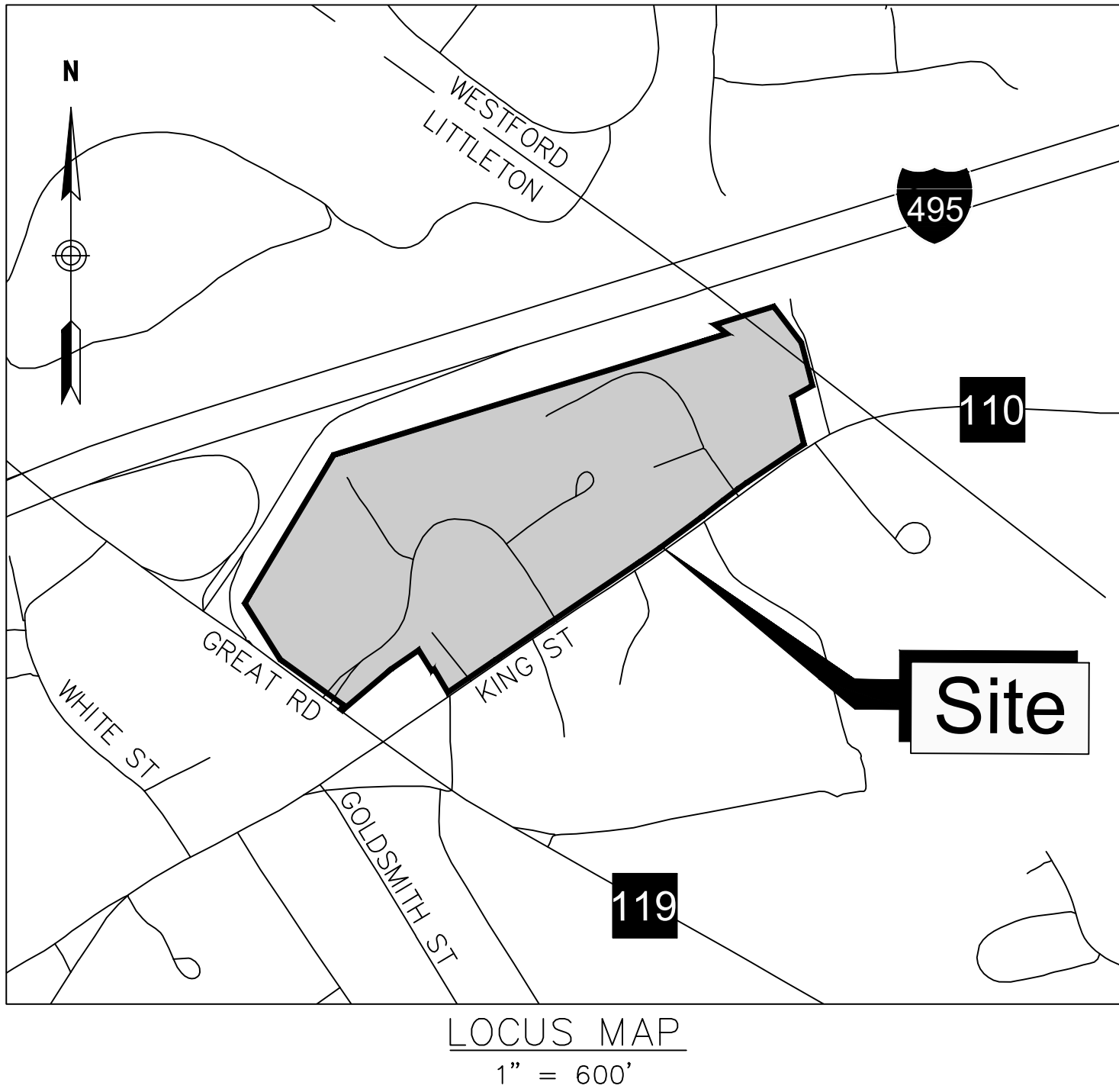


Subdivision Plans

King Street Commons

Definitive Subdivision Plan

550 King Street
Littleton, Massachusetts 01460



Index of Sheets		
No.	Drawing Title	Latest Issue
C-1	Title & Index Sheet	November 26, 2025
C-2	Legend & General Notes	November 26, 2025
C-3	Index Sheet	November 26, 2025
C-4-8	Demolition, Erosion & Sedimentation Control Plan A-E	November 26, 2025
C-9	Layout Plan	November 26, 2025
C-10-14	Layout Plan A-E	November 26, 2025
C-15-19	Utility Plan A-E	November 26, 2025
C-20-26	Roadway Plan & Profile 1 - 8	November 26, 2025
C-27	Sanitary & Storm Sewer Tables	November 26, 2025
C-28	Storm Sewer Tables	November 26, 2025
C-29	Construction Phasing Plan	November 26, 2025
C-30-31	Construction Management Plan	November 26, 2025
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Reference Plans Index		
No.	Drawing Title	Latest Issue
1	Definitive Subdivision Plan of Land (Hancock)	August 1, 2023

APPROVAL BY THE TOWN OF
LITTLETON PLANNING BOARD

DATE: _____

REVISIONS	
DRAWING TITLE	
Title & Index Sheet	
SUBDIVISION NAME & LOCATION	
King Street Commons 550 King Street Littleton, MA 01460	
OWNER / APPLICANT / SUBDIVIDER	
Lupoli Companies 282 Merrimack Street Lawrence, MA 01843	
DESIGNER / ENGINEER	
 TEC, Inc. 282 Merrimack Street, 2nd Floor Lawrence, Massachusetts 01843 978.794.1792 www.TheEngineeringCorp.com Lawrence Hampton Worcester	
DESIGNED BY RJF	DATE 11-26-25
CHECKED BY CPR	SCALE AS NOTED
PROJECT NO. T1180	
TEC CAD FILE T1180_COV	
DRAWING NO. C-1	
SHEET 1 OF 63	

GENERAL NOTES

- CONTRACTOR SHALL NOTIFY DIG-SAFE (1-888-344-7233) AND THE LOCAL MUNICIPAL WATER & SEWER DEPT. AT LEAST 72 HOURS BEFORE EXCAVATING.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS. A 6-FOOT TEMPORARY CHAINLINK FENCE SHALL BE PROVIDED AROUND ALL CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL LEAVE NO UNSECURED OPEN EXCAVATIONS.
- HANDICAP ACCESSIBLE ROUTES, PARKING SPACES, RAMPS, SIDEWALKS AND WALKWAYS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE FEDERAL AMERICANS WITH DISABILITIES ACT/ARCHITECTURAL ACCESS BOARD (AAB), AND WITH STATE AND LOCAL LAWS AND REGULATIONS (WHICHEVER ARE MORE STRINGENT).
- WORK WITHIN THE LOCAL RIGHT-OF-WAY SHALL CONFORM TO LOCAL MUNICIPAL STANDARDS. WORK WITHIN STATE RIGHT-OF-WAY SHALL CONFORM TO THE LATEST EDITION OF THE STATE HIGHWAY DEPARTMENT STANDARD SPECIFICATION FOR HIGHWAYS AND BRIDGES.
- UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS, IN THE SPECIFICATIONS, AND IN THE CONTRACT DOCUMENTS. DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALK, AND FIRE HYDRANTS, WITHOUT APPROPRIATE PERMITS.
- TRAFFIC SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
- IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, GROUNDWATER, AND OTHER MEDIA ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY, OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECT MATERIAL TO AVOID FURTHER SPREADING OF THE MATERIAL, AND SHALL NOTIFY THE OWNER IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.
- CONTRACTOR SHALL PREVENT DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS AND CORRECTIVE ACTION IF SUCH OCCURS.
- CONTRACTOR SHALL CONTROL STORMWATER RUNOFF DURING CONSTRUCTION TO PREVENT ADVERSE IMPACTS TO OFF SITE AREAS, AND SHALL BE RESPONSIBLE TO REPAIR RESULTING DAMAGES, IF ANY, AT NO COST TO OWNER.
- CONTRACTOR TO FILE A NOTICE OF INTENT FOR COVERAGE UNDER THE CONSTRUCTION GENERAL PERMIT (CGP) AND PREPARE A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) PRIOR TO START OF CONSTRUCTION.
- CONTRACTOR SHALL PREPARE AND MAINTAIN SWPPP IN ACCORDANCE WITH THE US EPA CGP AND NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS.

