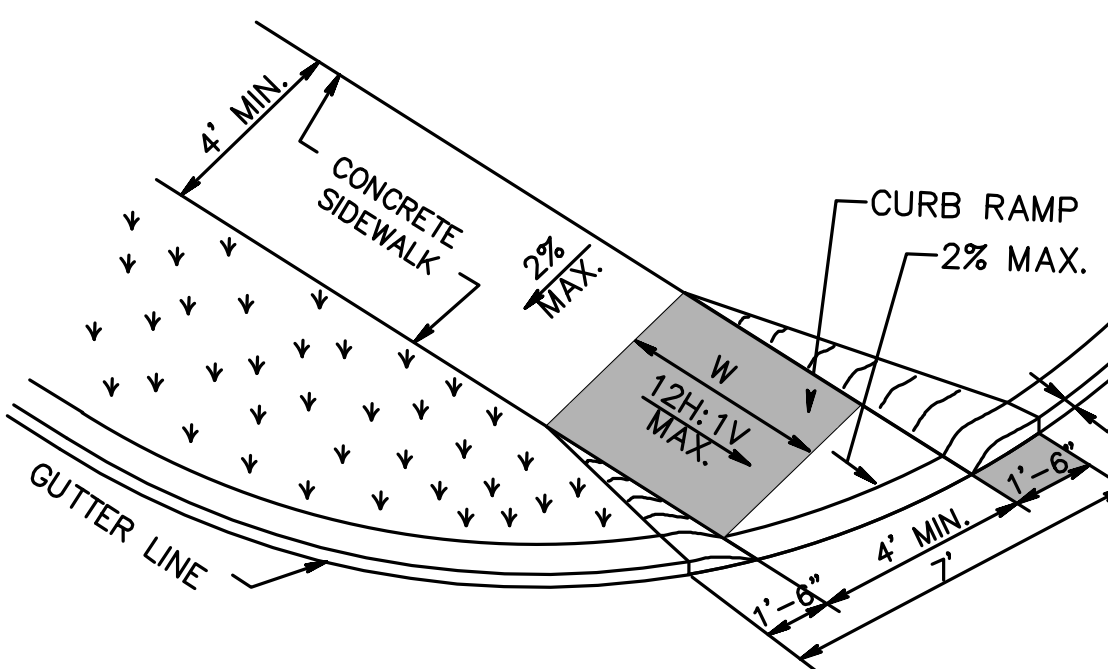
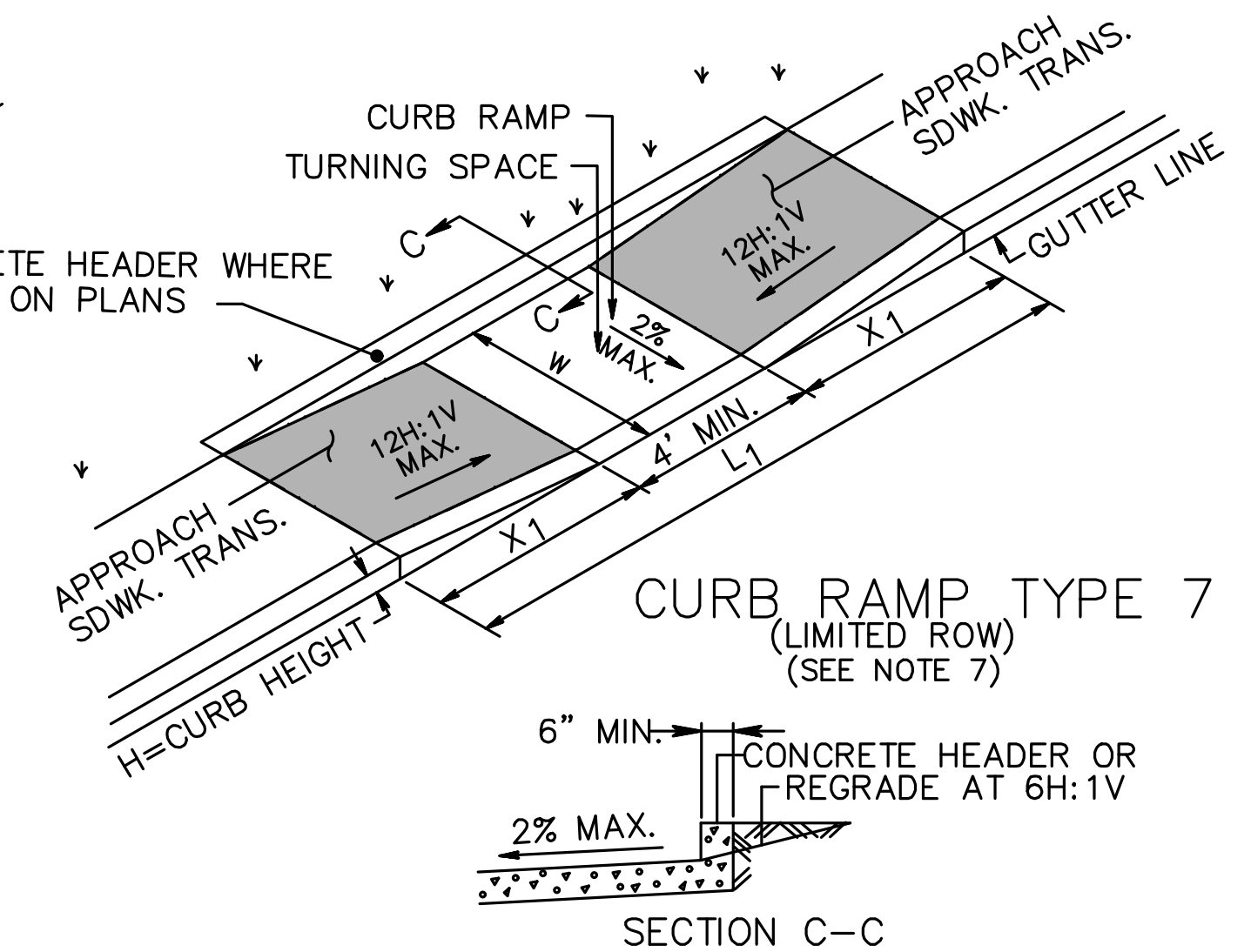
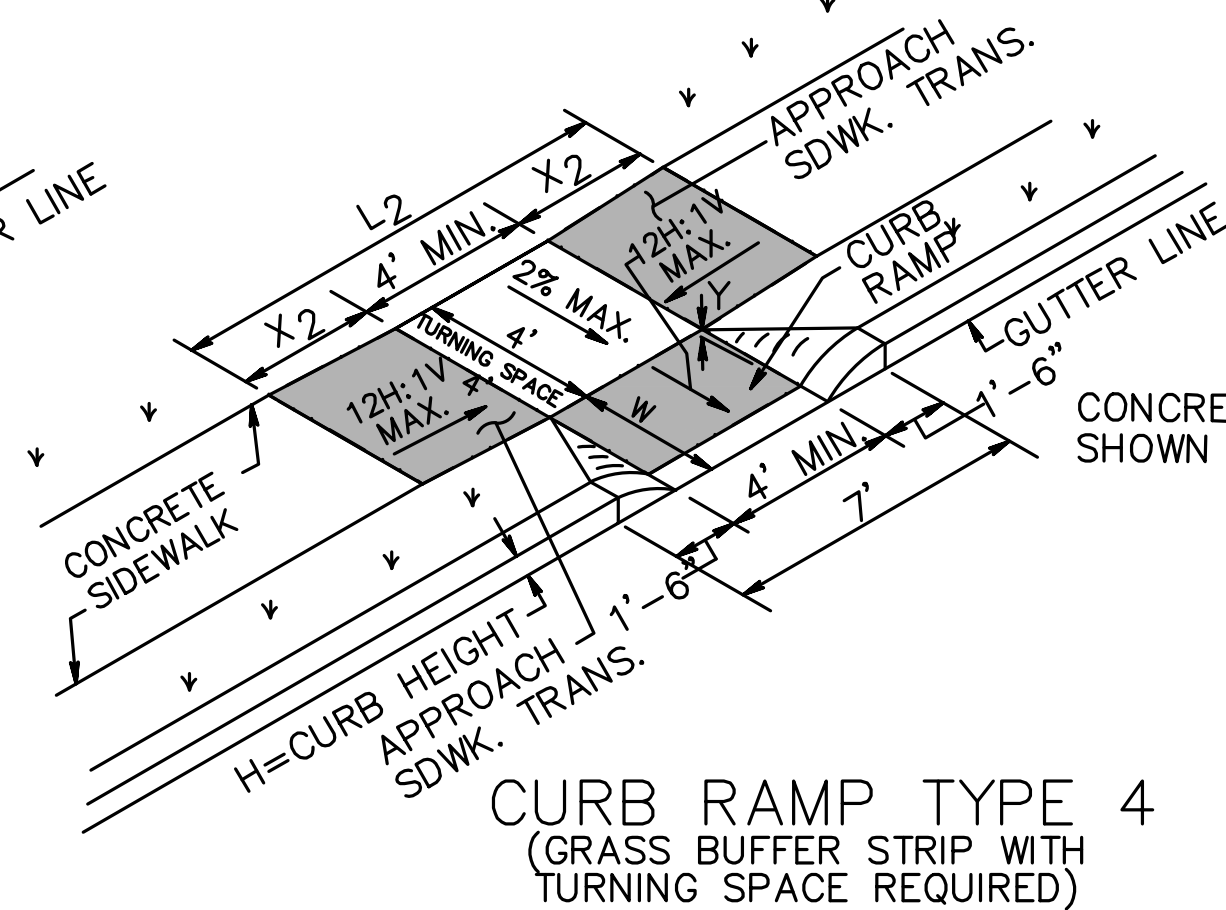
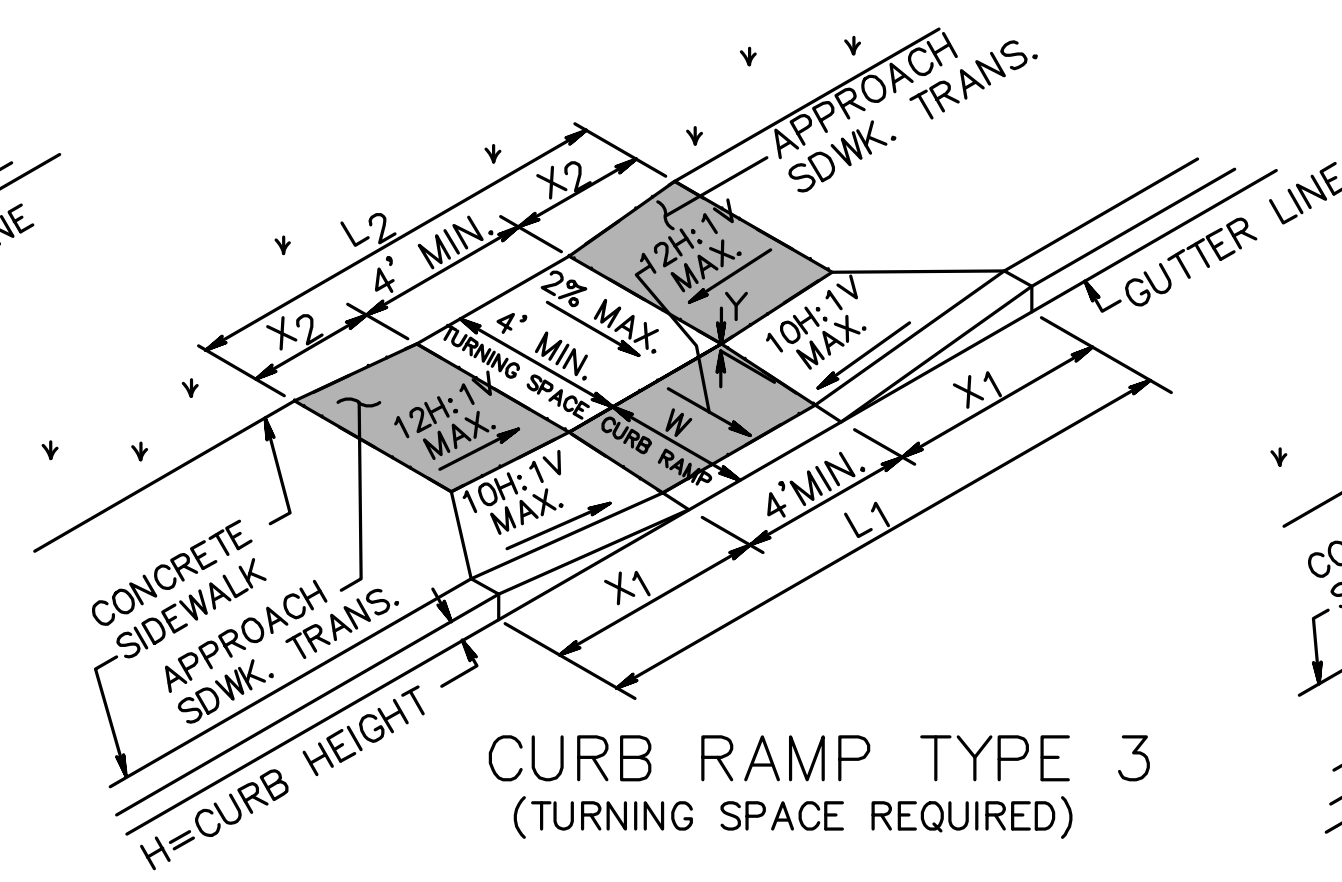
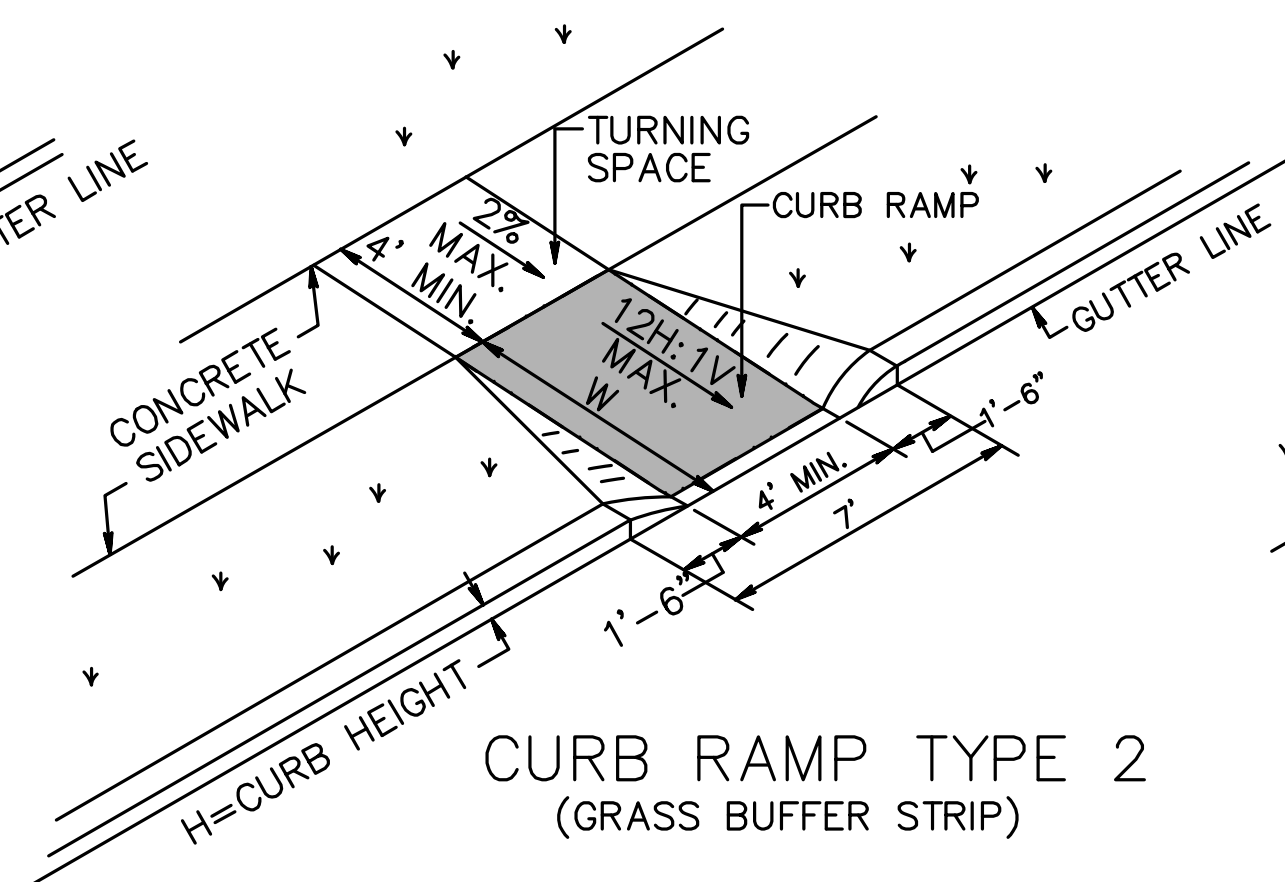
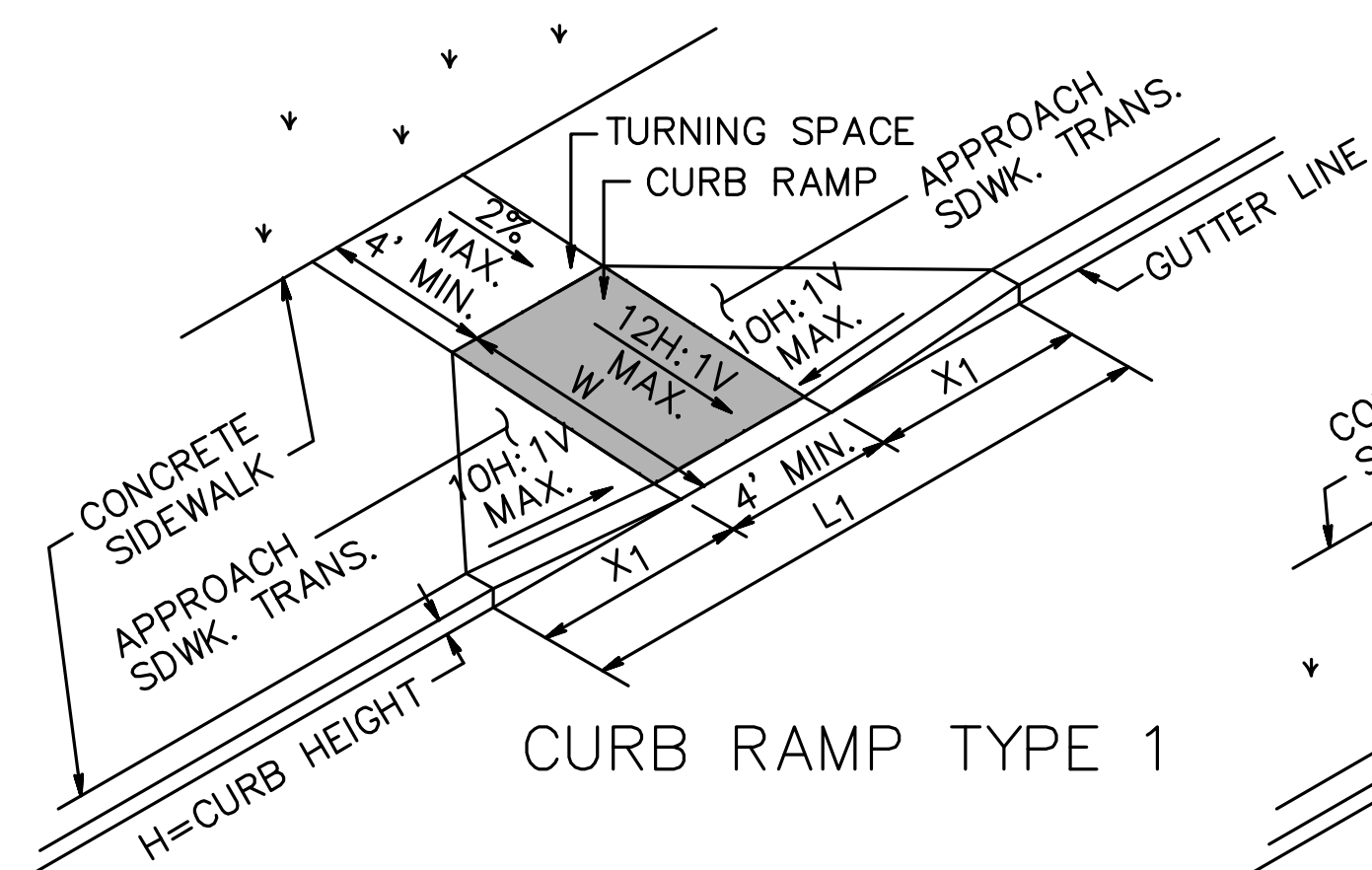
2 LANES, UNDIVIDED, LANE & SHOULDER CLOSING W/FLAGGING