GRADING & DRAINAGE NOTES:

- THE LOCATIONS, SIZES, AND TYPES OF EXISTING UNDERGROUND UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE OWNER OR ITS REPRESENTATIVE(S) HAVE NOT INDEPENDENTLY VERIFIED THIS INFORMATION AS SHOWN ON THE PLANS. THE UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY, OR OTHER DATA CONCERNING THE UTILITIES, NOR DOES IT GUARANTEE AGAINST THE POSSIBILITY THAT ADDITIONAL UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THE PLANS. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION THE CONTRACTOR SHALL VERIFY AND DETERMINE THE EXACT LOCATION, SIZES, AND ELEVATION OF EXISTING UTILITIES.
- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE OWNER'S REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT. FAILURE TO PROVIDE OR PERFORM THE ABOVE PRIOR TO PERFORMING ANY WORK SHALL NOT BE GROUNDS FOR EXTRA PAYMENTS TO THE CONTRACTOR.
- AT ALL LOCATIONS WHERE EXISTING CURBING OR PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAW CUT TO A CLEAN, SMOOTH EDGE. BLEND NEW PAVEMENT, CURBS, AND EARTHWORK SMOOTHLY INTO EXISTING BY MATCHING LINES, GRADES, AND JOINTS.
- THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES, AS REQUIRED.
- ALL UTILITY COVERS, GRATES, ETC. SHALL BE ADJUSTED TO BE FLUSH WITH THE PAVEMENT FINISH GRADE UNLESS OTHERWISE NOTED.
- EXISTING TREES AND SHRUBS OUTSIDE THE LIMITS OF GRADING SHALL BE REMOVED ONLY UPON PRIOR APPROVAL OF THE OWNER.
- ALL SANITARY SEWER PIPE SHALL BE SDR-35 PVC UNLESS OTHERWISE NOTED.
- WATER LINE SHALL BE CLASS 52 CEMENT LINED DUCTILE IRON.
- SANITARY SEWER OR STORM DRAIN LINES SHALL BE ENCASED IN CONCRETE WHEN CROSSING ABOVE A WATER LINE AND HAVING LESS THAN 10 FT OF HORIZONTAL SEPARATION. A MINIMUM OF 18" OF VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER LINE CROSSINGS WITH SANITARY SEWER OR STORM DRAIN LINES.
- ALL DRAINAGE PIPING SHALL BE RCP UNLESS OTHERWISE NOTED.
- INSULATE SANITARY PIPES WHERE INVERT DEPTH IS LESS THAN FIVE (5) FEET BELOW FINISHED GRADE.
- CONTRACTOR SHALL PROTECT ALL UNDERGROUND DRAINAGE, SEWER AND UTILITY FACILITIES FROM EXCESSIVE VEHICULAR LOADS DURING CONSTRUCTION. ANY DAMAGE TO THESE FACILITIES RESULTING FROM CONSTRUCTION LOADS WILL BE RESTORED TO ORIGINAL CONDITION (AT NO ADDITIONAL COST TO THE OWNER) BY THE CONTRACTOR.
- ALL WATER AND SEWER UTILITY WORK SHALL CONFORM TO LOCAL DPW, WATER DIVISION SPECIFICATIONS, DETAILS, RULES AND REGULATIONS AND HAVE FIVE (5) FEET OF MINIMUM COVER. GAS, ELECTRIC, AND TELEPHONE LOCATIONS AND ROUTING ARE SUBJECT TO REVIEW AND APPROVAL BY THE APPROPRIATE UTILITY COMPANIES.
- THE CONTRACTOR SHALL REMOVE ALL EROSION CONTROL BARRIERS AFTER REVEGETATION OF DISTURBED AREAS AND AFTER APPROVAL BY THE LOCAL APPROVING AUTHORITY.
- EXCAVATION REQUIRED IN THE PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.
- THE CONTRACTOR SHALL SCHEDULE THEIR WORK TO ALLOW THE FINISHED SUBGRADE ELEVATIONS TO DRAIN PROPERLY WITHOUT PUDDLING. SPECIFICALLY, ALLOW WATER TO ESCAPE WHERE PROPOSED CURB MAY RETAIN RUNOFF PRIOR TO APPLICATION OF THE FINISH SUBGRADE AND/OR SURFACE PAVING.
- UNLESS OTHERWISE INDICATED, ABANDONED EXISTING UTILITY LINES SHALL BE CAPPED AND ABANDONED IN PLACE UNLESS THEY CONFLICT WITH PROPOSED IMPROVEMENTS, WHERE THEY SHALL THEN BE REMOVED. CAP REMAINING PORTIONS WHERE PARTIALLY REMOVED.
- MINIMUM MANHOLE DIAMETER IS 4'. CONTRACTOR SHALL VERIFY, THROUGH SHOP DRAWING SUBMITTALS TO THE ENGINEER, ACTUAL SIZES NEEDED TO ACCOMMODATE SPECIFIED PIPES.
- DETAILED UTILITY SURVEY AND PLAN SHALL BE PROVIDED PRIOR TO CONSTRUCTION.
- STUBS FOR FUTURE WATER CONNECTIONS SHALL BE EMPTY, CLOSED AT THE VALVE, AND CAPPED.
- THE LIMIT OF WORK DELINEATES THE AREA OF LAND DISTURBANCE WHICH SHALL BE LIMITED TO 438,500 SF.

PROPOSED CONSTRUCTION SEQUENCING

- SELECTIVELY REMOVE VEGETATION FOR COMPOST FILTER TUBE INSTALLATION;
- INSTALL COMPOST FILTER TUBE;
- INSTALL CONSTRUCTION FENCING AT LIMITS OF WORK, AND NO-DISTURB/TREE SAVE AREAS, IF ANY;
- STABILIZE CONSTRUCTION ENTRANCES;
- PREPARE CONSTRUCTION TRAILER/STAGING LOCATION;
- CONSTRUCT NEW SEDIMENT BASINS AS NECESSARY;
- STRIP AND STOCKPILE TOPSOIL AND PAVEMENT;
- TEMPORARILY STABILIZE TOPSOIL STOCKPILES (SEED AND SILT FENCE (GRASSED AREA) OR COMPOST FILTER TUBE OR STRAW BALES (PAVEMENT AREA) AROUND TOE OF SLOPE);
- CONDUCT EARTHWORK CUTS AND FILLS TO BRING SITE TO GRADE;
- CONSTRUCT UTILITIES (WATER, SEWER, STORM DRAIN, ETC.);
- CONSTRUCT DRIVEWAY/PARKING/SIDEWALK PAVEMENT AREAS THROUGH BINDER COURSE;
- FINISH GRADE LANDSCAPING AREAS;
- PERMANENTLY STABILIZE LANDSCAPING AREAS WITH SEED/LANDSCAPING;
- CONSTRUCT DRIVEWAY/PARKING AREAS THROUGH TOP COURSE; AND
- REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENT CONTROL MEASURES UPON PERMANENT SITE STABILIZATION AND APPROVAL BY THE ENGINEER AND TOWN OF LITTLETON.