N.T.S.

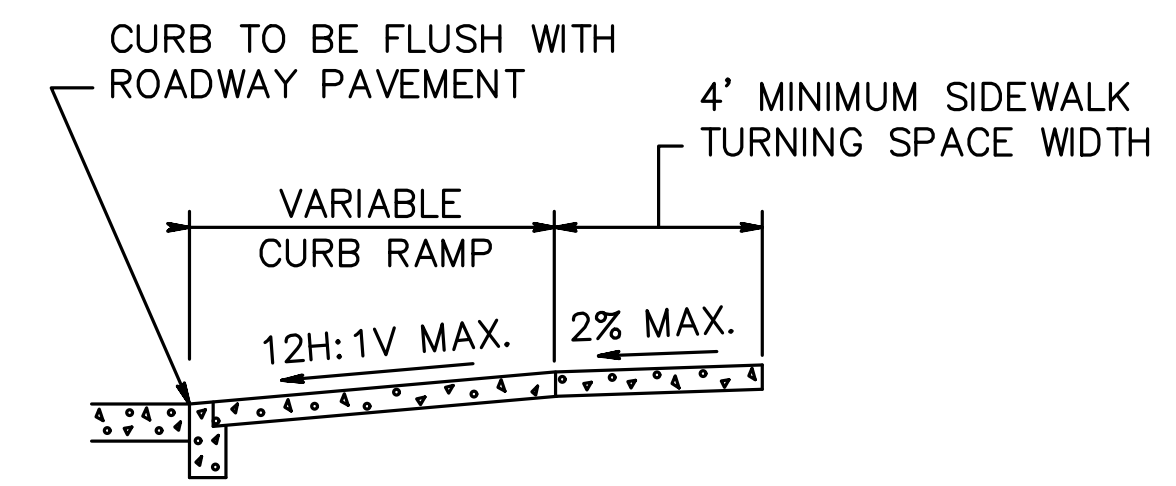
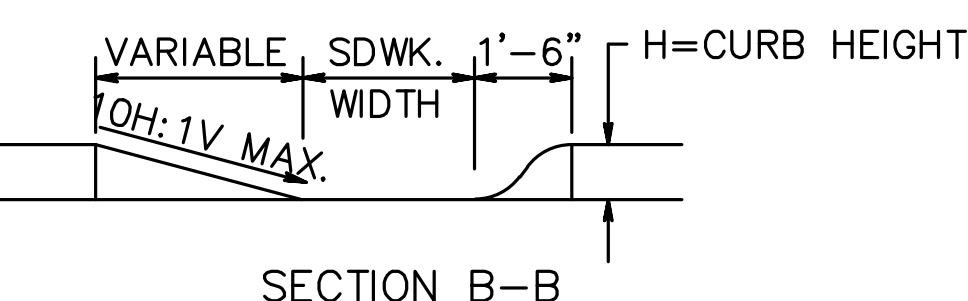
TCD-4

NEW JERSEY DEPARTMENT OF TRANSPORTATION

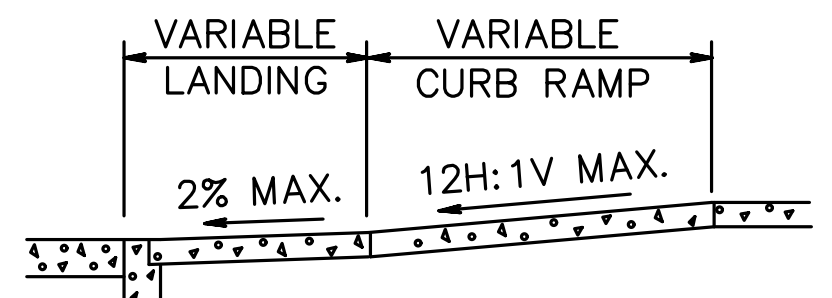
TRAFFIC CONTROL DETAILS



NOTE:
CURB RAMP OPENING TO BE FLUSH WITH ROADWAY PAVEMENT (CURB RAMP TYPES 5 & 6).



SECTION THROUGH CURB RAMPS 1 THROUGH 4

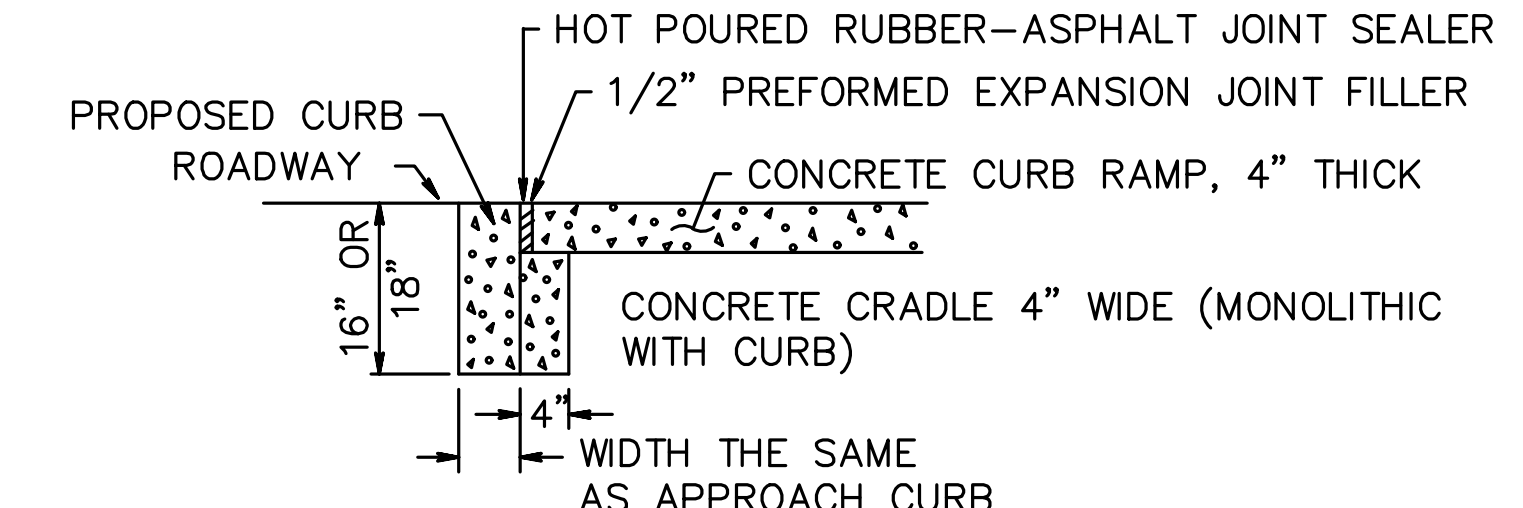


SECTION THROUGH CURB RAMPS 5 AND 6

- NOTES:
1. KEEP TURNING SPACE, APPROACH SIDEWALK TRANSITIONS, AND CURB RAMP CLEAR OF OBSTRUCTIONS THAT PROTRUDE ABOVE THE SIDEWALK.
 2. FOR DIMENSIONS SEE CD-606-1B AND CD-606-1C.
 3. CURB (DROPPED CURB) GUTTERLINE TO BE FLUSH WITH ROADWAY PAVEMENT A MINIMUM OF 4 FEET AT ALL CURB RAMPS.
 4. FOR CURB RAMP TYPES 5 AND 6, IF A GRASS BUFFER DOES NOT EXIST, SLOPE CURB TO EQUAL SLOPE OF ADJACENT CURB RAMP.
 5. SIDEWALK AND CURB RAMP WITHIN AREA ENCLOSED BY HEAVY LINES INDICATES THE PAY LIMIT FOR CONCRETE SIDEWALK OF THE APPROPRIATE ADJACENT THICKNESS.
 6. CURB AND HEADER WITHIN AREA ENCLOSED BY HEAVY LINES INDICATES THE PAY LIMIT FOR VERTICAL CURB OR SLOPING CURB OF THE APPROPRIATE ADJACENT SIZE AND KIND.
 7. WHERE THE DISTANCE FROM THE GUTTER LINE TO THE OUTSIDE EDGE OF SIDEWALK IS 6 FEET OR LESS, USE CURB RAMP TYPE 7, INSTEAD OF CURB RAMP TYPE 1 THROUGH 4.
 8. CROSSWALKS AND STOP LINES MAY BE MARKED OR UNMARKED. SEE PLANS.
 9. DIMENSIONS SHOWN IN TABLES ARE FOR 3 INCH TO 9 INCH CURB HEIGHTS. WHERE THE CURB HEIGHTS ARE OTHER THAN WHAT IS PROVIDED IN THE TABLES, THE DIMENSIONS OF THE RAMPS WILL HAVE TO BE CALCULATED BASED ON CROSS SLOPES SHOWN.
 10. THE 12H:1V MAX SLOPE IS THE RUNNING SLOPE FOR CURB RAMPS, BUT ONLY THE 12H:1V SLOPE MEASURED AS X2 IS THE RUNNING SLOPE FOR TYPE 3 AND TYPE 4 CURB RAMPS. ENSURE THE RUNNING SLOPE OF CURB RAMPS DOES NOT REQUIRE ITS LENGTH TO EXCEED 15 FEET. THE RUNNING SLOPE MAY EXCEED THE 12H:1V MAX SLOPE SO AS NOT TO EXCEED THE 15 FEET MAXIMUM LENGTH.

CURB RAMP NOTES:

1. THE MAXIMUM CROSS SLOPE OF SIDEWALKS SHALL BE 2%.
2. THE MAXIMUM LONGITUDINAL TRANSITION SLOPE OF SIDEWALKS SHALL BE 5%.
3. THE MAXIMUM LONGITUDINAL SLOPE OF CURB RAMPS SHALL BE 8%.
4. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE ALONG ALL SIDEWALKS, CURB RAMPS AS WELL ADJACENT TO ALL SIDEWALKS. STORMWATER RUNOFF SHALL NOT BE BLOCKED BY SIDEWALKS OR CURBS.
5. FOR TYPE 5 & TYPE 6 RAMPS, LEADING EDGE OF DETECTABLE WARNING SURFACE MUST BE LOCATED A MAXIMUM OF 5 FEET FROM EDGE OF TRAVELWAY - THIS REQUIREMENT MAY WARRANT MULTIPLE DETECTABLE WARNING SURFACES FOR A SINGLE RAMP.
6. THERE MUST BE A MINIMUM OF 24 INCH OF DETECTABLE WARNING SURFACE IN THE DIRECTION OF PEDESTRIAN TRAVEL, THE FULL WIDTH OF THE SIDEWALK - THIS REQUIREMENT MAY WARRANT MULTIPLE DETECTABLE WARNING SURFACES FOR A SINGLE RAMP.
7. A MINIMUM 4' X 4' LANDING AREA, GRADED AT A MAXIMUM SLOPE OF 2% IN ALL DIRECTIONS, MUST BE PROVIDED AT THE TOP OF EVERY RAMP.



DROPPED CURB AND CRADLE

CONCRETE SIDEWALK
(PUBLIC SIDEWALK CURB RAMP)
N.T.S.

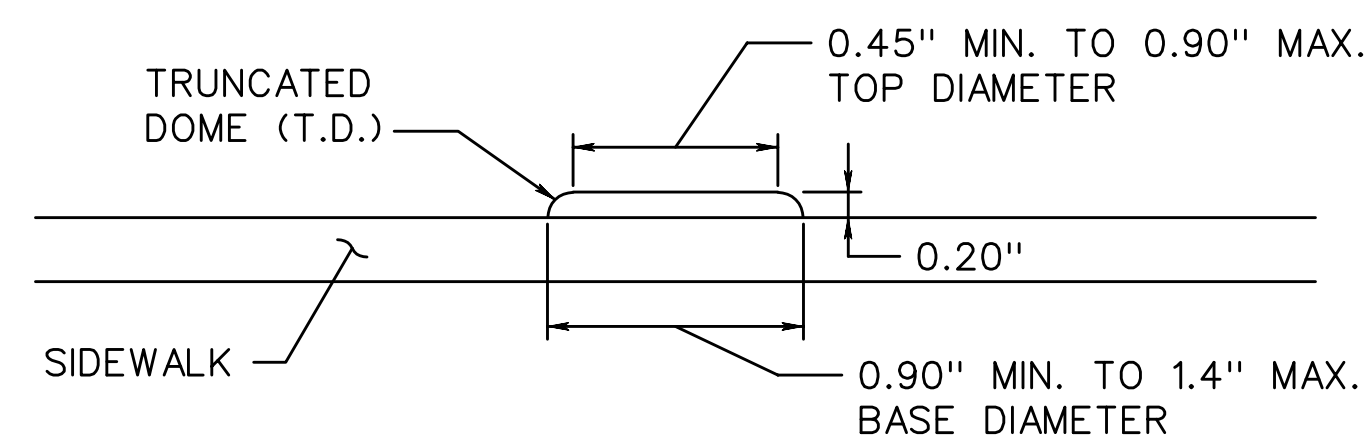
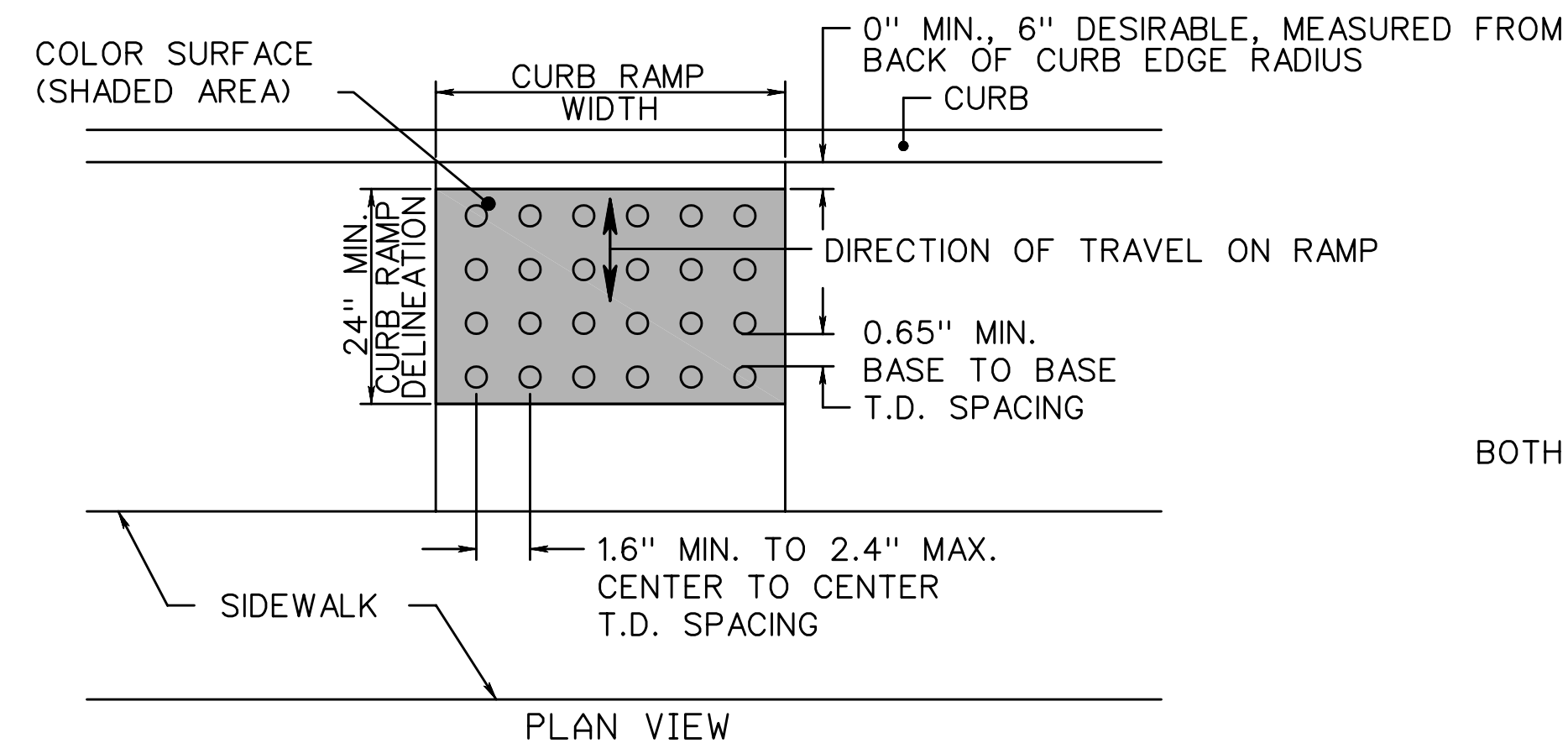
CD-606-1