GENERAL SYMBOLS

EXISTING	PROPOSED	
		CATCH BASIN
		DRAIN MANHOLE
		SEWER MANHOLE
		ELECTRIC MANHOLE
		TELEPHONE MANHOLE
		CABLE MANHOLE
		UNKNOWN MANHOLE
		HANDHOLE
		BOLLARD
		WATER GATE
		FIRE HYDRANT
		GAS GATE
		GAS VALVE
		STREET SIGN
		TRAFFIC SIGNAL
		LIGHT POLE
		UTILITY POLE
		TEST PIT
		EDGE OF PAVEMENT
		GRANITE CURB (TYPE VA 4)
		CONCRETE CURB (MONOLITHIC)
		CHAINLINK FENCE
		DRAINAGE LINE
		SEWER LINE
		WATER LINE
		GAS LINE
		UNDERGROUND ELECTRIC & TEL/DATA LINE
		CABLE/TELEVISION LINE
		OVERHEAD WIRE
		TREE LINE
		LIMIT OF WORK
		CONSTRUCTION FENCE
		ENTRANCE/EXIT DOOR
		BASELINE
		TOWN LAYOUT
		PROPERTY LINE
		HIGHWAY/PROPERTY BOUND (TYPE NOTED)
		WHEELCHAIR RAMP
		TREE (SIZE AND TYPE NOTED)

PAVEMENT MARKINGS AND SIGNING SYMBOLS

EXISTING	PROPOSED	
		CROSSWALK, 12" WHITE LINE (WIDTH NOTED)
		STOP LINE, 12" WHITE LINE 4' BEHIND CW (TYP.)
		SOLID WHITE LINE-4"
		DOUBLE YELLOW CENTER LINE- 2-4" LINES
		TRAFFIC FLOW SYMBOL

ABBREVIATIONS

GENERAL	UTILITIES
ABAN	ABANDON
ADJ	ADJUST
APPROX	APPROXIMATE
BLDG	BUILDING
BO	BY OTHERS
BM	BENCHMARK
CC	CONCRETE CURB
CEM	CEMENT
CONC	CONCRETE
COORD	COORDINATE
DEMO	DEMOLISH
DIA	DIAMETER
ELEC	ELECTRIC
ELEV	ELEVATION
EXIST	EXISTING
FGC	FLUSH GRANITE CURB
GAL	GALLON
GC	GRANITE CURB
HMA	HOT MIX ASPHALT
LA	LANDSCAPED AREA
LF	LINEAR FEET
MAX	MAXIMUM
MGC	MOUNTABLE GRANITE CURB
MIN	MINIMUM
MTD	MOUNTED
NTS	NOT TO SCALE
PROP	PROPOSED
PVMT	PAVEMENT
R	RADIUS
REM	REMOVE
RET	RETAIN
SGE	SLOPED GRANITE EDGING
SW	SIDEWALK
TYP	TYPICAL
VGC	VERTICAL GRANITE CURB
WCR	WHEELCHAIR RAMP
AD	AREA DRAIN
CB	CATCH BASIN
CI	CAST IRON
CLDI	CEMENT LINED DUCTILE IRON
DCB	DOUBLE CATCH BASIN
DMH	DRAINAGE MANHOLE
GV	GAS VALVE
GT	GREASE TRAP
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HYD	HYDRANT
INV	INVERT ELEVATION
PVC	POLYVINYL CHLORIDE PIPE
OHW	OVER HEAD WIRE
SMH	SEWER MANHOLE
WQU	WATER QUALITY UNIT
WV	WATER VALVE

REVISIONS

DRAWING TITLE

Legend & General Notes

SUBDIVISION NAME & LOCATION

King Street Commons

550 King Street

Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

Lupoli Companies

282 Merrimack Street

Lawrence, MA 01843

DESIGNER / ENGINEER

TEC, Inc.

282 Merrimack Street, 2nd Floor

Lawrence, Massachusetts 01843

978.794.1792

www.TheEngineeringCorp.com

Lawrence | Hampton | Worcester

DESIGNED BY RJF

DATE 11-26-25

CHECKED BY CPR

SCALE AS NOTED

PROJECT NO. T1180

TEC CAD FILE

T1180_INDEX

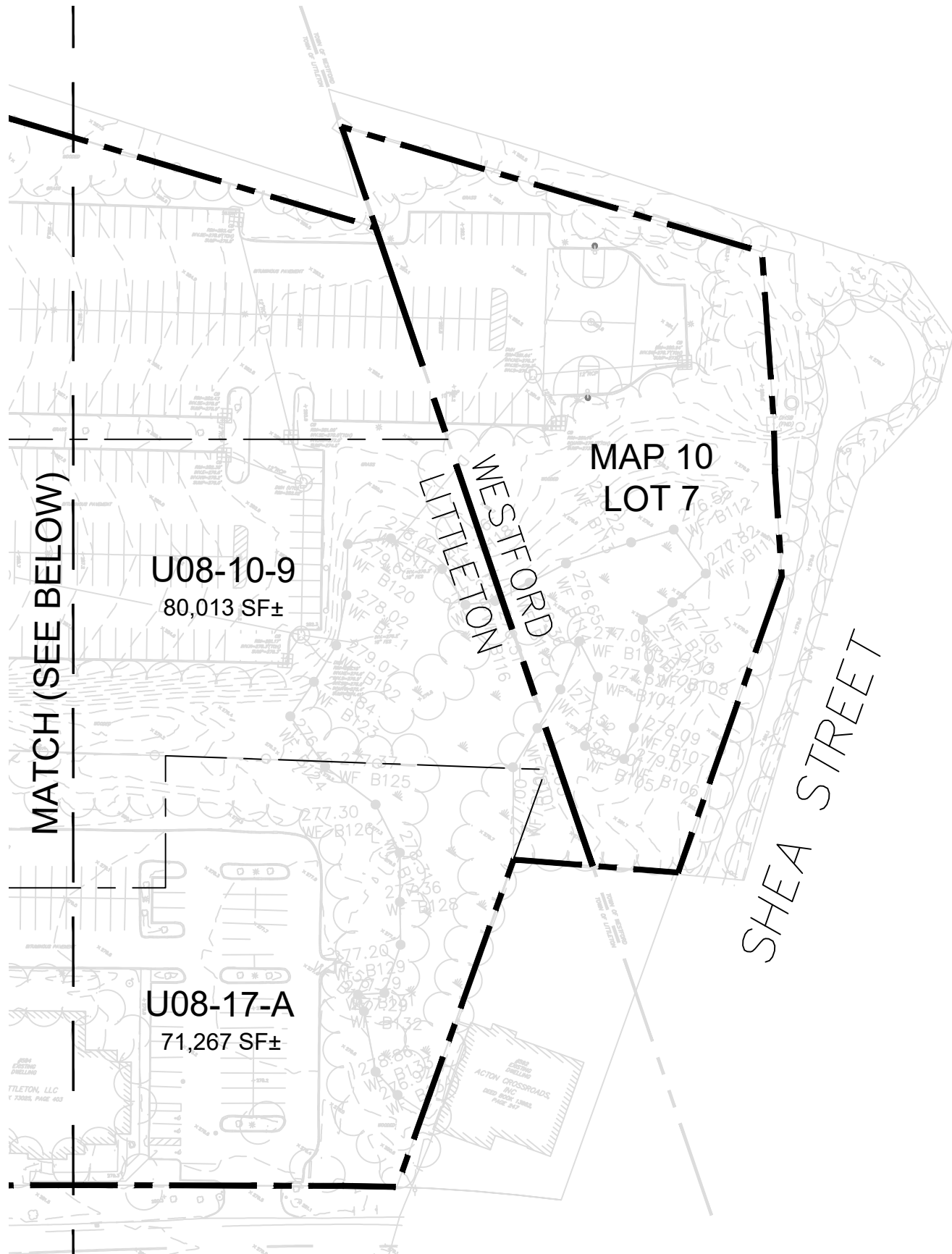
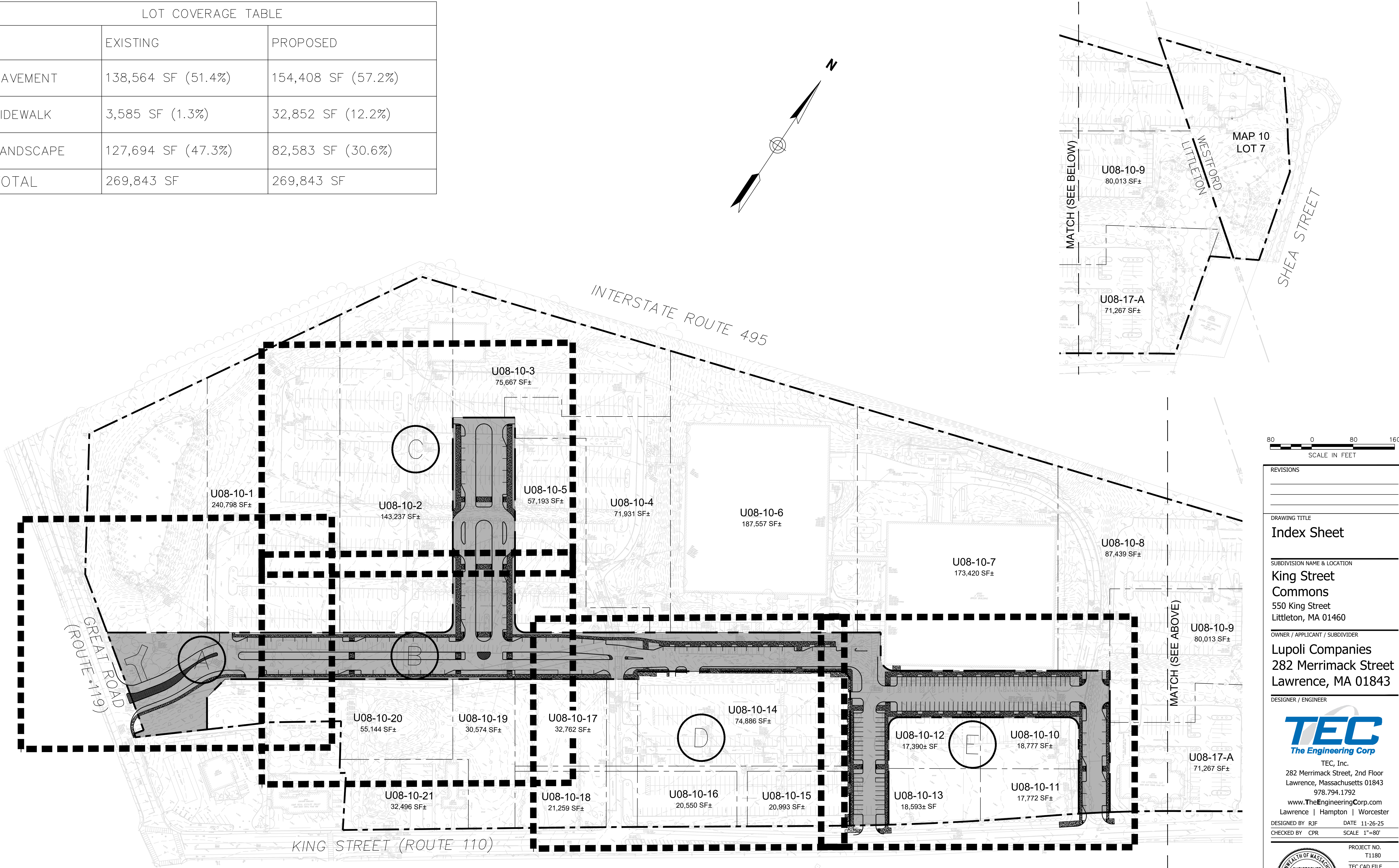
DRAWING NO.

C-2

11/26/2025

SHEET 2 OF 63

LOT COVERAGE TABLE		
	EXISTING	PROPOSED
PAVEMENT	138,564 SF (51.4%)	154,408 SF (57.2%)
SIDEWALK	3,585 SF (1.3%)	32,852 SF (12.2%)
LANDSCAPE	127,694 SF (47.3%)	82,583 SF (30.6%)
TOTAL	269,843 SF	269,843 SF



REVISIONS

DRAWING TITLE
Index Sheet
SUBDIVISION NAME & LOCATION
King Street Commons 550 King Street Littleton, MA 01460
OWNER / APPLICANT / SUBDIVIDER
Lupoli Companies 282 Merrimack Street Lawrence, MA 01843
DESIGNER / ENGINEER



TEC, Inc.
282 Merrimack Street, 2nd Floor
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978.794.1792

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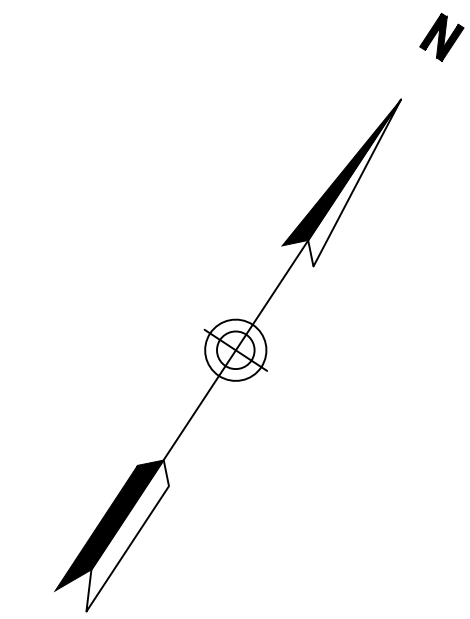
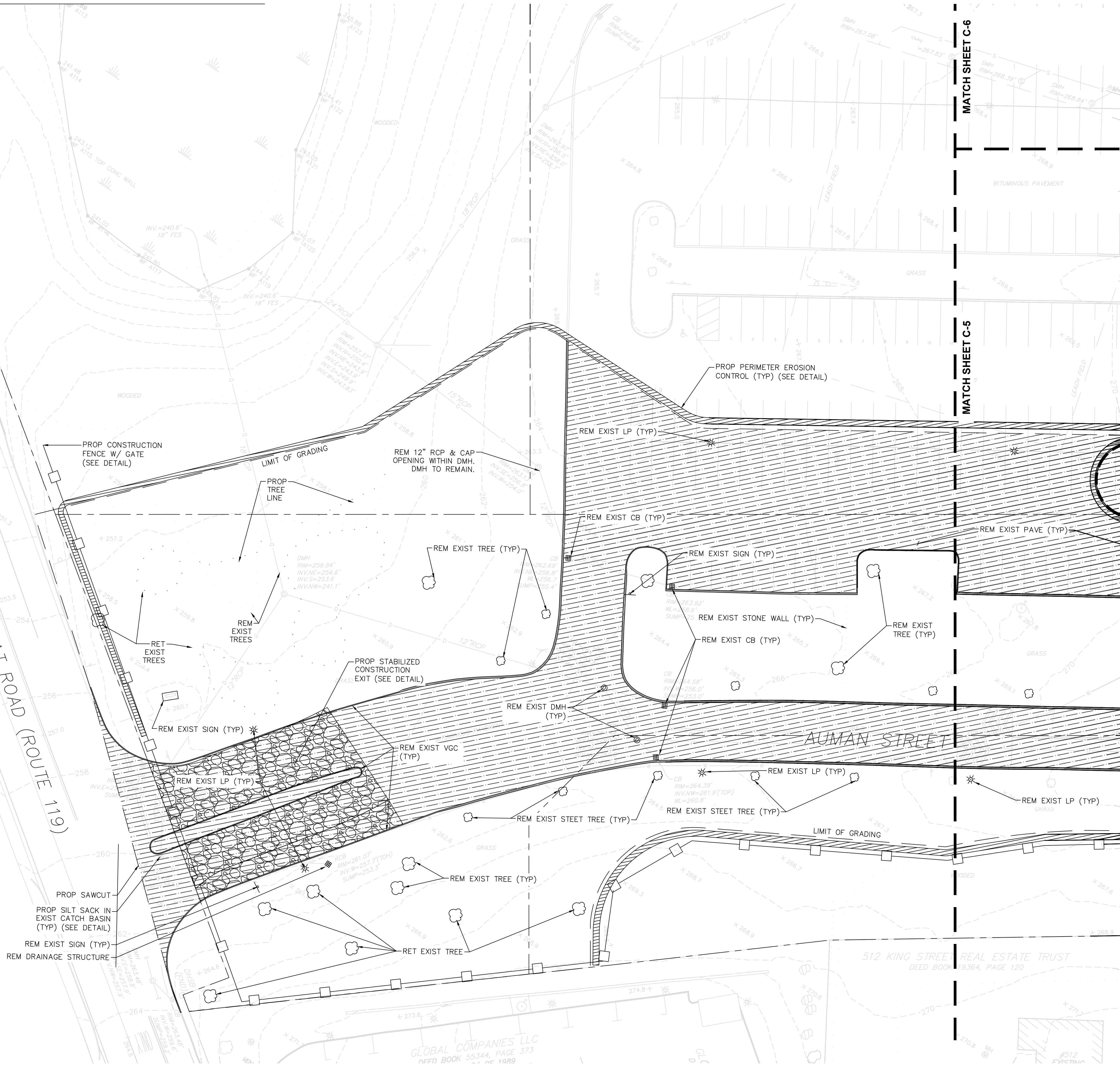
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CHECKED BY: CPR	SCALE: 1"=80'