NEW JERSEY DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS

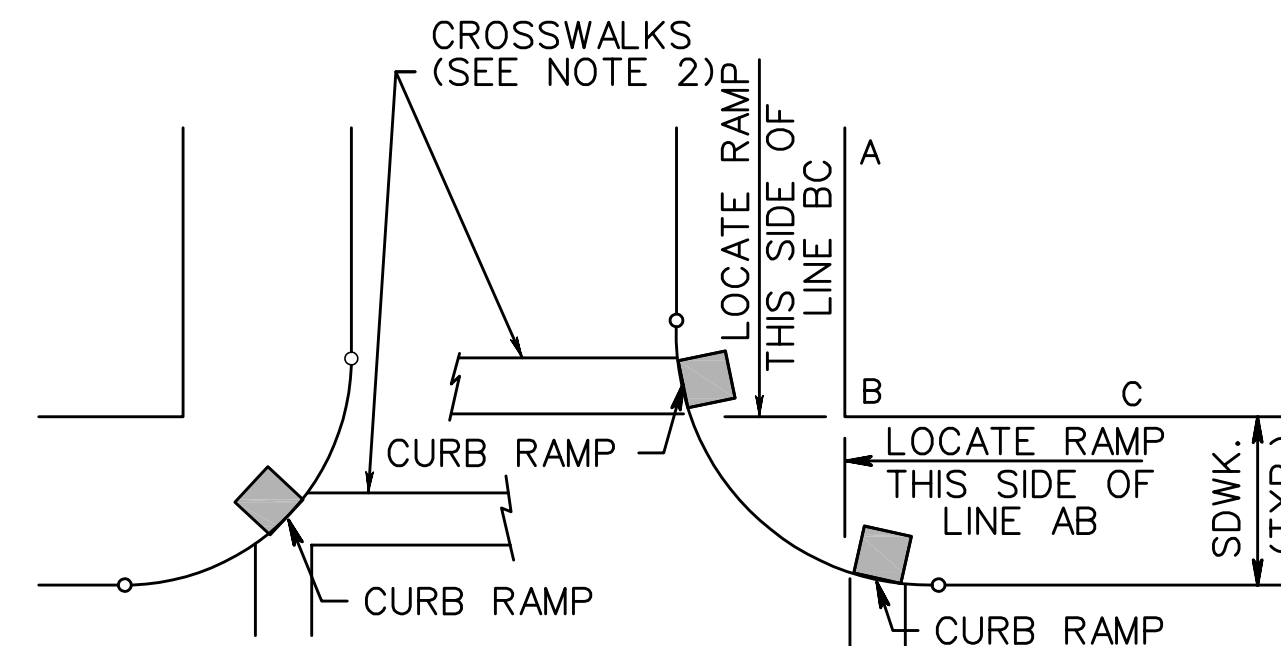
CURB RAMPS

CD-606-1.1

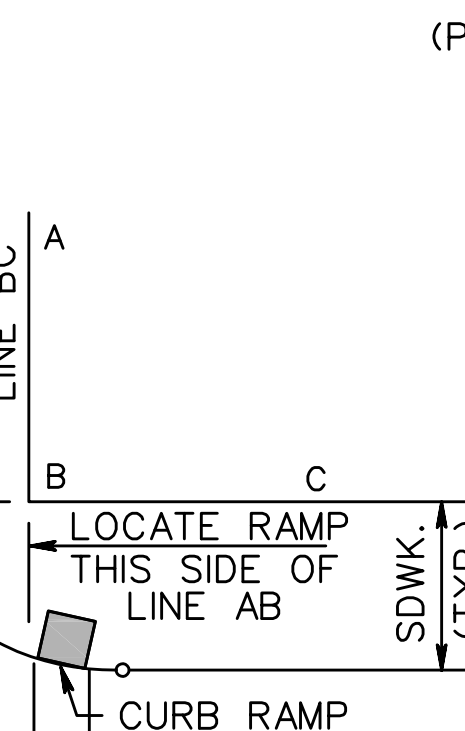


ELEVATION

DETECTABLE WARNING SURFACE

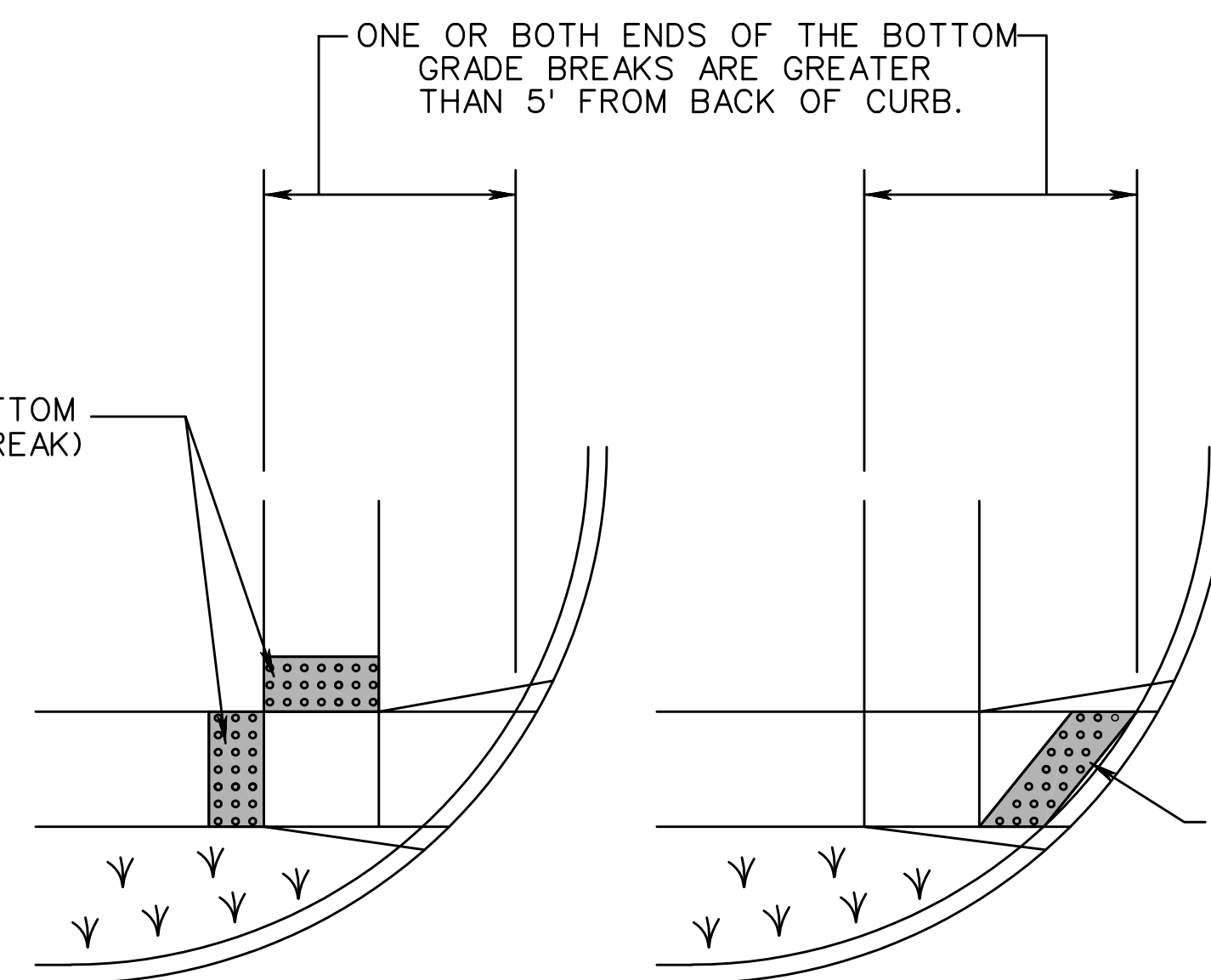
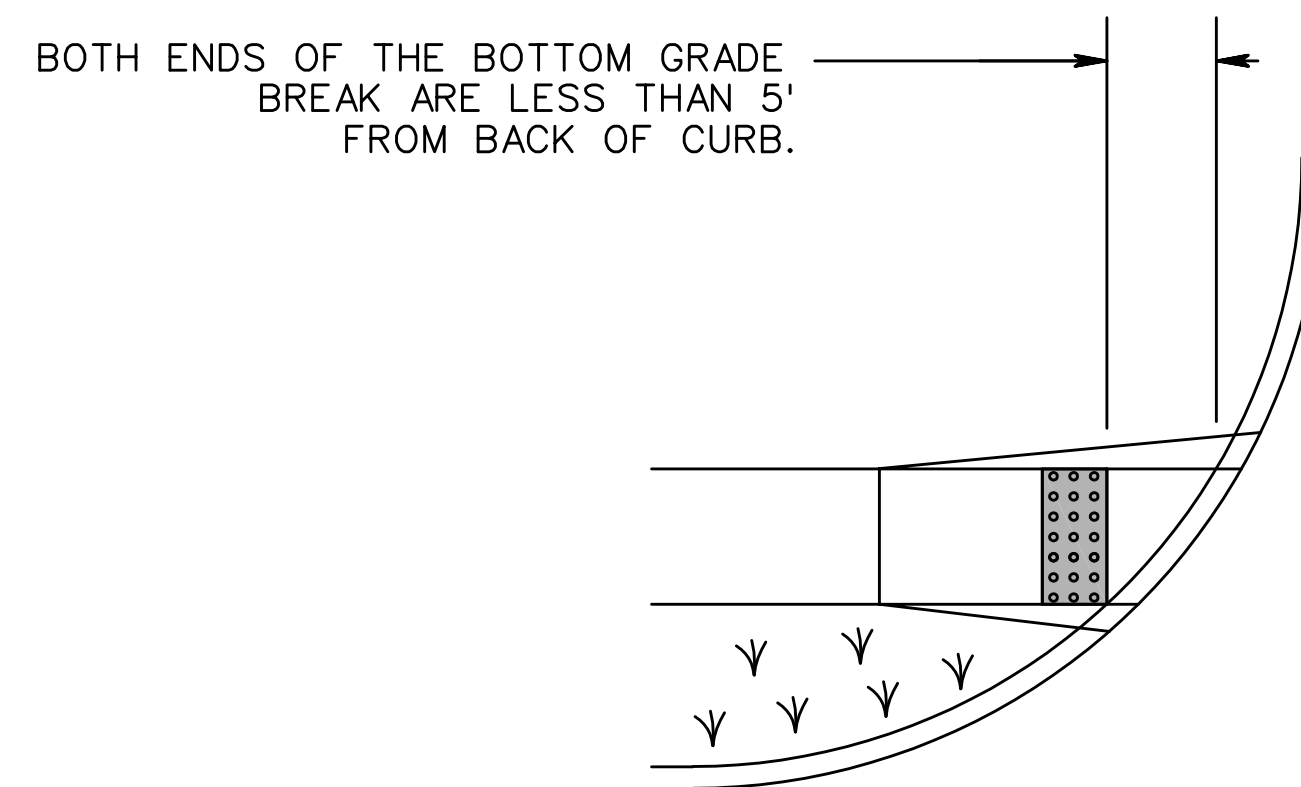


ALTERNATE TREATMENT
(SEE NOTE 5)



PREFERRED TREATMENT
(SEE NOTE 5)

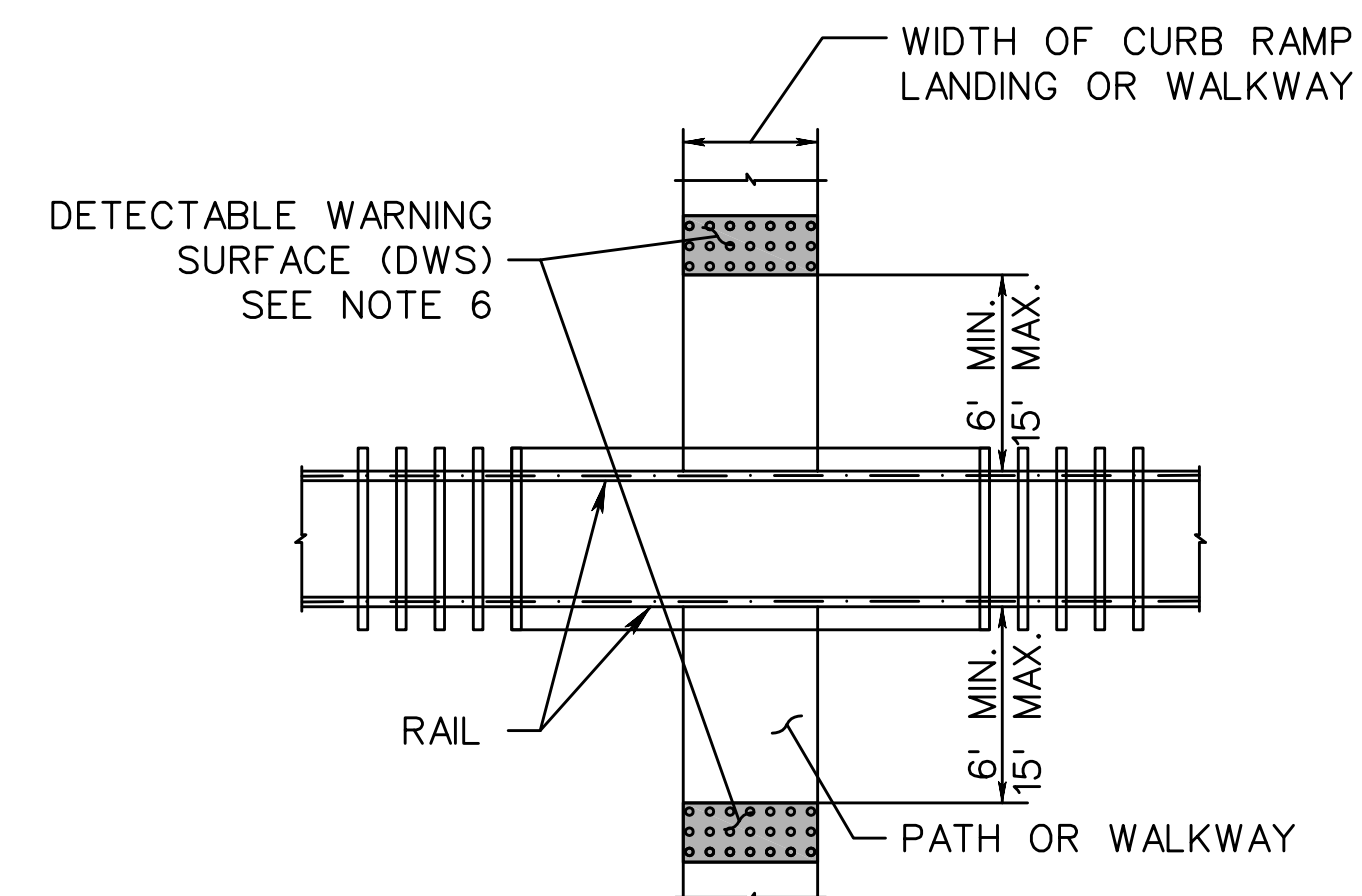
LOCATION OF CURB RAMP TYPES 1, 2, 3, 4, & 7
FOR CROSSING PARALLEL AND PERPENDICULAR
TO HIGHWAY