PROJECT NO. T1180
TEC CAD FILE
T1180_INDEX
DRAWING NO. C-3
SHEET 3 OF 63

SITE DEMOLITION NOTES:

1. DELINEATED CONTAMINATED SOIL TO BE REMOVED AND DISPOSED OF BY QUALIFIED PERSONNEL IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL STANDARDS. CONFIRMATORY SOIL SAMPLING TO BE COMPLETED PRIOR TO INITIATING FURTHER DEMOLITION ACTIVITIES.
2. ALL UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND ELEVATIONS OF EACH UTILITY PRIOR TO REMOVING OR RELOCATING. CONTRACTOR SHALL NOTIFY DIG-SAFE (1-888-344-7233) AND THE LOCAL MUNICIPAL WATER & SEWER DEPT. AT LEAST 72 HOURS BEFORE EXCAVATING.
3. THE CONTRACTOR IS TO REMOVE AND TO DISPOSE OF EXISTING MANMADE SURFACE FEATURES AND SUBSURFACE UTILITIES WITHIN THE LIMITS OF WORK INCLUDING BUILDINGS, STRUCTURES, PAVEMENTS, SLABS, CURBING, FENCES, UTILITY POLES, SIGNS, ETC. UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
4. ALL UTILITIES AND STUBS WITHIN THE SITE SHALL BE MAINTAINED AND PROTECTED DURING CONSTRUCTION UNLESS OTHERWISE NOTED.
5. THE CONTRACTOR SHALL DISPOSE OF DEMOLITION DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES, AND STATUTES.
6. ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED AND APPROVED PRIOR TO DEMOLITION.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS. A 6-FOOT TEMPORARY CHAIN LINK FENCE SHALL BE PROVIDED AROUND ALL CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL LEAVE NO UNSECURED OPEN EXCAVATIONS.
8. ALL EXISTING DRAINAGE STRUCTURES SHALL REMAIN IN PLACE AND FUNCTIONAL UNTIL THE PROPOSED DRAINAGE SYSTEM IS OPERATIONAL, UNLESS OTHERWISE NOTED BY THE ENGINEER.
9. THE CONTRACTOR SHALL NOTIFY THE OWNER AT LEAST 72 HOURS PRIOR TO BEGINNING ANY DEMOLITION.
10. IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, GROUNDWATER, AND OTHER MEDIA ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY, OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECT MATERIAL TO AVOID FURTHER SPREADING OF THE MATERIAL, AND SHALL NOTIFY THE OWNER IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.
11. ALL LIGHTING AND TREES WITHIN LIMIT OF WORK SHALL BE REMOVED UNLESS OTHERWISE NOTED.
12. TOTAL DISTURBED AREA: 438,500 SF.



REVISIONS	

DRAWING TITLE

Demolition Plan A

SUBDIVISION NAME & LOCATION

King Street
Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

DESIGNER / ENGINEER



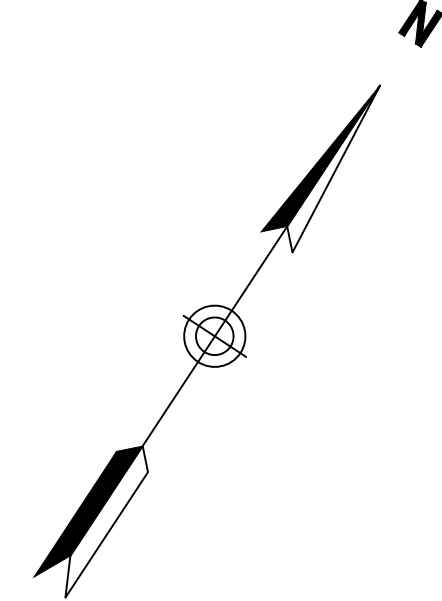
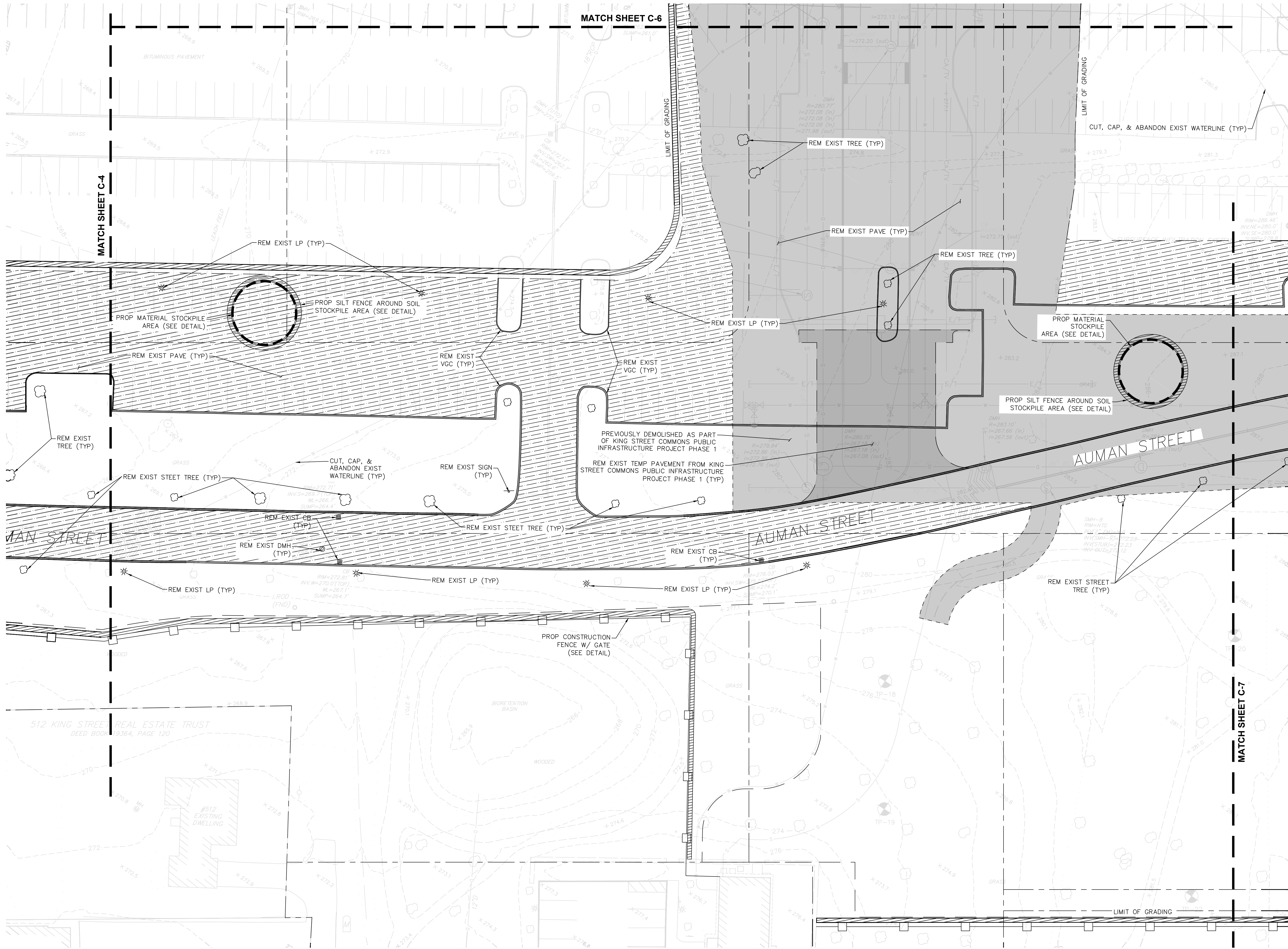
TEC, Inc.
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DESIGNED BY: RJF DATE: 11-26-25