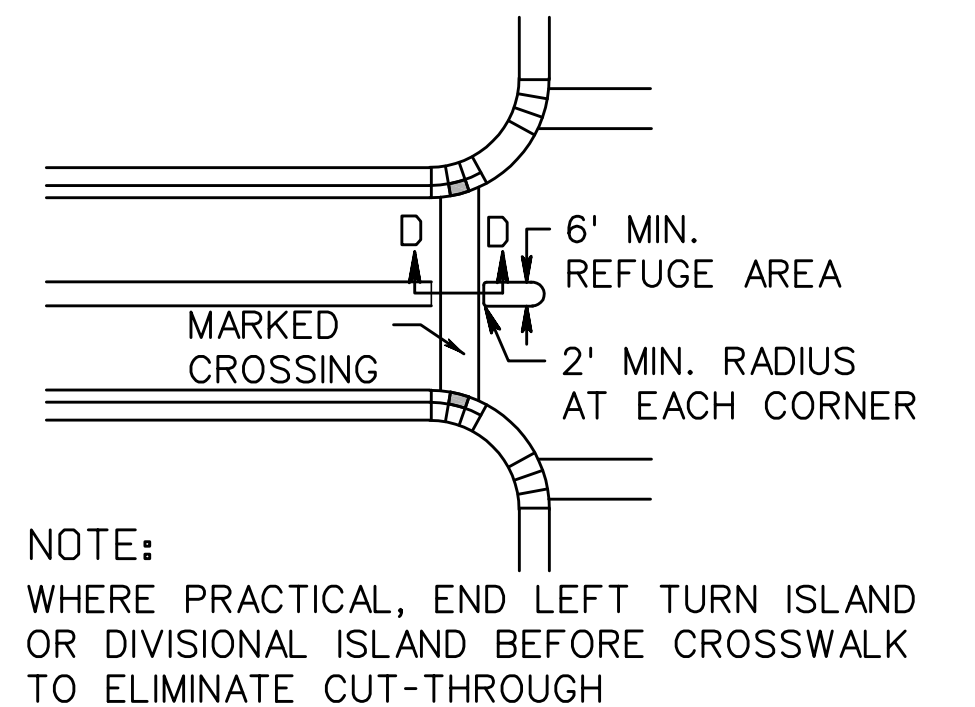
PREFERRED TREATMENT

ALTERNATE TREATMENT
(SEE NOTE 7)

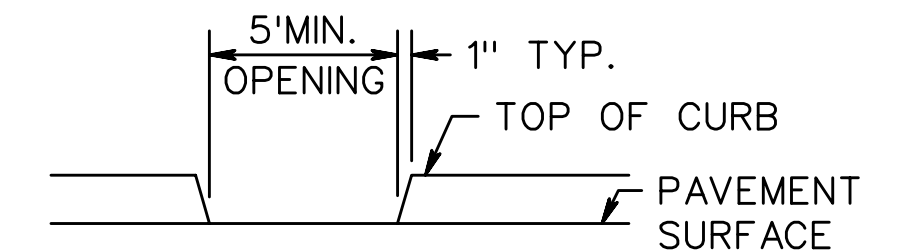
PLACEMENT OF DETECTABLE WARNING SURFACE FOR CURB RAMP TYPE 5 AND 6



PEDESTRIAN RAILROAD CROSSING



NOTE:
WHERE PRACTICAL, END LEFT TURN ISLAND
OR DIVISIONAL ISLAND BEFORE CROSSWALK
TO ELIMINATE CUT-THROUGH

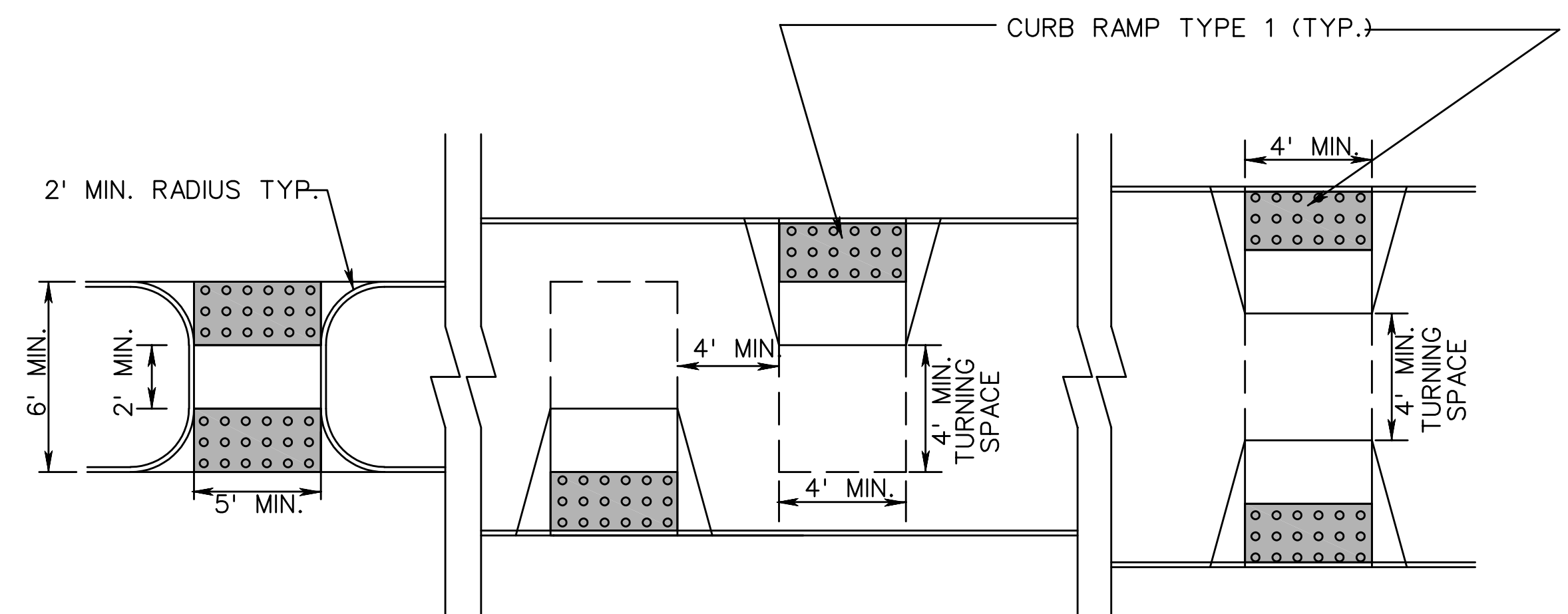


SECTION D-D

NOTE:

5'MIN. WIDE OPENING TO BE FLUSH
WITH ROADWAY PAVEMENT

PEDESTRIAN REFUGE ISLAND WALKWAY OPENING AT INTERSECTIONS

NARROW ISLAND WIDTH
(SEE NOTE 3)MEDIUM ISLAND WIDTH
(SEE NOTE 4)

LARGE ISLAND WIDTH
(SEE NOTE 4)

PEDESTRIAN REFUGE ISLAND

DETECTABLE	WARNING	SURFACE
	N.T.S.	

NOTES:

1. KEEP TURNING SPACE, APPROACH SIDEWALK TRANSITIONS, AND CURB RAMP CLEAR OF OBSTRUCTIONS THAT PROTRUDE ABOVE THE SURFACE.
2. CROSSWALKS AND STOP LINES MAY BE MARKED OR UNMARKED, SEE PLANS.
3. FOR NARROW ISLAND WIDTH, SEE PEDESTRIAN REFUGE ISLAND WALKWAY OPENING AT INTERSECTIONS DETAIL.
4. FOR MEDIUM AND LARGE ISLAND WIDTH, SEE CURB RAMP TYPE 1 ON CD-606-1.
5. CONSTRUCT CURB RAMP TYPES 1, 2, 3, 4, & 7 PERPENDICULAR TO CURBLINE, AS SHOWN.
6. IF A CURB RAMP IS REQUIRED, THE LOCATION OF THE DETECTABLE WARNING SURFACE MUST BE AT THE BOTTOM OF THE RAMP AND WITHIN THE REQUIRED DISTANCE FROM THE RAIL.
7. A STANDARD DETECTABLE WARNING (DWS) SURFACE IS NOT AVAILABLE TO FIT THIS APPLICATION, AND THEREFORE ONE WILL NEED TO BE CUSTOMIZED. THE DWS SHOULD COVER THE ENTIRE WIDTH OF THE RAMP. THE ROWS OF DOMES ON THE DWS SHOULD FOLLOW THE DIRECTION OF TRAVEL OF THE RAMP, SO PEDESTRIANS WHO USE MOBILE DEVICES CAN TRACK BETWEEN THE DOMES.