CHECKED BY: CPR SCALE: 1"=20'

	PROJECT NO.	T1180
	TEC CAD FILE	T1180_DEMO
	DRAWING NO.	C-4
	SHEET	4 OF 63



REVISIONS

DRAWING TITLE
Demolition Plan B
SUBDIVISION NAME & LOCATION
King Street Commons 550 King Street Littleton, MA 01460
OWNER / APPLICANT / SUBDIVIDER
Lupoli Companies 282 Merrimack Street Lawrence, MA 01843
DESIGNER / ENGINEER

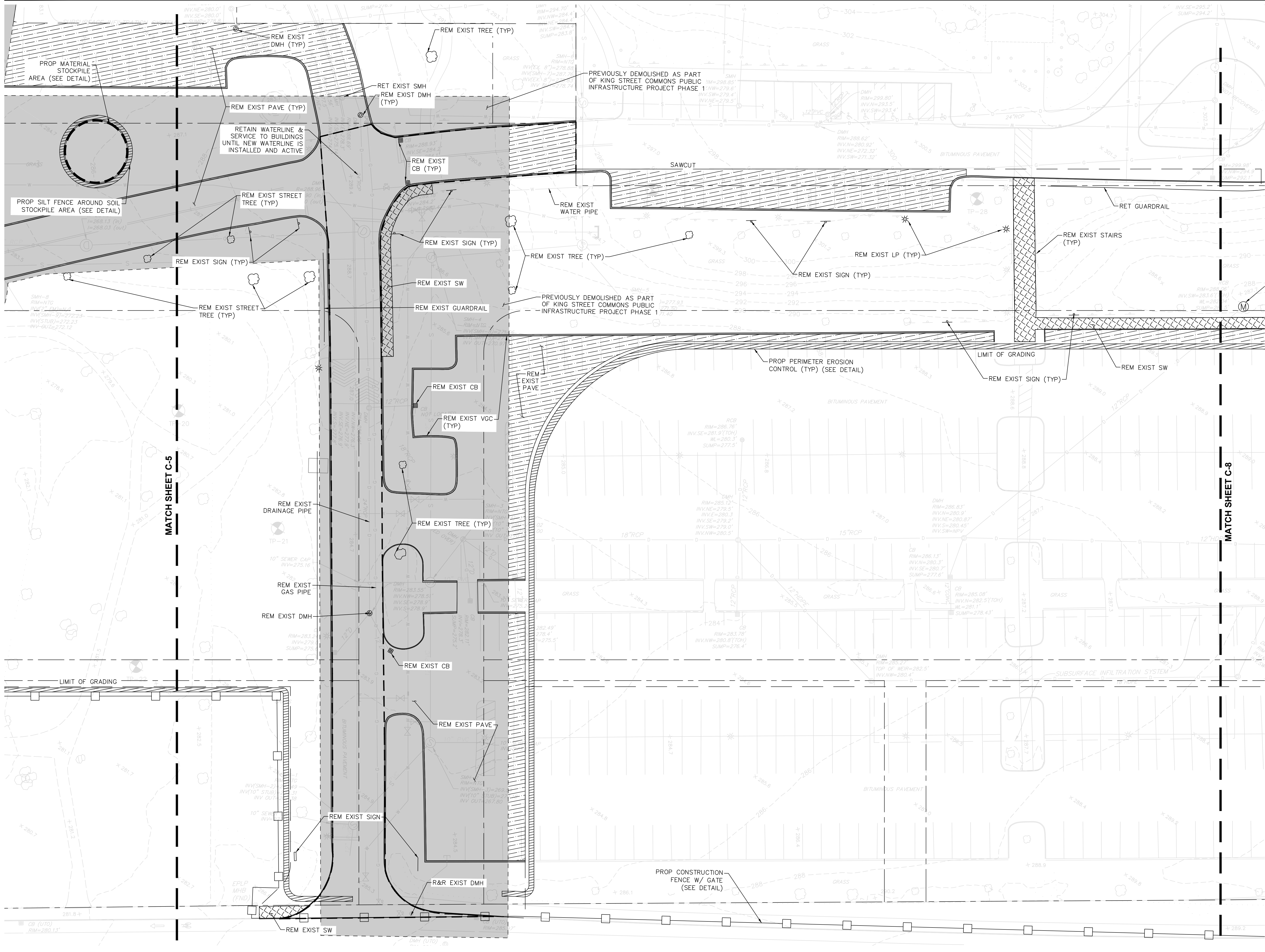
TEC
The Engineering Corp

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DESIGNED BY: RJF DATE: 11-26-25
CHECKED BY: CPR SCALE: 1"=20'

PROJECT NO. T1180
TEC CAD FILE T1180_DEMO
DRAWING NO. **C-5**
SHEET 5 OF 63

11/26/2025



REVISIONS

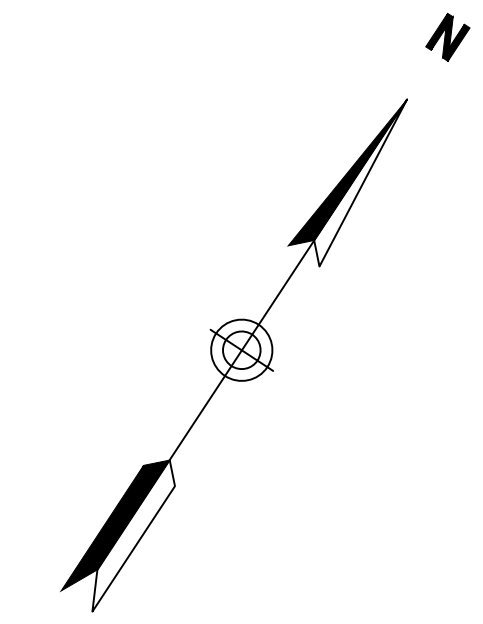
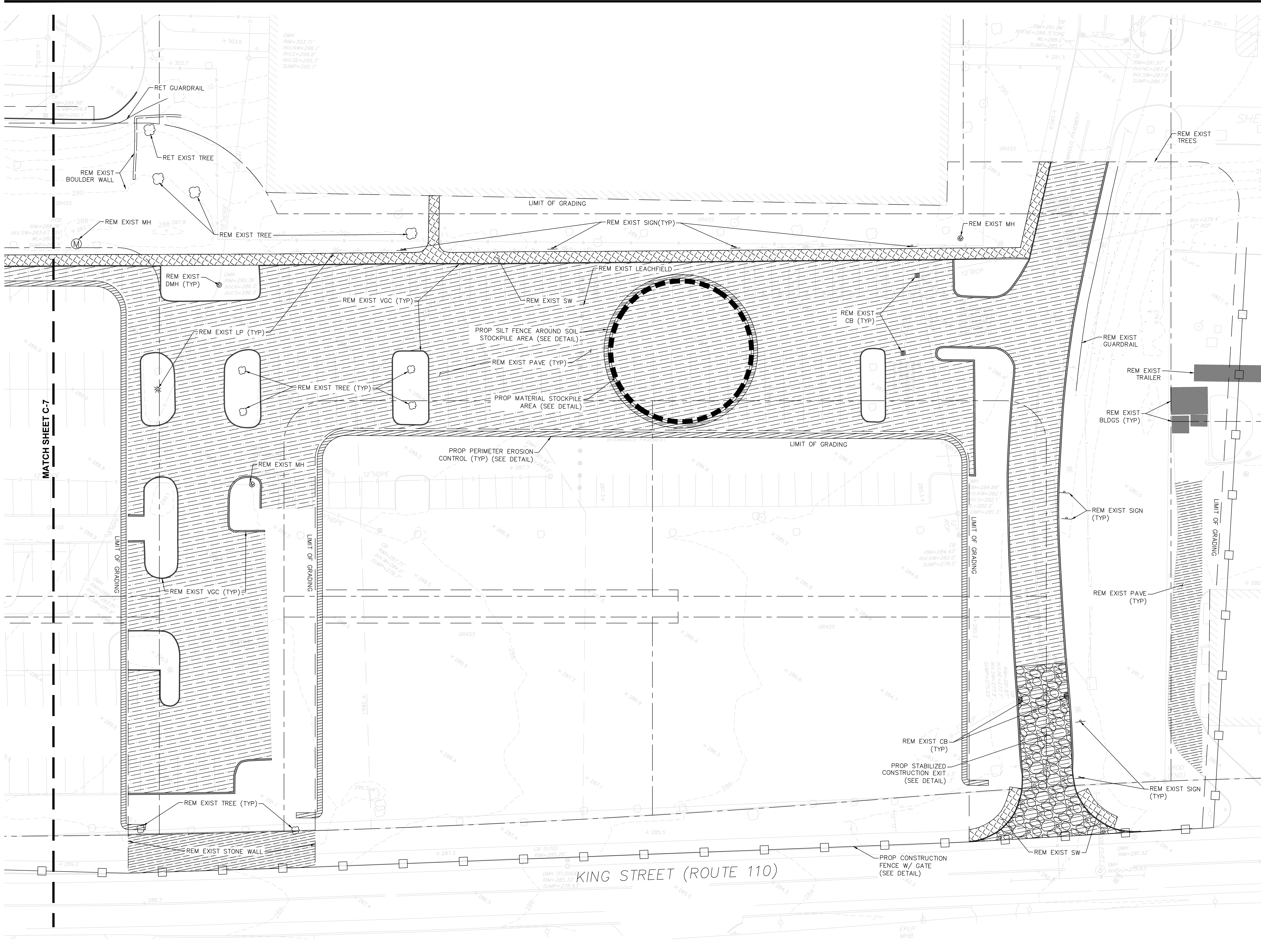
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Demolition Plan D
SUBDIVISION NAME & LOCATION
King Street Commons 550 King Street Littleton, MA 01460
OWNER / APPLICANT / SUBDIVIDER
Lupoli Companies 282 Merrimack Street Lawrence, MA 01843
DESIGNER / ENGINEER

TEC, Inc.
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DESIGNED BY: RJF DATE: 11-26-25
CHECKED BY: CPR SCALE: 1"=20'

PROJECT NO. T1180
TEC CAD FILE
T1180_DEMO
DRAWING NO. C-7
SHEET 7 OF 63

11/26/2025



REVISIONS

DRAWING TITLE
Demolition Plan E

SUBDIVISION NAME & LOCATION
King Street Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER
Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

DESIGNER / ENGINEER

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DESIGNED BY: RJF DATE: 11-26-25
CHECKED BY: CPR SCALE: 1"=20'

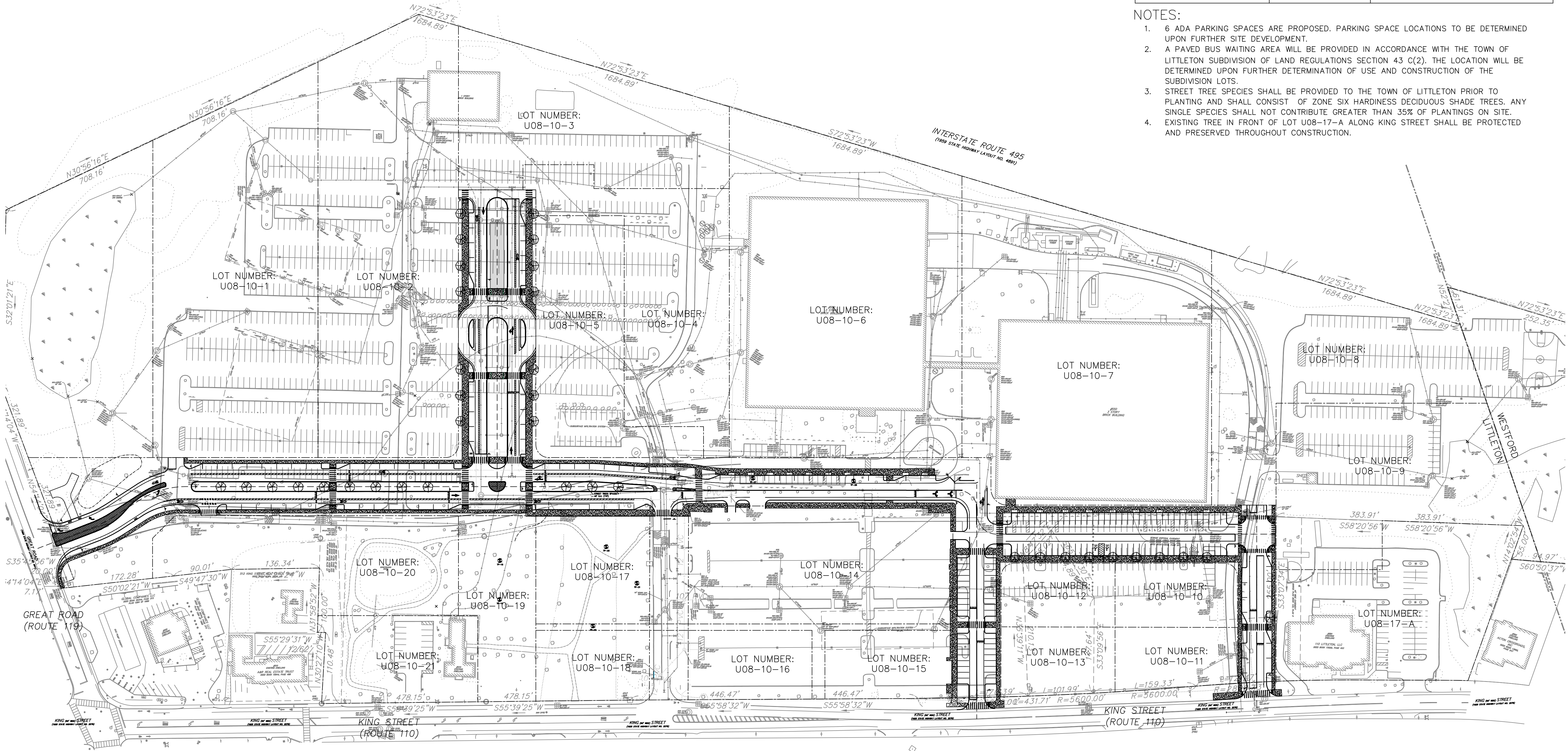
PROJECT NO.: T1180
TEC CAD FILE: T1180_DEMO
DRAWING NO.: **C-8**
SHEET 8 OF 63

ZONING TABLE		
ZONING DISTRICT	KING STREET COMMON	
PROPOSED USE	MIXED-USE	
PROPOSED USE ALLOWABLE BY	BY RIGHT/SPECIAL PERMIT*	
DIMENSIONAL REQUIREMENTS	REQUIRED	PROVIDED
PRIMARY FRONT SETBACK	10 FT (MIN), 20 FT (MAX)	10 FT (MIN), 20 FT (MAX)
SECONDARY FRONT SETBACK	10 FT (MIN), 20 FT (MAX)	10 FT (MIN), 20 FT (MAX)
SIDE SETBACK	15 FT (MIN)	49 FT
REAR SETBACK	15 FT (MIN)	15 FT
PRIMARY PARKING SETBACK	20 FT	20 FT
SECONDARY PARKING SETBACK	20 FT	36 FT
LOT COVERAGE	80% (MAX)	65%
BUILDING COVERAGE	50% (MAX)	33%
FACADE BUILD OUT	60% (MIN)	54%**
BUILDING HEIGHT	6 STORIES/75 FT (MAX)	6 STORIES/75 FT

* WAIVER FROM 173-221.J.A., AS SPECIFICALLY ALLOWED BY SECTION 173-233.H.
** WAIVER FROM FORM BASED CODE, AS SPECIFICALLY ALLOWED BY SECTION 173-233.H.