CURB RAMP TYPE 1

0.0 % GUTTER LINE PROFILE				
H INCHES	W FEET	X _{1U} FEET	X _{1L} FEET	L ₁ FEET
3	3	2.50	2.50	9.00
4	4	3.33	3.33	10.67
5	5	4.17	4.17	12.33
6	6	5.00	5.00	14.00
7	7	5.83	5.83	15.67
8	8	6.67	6.67	17.33
9	9	7.50	7.50	19.00

1.0 % GUTTER LINE PROFILE				
H INCHES	W FEET	X _{1U} FEET	X _{1L} FEET	L ₁ FEET
3	3	2.78	2.27	9.05
4	4	3.70	3.03	10.73
5	5	4.63	3.79	12.42
6	6	5.56	4.55	14.10
7	7	6.48	5.30	15.78
8	8	7.41	6.06	17.47
9	9	8.33	6.82	19.15

2.0 % GUTTER LINE PROFILE				
H INCHES	W FEET	X _{1U} FEET	X _{1L} FEET	L ₁ FEET
3	3	3.13	2.08	9.21
4	4	4.17	2.78	10.94
5	5	5.21	3.47	12.68
6	6	6.25	4.17	14.42
7	7	7.29	4.86	16.15
8	8	8.33	5.56	17.89
9	9	9.38	6.25	19.63

3.0 % GUTTER LINE PROFILE				
H INCHES	W FEET	X _{1U} FEET	X _{1L} FEET	L ₁ FEET
3	3	3.57	1.92	9.49
4	4	4.76	2.56	11.33
5	5	5.95	3.21	13.16
6	6	7.14	3.85	14.99
7	7	8.33	4.49	16.82
8	8	9.52	5.13	18.65
9	9	10.71	5.77	20.48

4.0 % GUTTER LINE PROFILE				
H INCHES	W FEET	X _{1U} FEET	X _{1L} FEET	L ₁ FEET
3	3	4.17	1.79	9.95
4	4	5.56	2.38	11.94
5	5	6.94	2.98	13.92
6	6	8.33	3.57	15.90
7	7	9.72	4.17	17.89
8	8	11.11	4.76	19.87
9	9	12.50	5.36	21.86

5.0 % GUTTER LINE PROFILE				
H INCHES	W FEET	X _{1U} FEET	X _{1L} FEET	L ₁ FEET
3	3	5.00	1.67	10.67
4	4	6.67	2.22	12.89
5	5	8.33	2.78	15.11
6	6	10.00	3.33	17.33
7	7	11.67	3.89	19.56
8	8	13.33	4.44	21.78
9	9	15.00	5.00	24.00

6.0 % GUTTER LINE PROFILE				
H INCHES	W FEET	X _{1U} FEET	X _{1L} FEET	L ₁ FEET
3	3	6.25	1.56	11.81
4	4	8.33	2.08	14.42
5	5	10.42	2.60	17.02
6	6	12.50	3.13	19.63
7	7	14.58	3.65	22.23
8	8	15.00	4.17	23.17
9	9	15.00	4.69	23.69

7.0 % GUTTER LINE PROFILE				
H INCHES	W FEET	X _{1U} FEET	X _{1L} FEET	L ₁ FEET
3	3	8.33	1.47	13.80
4	4	11.11	1.96	17.07
5	5	13.89	2.45	20.34
6	6	15.00	2.94	21.94
7	7	15.00	3.43	22.43
8	8	15.00	3.92	22.92
9	9	15.00	4.41	23.41

CURB RAMP TYPE 3

0.0 % GUTTER LINE PROFILE								
H INCHES	W FEET	X _{1U} FEET	X _{1L} FEET	L ₁ FEET	Y INCHES	X _{2U} FEET	X _{2L} FEET	L ₂ FEET
3	2.75	2.50	2.50	9.00	2.75	0.91	0.91	5.82
4		3.33	3.33	10.67		1.91	1.91	7.82
5		4.17	4.17	12.33		2.91	2.91	9.82
6		5.00	5.00	14.00		3.91	3.91	11.83
7		5.83	5.83	15.67		4.91	4.91	13.83
8		6.67	6.67	17.33		5.91	5.91	15.83
9		7.50	7.50	19.00		6.91	6.91	17.83
3		*	*	*		*	*	*
4		3.33	3.33	10.67		1.72	1.72	7.44
5	3.0	4.17	4.17	12.33	3.0	2.72	2.72	9.44
6		5.00	5.00	14.00		3.72	3.72	11.45
7		5.83	5.83	15.67		4.72	4.72	13.45
8		6.67	6.67	17.33		5.72	5.72	15.45
9		7.50	7.50	19.00		6.72	6.72	17.45
3		*	*	*		*	*	*
4		3.33	3.33	10.67		1.34	1.34	6.68
5		4.17	4.17	12.33		2.34	2.34	8.68
6		5.00	5.00	14.00		3.34	3.34	10.69
7	3.5	5.83	5.83	15.67	3.5	4.34	4.34	12.69
8		6.67	6.67	17.33		5.34	5.34	14.69
9		7.50	7.50	19.00		6.34	6.34	16.69
3		*	*	*		*	*	*
4		3.33	3.33	10.67		1.96	1.96	7.92
5		4.17	4.17	12.33		2.96	2.96	9.93
6		5.00	5.00	14.00		3.96	3.96	11.93
7		5.83	5.83	15.67		4.96	4.96	13.93
8		6.67	6.67	17.33		5.96	5.96	15.93
9		7.50	7.50	19.00		6.96	6.96	17.93

4.0 % GUTTER LINE PROFILE								
H INCHES	W FEET	X _{1U} FEET	X _{1L} FEET	L ₁ FEET	Y INCHES	X _{2U} FEET	X _{2L} FEET	L ₂ FEET
3	2.75	4.17	1.79	9.95	2.75	1.75	0.62	6.37
4		5.56	2.38	11.94		3.68	1.29	8.97
5		6.94	2.98	13.92		5.60	1.97	11.57
6		8.33	3.57	15.90		7.53	2.64	14.17
7		9.72	4.17	17.89		9.45	3.32	16.77
8		11.11	4.76	19.87		11.38	4.00	19.37
9		12.50	5.36	21.86		13.30	4.67	21.97
3		4.17	1.79	9.95		1.39	0.49	5.88
4		5.56	2.38	11.94		3.31	1.16	8.48
5	3.0	6.94	2.98	13.92	3.0	5.24	1.84	11.08
6		8.33	3.57	15.90		7.16	2.52	13.68
7		9.72	4.17	17.89		9.09	3.19	16.28
8		11.11	4.76	19.87		11.01	3.87	18.88
9		12.50	5.36	21.86		12.94	4.54	21.48
3		4.17	1.79	9.95		0.66	0.23	4.89
4		5.56	2.38	11.94		2.58	0.91	7.49
5		6.94	2.98	13.92		4.51	1.58	10.09
6		8.33	3.57	15.90		6.43	2.26	12.69
7	3.5	9.72	4.17	17.89	3.5	8.36	2.93	15.29
8		11.11	4.76	19.87		10.28	3.61	17.89
9		12.50	5.36	21.86		12.20	4.29	20.49
3		*	*	*		*	*	*
4		5.56	2.38	11.94		1.85	0.65	6.50
5		6.94	2.98	13.92		3.78	1.33	9.10
6		8.33	3.57	15.90		5.70	2.00	11.70
7		9.72	4.17	17.89		7.62	2.68	14.30
8		11.11	4.76	19.87		9.55	3.35	16.90
9		12.50	5.36	21.86		11.47	4.03	19.50

CURB RAMP TYPE 2

0-8 % GUTTER LINE PROFILE				
H INCHES	W FEET	X _{1U} FEET	X _{1L} FEET	L ₁ FEET
3	3	1.50	1.50	7.00
4	4	1.50	1.50	7.00
5	5	1.50	1.50	7.00
6	6	1.50	1.50	7.00
7	7	1.50	1.50	7.00
8	8	1.50	1.50	7.00
9	9	1.50	1.50	7.00

1.0 % GUTTER LINE PROFILE								
H INCHES	W FEET	X _{1U} FEET	X _{1L} FEET	L ₁ FEET	Y INCHES	X _{2U} FEET	X _{2L} FEET	L ₂ FEET
3	2.75	2.78	2.27	9.05	2.75	1.04	0.81	5.85
4		3.70	3.03	10.73		2.17	1.71	7.88
5		4.63	3.79	12.42		3.31	2.60	9.91
6		5.56	4.55	14.10		4.45	3.49	11.94
7		6.48	5.30	15.78		5.58	4.39	13.97
8		7.41	6.06	17.47		6.72	5.28	16.00
9		8.33	6.82	19.15		7.86	6.17	18.03
3		2.78	2.27	9.05		0.82	0.64	5.46
4		3.70	3.03	10.73		1.96	1.54	7.49
5	3.0	4.63	3.79	12.42	3.0	3.09	2.43	9.52
6		5.56	4.55	14.10		4.23	3.32	11.55
7		6.48	5.30	15.78		5.37	4.22	13.58
8		7.41	6.06	17.47		6.50	5.11	15.61
9		8.33	6.82	19.15		7.64	6.00	17.64
3		2.78	2.27	9.05		0.39	0.30	4.69
4		3.70	3.03	10.73		1.53	1.20	6.72
5		4.63	3.79	12.42		2.66	2.09	8.75
6		5.56	4.55	14.10		3.80	2.98	10.78
7	3.5	6.48	5.30	15.78	3.5	4.94	3.88	12.81
8		7.41	6.06	17.47		6.07	4.77	14.84
9		8.33	6.82	19.15		7.21	5.66	16.87
3		*	*	*		*	*	*
4		3.70	3.03	10.73		1.09	0.86	5.95
5		4.63	3.79	12.42		2.23	1.75	7.98
6		5.56	4.55	14.10		3.37	2.65	10.01
7		6.48	5.30	15.78		4.50	3.54	12.04
8		7.41	6.06	17.47		5.64	4.43	14.07
9		8.33	6.82	19.15		6.78	5.32	16.10

5.0 % GUTTER LINE PROFILE								
H INCHES	W FEET	X _{1U} FEET	X _{1L} FEET	L ₁ FEET	Y INCHES	X _{2U} FEET	X _{2L} FEET	L ₂ FEET
3	2.75	5.00	1.67	10.67	2.75	2.28	0.57	6.85
4		6.67	2.22	12.89		4.78	1.19	9.98
5		8.33	2.78	15.11		7.29	1.82	13.10
6		10.00	3.33	17.33		9.79	2.45	16.23
7		11.67	3.89	19.56		12.29	3.07	19.36
8		13.33	4.44	21.78		14.79	3.70	22.49
9		15.00	5.00	24.00		15.00	4.32	23.32
3	3.0	5.00	1.67	10.67	3.0	1.80	0.45	6.26
4		6.67	2.22	12.89		4.31	1.08	9.38
5		8.33	2.78	15.11		6.81	1.70	12.51
6		10.00	3.33	17.33		9.31	2.33	15.64
7		11.67	3.89	19.56		11.81	2.95	18.77
8		13.33	4.44	21.78		14.32	3.58	21.89
9		15.00	5.00	24.00		15.00	4.20	23.20
3	3.5	5.00	1.67	10.67	3.5	0.85	0.21	5.07
4		6.67	2.22	12.89		3.36	0.84	8.20
5		8.33	2.78	15.11		5.86	1.46	11.32
6		10.00	3.33	17.33		8.36	2.09	14.45
7		11.67	3.89	19.56		10.86	2.71	17.58
8		13.33	4.44	21.78		13.37	3.34	20.71
9		15.00	5.00	24.00		15.00	3.96	22.96
3	4.0	*	*	*	4.0	*	*	*
4								
5		6.67	2.22	12.89		2.41	0.60	7.01
6		8.33	2.78	15.11		4.91	1.23	10.14
7		10.00	3.33	17.33		7.41	1.85	13.26
8		11.67	3.89	19.56		9.91	2.48	16.39
9		13.33	4.44	21.78		12.42	3.10	19.52
9		15.00	5.00	24.00		14.92	3.73	22.65

CURB RAMP TYPE 4

0.0 % GUTTER LINE PROFILE					
H INCHES	W FEET	Y INCHES	X _{2U} FEET	X _{2L} FEET	L ₂ FEET
3	2.75	2.75	0.91	0.91	5.82
4			1.91	1.91	7.82
5			2.91	2.91	9.82
6			3.91	3.91	11.82
7			4.91	4.91	13.83
8	3.0	3.0	5.91	5.91	15.83
9			6.91	6.91	17.83
3			**	**	**
4			1.72	1.72	7.44
5			2.72	2.72	9.44
6			3.72	3.72	11.45
7			4.72	4.72	13.45
8			5.72	5.72	15.45
9			6.72	6.72	17.45
3	3.5	3.5	**	**	**
4			1.34	1.34	6.68
5			2.34	2.34	8.68
6			3.34	3.34	10.69
7			4.34	4.34	12.69
8	4.0	4.0	5.34	5.34	14.69
9			6.34	6.34	16.69
3			**	**	**
4			**	**	**
5			1.96	1.96	7.92
6			2.96	2.96	9.93
7			3.96	3.96	11.93
8			4.96	4.96	13.93
9			5.96	5.96	15.93

4.0 % GUTTER LINE PROFILE					
H INCHES	W FEET	Y INCHES	X _{2U} FEET	X _{2L} FEET	L ₂ FEET
3	2.75	2.75	1.75	0.62	6.37
4			3.68	1.29	8.97
5			5.60	1.97	11.57
6			7.53	2.64	14.17
7			9.45	3.32	16.77
8	3.0	3.0	11.38	4.00	19.37
9			13.30	4.67	21.97
3			1.39	0.49	5.88
4			3.31	1.16	8.48
5			5.24	1.84	11.08
6			7.16	2.52	13.68
7			9.09	3.19	16.28
8			11.01	3.87	18.88
9			12.94	4.54	21.48
3	3.5	3.5	0.66	0.23	4.89
4			2.58	0.91	7.49
5			4.51	1.58	10.09
6			6.43	2.26	12.69
7			8.36	2.93	15.29
8	4.0	4.0	10.28	3.61	17.89
9			12.20	4.29	20.49
3			**	**	**
4			1.85	0.65	6.50
5			3.78	1.33	9.10
6			5.70	2.00	11.70
7			7.62	2.68	14.30
8			9.55	3.35	16.90
9			11.47	4.03	19.50

1.0 % GUTTER LINE PROFILE					
H INCHES	W FEET	Y INCHES	X _{2U} FEET	X _{2L} FEET	L ₂ FEET
3	2.75	2.75	1.04	0.81	5.85
4			2.17	1.71	7.88
5			3.31	2.60	9.91
6			4.45	3.49	11.94
7			5.58	4.39	13.97
8	3.0	3.0	6.72	5.28	16.00
9			7.86	6.17	18.03
3			0.82	0.64	5.46
4			1.96	1.54	7.49
5			3.09	2.43	9.52
6			4.23	3.32	11.55
7			5.37	4.22	13.58
8			6.50	5.11	15.61
9			7.64	6.00	17.64
3	3.5	3.5	0.39	0.30	4.69
4			1.53	1.20	6.72
5			2.66	2.09	8.75
6			3.80	2.98	10.78
7			4.94	3.88	12.81
8	4.0	4.0	6.07	4.77	14.84
9			7.21	5.66	16.87
3			**	**	**
4			1.09	0.86	5.95
5			2.23	1.75	7.98
6			3.37	2.65	10.01
7			4.50	3.54	12.04
8			5.64	4.43	14.07
9			6.78	5.32	16.10

5.0 % GUTTER LINE PROFILE					
H INCHES	W FEET	Y INCHES	X _{2U} FEET	X _{2L} FEET	L ₂ FEET
3	2.75	2.75	2.28	0.57	6.85
4			4.78	1.19	9.98
5			7.29	1.82	13.10
6			9.79	2.45	16.23
7			12.29	3.07	19.36
8	3.0	3.0	14.79	3.70	22.49
9			15.00	4.32	23.32
3			1.80	0.45	6.26
4			4.31	1.08	9.38
5			6.81	1.70	12.51
6			9.31	2.33	15.64
7			11.81	2.95	18.77
8			14.32	3.58	21.89
9			15.00	4.20	23.20
3	3.5	3.5	0.85	0.21	5.07
4			3.36	0.84	8.20
5			5.86	1.46	11.32
6			8.36	2.09	14.45
7			10.86	2.71	17.58
8	4.0	4.0	13.37	3.34	20.71
9			15.00	3.96	22.96
3			**	**	**
4			2.41	0.60	7.01
5			4.91	1.23	10.14
6			7.41	1.85	13.26
7			9.91	2.48	16.39
8			12.42	3.10	19.52
9			14.92	3.73	22.65

2.0 % GUTTER LINE PROFILE					
H INCHES	W FEET	Y INCHES	X _{2U} FEET	X _{2L} FEET	L ₂ FEET
3	2.75	2.75	1.20	0.73	5.93
4			2.52	1.54	8.06
5			3.83	2.35	10.18
6			5.15	3.16	12.30
7			6.47	3.96	14.43
8	3.0	3.0	7.78	4.77	16.55
9			9.10	5.58	18.67
3			0.95	0.58	5.53
4			2.27	1.39	7.65
5			3.58	2.20	9.78
6			4.90	3.00	11.90
7			6.22	3.81	14.02
8			7.53	4.62	16.15
9			8.85	5.42	18.27
3	3.5	3.5	0.45	0.28	4.72
4			1.77	1.08	6.85
5			3.08	1.89	8.97
6			4.40	2.70	11.09
7			5.72	3.50	13.22
8	4.0	4.0	7.03	4.31	15.34
9			8.35	5.12	17.46
3			**	**	**
4			1.27	0.78	6.04
5			2.58	1.58	8.16
6			3.90	2.39	10.29
7			5.22	3.20	12.41
8			6.53	4.00	14.53
9			7.85	4.81	16.66

6.0 % GUTTER LINE PROFILE					
H INCHES	W FEET	Y INCHES	X _{2U} FEET	X _{2L} FEET	L ₂ FEET
3	2.75	2.75	3.26	0.53	7.79
4			6.84	1.11	11.95
5			10.41	1.69	16.10
6			13.99	2.27	20.26
7			15.00	2.86	21.86
8	3.0	3.0	15.00	3.44	22.44
9			15.00	4.02	23.02
3			2.58	0.42	7.00
4			6.16	1.00	11.16
5			9.73	1.58	15.31
6			13.31	2.16	19.47
7			15.00	2.75	21.75
8			15.00	3.33	22.33
9			15.00	3.91	22.91
3	3.5	3.5	1.22	0.20	5.42
4			4.80	0.78	9.58
5			8.37	1.36	13.74
6			11.95	1.94	17.89
7			15.00	2.52	21.52
8	4.0	4.0	15.00	3.11	22.11
9			15.00	3.69	22.69
3			**	**	**
4			3.44	0.56	8.00
5			7.02	1.14	12.16
6			10.59	1.72	16.31
7			14.17	2.30	20.47
8			15.00	2.89	21.89
9			15.00	3.47	22.47

3.0 % GUTTER LINE PROFILE					
H INCHES	W FEET	Y INCHES	X _{2U} FEET	X _{2L} FEET	L ₂ FEET
3	2.75	2.75	1.42	0.67	6.09
4			2.99	1.41	8.39
5			4.55	2.14	10.69
6			6.11	2.88	12.99
7			7.68	3.61	15.29
8			9.24	4.35	17.59
9			10.81	5.08	19.89
3	3.0	3.0	1.13	0.53	5.66
4			2.69	1.27	7.96
5			4.25	2.00	10.26
6			5.82	2.74	12.55
7			7.38	3.47	14.85
8			8.94	4.21	17.15
9			10.51	4.94	19.45
3	3.5	3.5	0.53	0.25	4.78
4			2.10	0.99	7.08
5			3.66	1.72	9.38
6			5.22	2.46	11.68
7			6.79	3.19	13.98
8			8.35	3.93	16.28
9			9.91	4.66	18.58
3	4.0	4.0	**	**	**
4			1.50	0.71	6.21
5			3.07	1.44	8.51
6			4.63	2.18	10.81
7			6.19	2.91	13.11
8			7.76	3.65	15.41
9			9.32	4.38	17.71