PARKING TABLE		
REQUIRED PARKING	RETAIL/COMMERCIAL: 112,879 SF X 3 SP/1,000 SF =339 SPACES	
	OFFICE: 564,270 SF X 3 SP/1,000 SF = 775 SPACES	
PROPOSED PARKING	RESIDENTIAL: 865 UNITS X 1.25 SP/UNIT =1,081 SPACES	
	HOTEL: 67 UNITS X 1.25 SP/UNIT =84 SPACES	
ON STREET PARKING	TOTAL REQUIRED PARKING = 2,279 SPACES	
	STREET PARKING: 180 SPACES	
PARKING REQUIREMENTS	PROPOSED OFF SITE PARKING:	
	ON-GRADE PARKING: 235 SPACES	
HANDICAP ACCESSIBLE SPACES (ON SITE)	PODIUM PARKING: 798 SPACES	
	STRUCTURED PARKING:	
HANDICAP ACCESSIBLE SPACES (OFF SITE)	U08-10-4 = 827 SPACES	
	U08-10-8&9 = 548 SPACES	
AISLE WIDTH	TOTAL = 1,375 SPACES	
	TOTAL PROPOSED PARKING = 2,588 SPACES	
STALL WIDTH	PARALLEL	HEAD-IN
	61	119
STALL LENGTH	REQUIRED	PROVIDED
	6	6
STALL WIDTH	24 FT	24 FT
	8 FT (BIKE LANE)	9 FT
STALL LENGTH	9 FT (NO BIKE LANE)	18 FT
	23 FT	18 FT

- NOTES:
- 6 ADA PARKING SPACES ARE PROPOSED. PARKING SPACE LOCATIONS TO BE DETERMINED UPON FURTHER SITE DEVELOPMENT.
 - A PAVED BUS WAITING AREA WILL BE PROVIDED IN ACCORDANCE WITH THE TOWN OF LITTLETON SUBDIVISION OF LAND REGULATIONS SECTION 43 C(2). THE LOCATION WILL BE DETERMINED UPON FURTHER DETERMINATION OF USE AND CONSTRUCTION OF THE SUBDIVISION LOTS.
 - STREET TREE SPECIES SHALL BE PROVIDED TO THE TOWN OF LITTLETON PRIOR TO PLANTING AND SHALL CONSIST OF ZONE SIX HARDINESS DECIDUOUS SHADE TREES. ANY SINGLE SPECIES SHALL NOT CONTRIBUTE GREATER THAN 35% OF PLANTINGS ON SITE.
 - EXISTING TREE IN FRONT OF LOT U08-17-A ALONG KING STREET SHALL BE PROTECTED AND PRESERVED THROUGHOUT CONSTRUCTION.



REVISIONS

DRAWING TITLE

Layout Plan

SUBDIVISION NAME & LOCATION
King Street Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER
Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

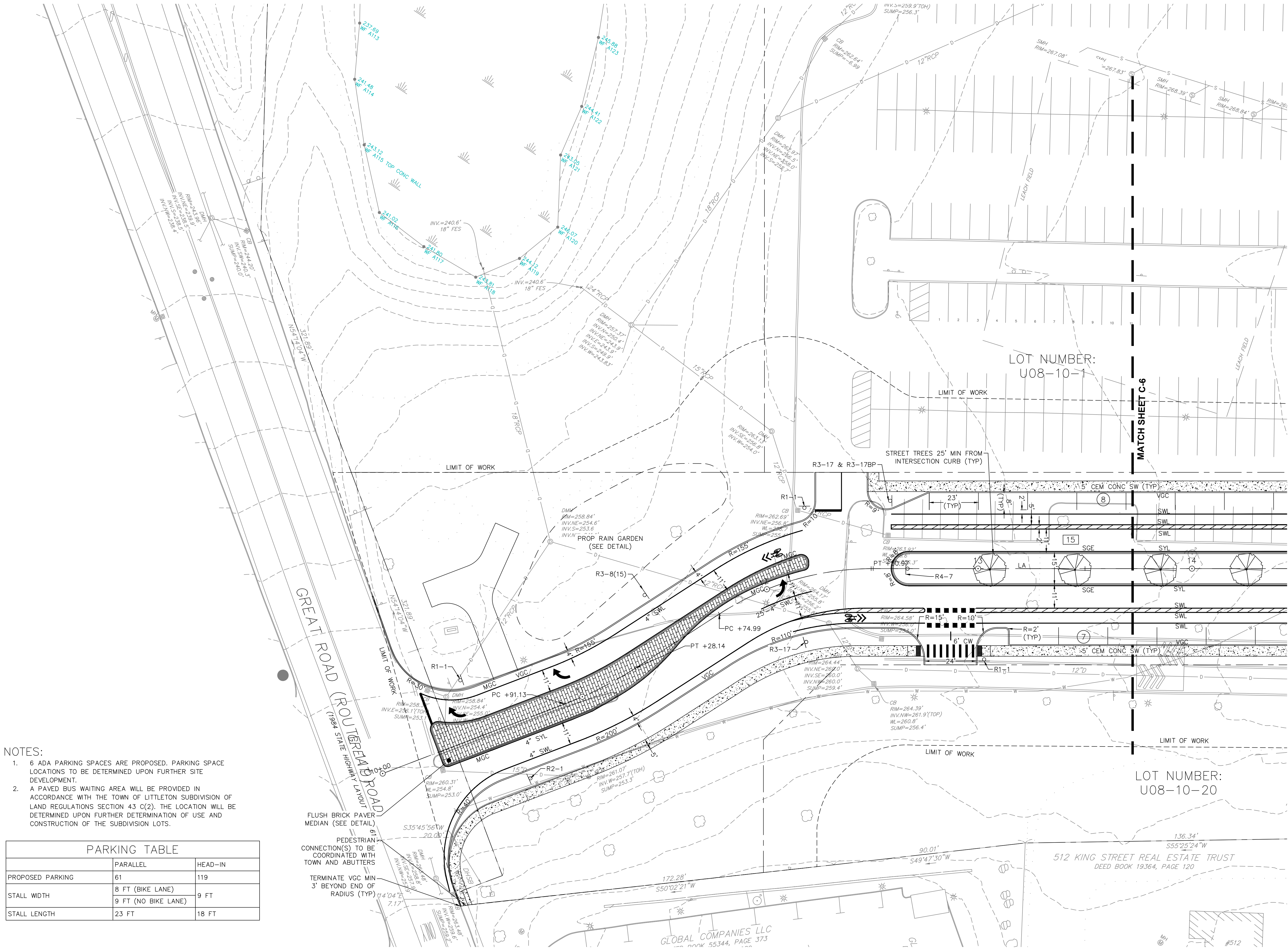
DESIGNER / ENGINEER

TEC, Inc.
282 Merrimack Street, 2nd Floor
Lawrence, Massachusetts 01843
978.794.1792
www.TheEngineeringCorp.com
Lawrence | Hampton | Worcester

DESIGNED BY RJF DATE 11-26-25
CHECKED BY CPR SCALE 1"=80'

PROJECT NO. T1180
TEC CAD FILE
T1180_SITE
DRAWING NO. C-9
SHEET 9 OF 63

11/26/2025



- NOTES:
- 6 ADA PARKING SPACES ARE PROPOSED. PARKING SPACE LOCATIONS TO BE DETERMINED UPON FURTHER SITE DEVELOPMENT.
 - A PAVED BUS WAITING AREA WILL BE PROVIDED IN ACCORDANCE WITH THE TOWN OF LITTLETON SUBDIVISION OF LAND REGULATIONS SECTION 43 C(2). THE LOCATION WILL BE DETERMINED UPON FURTHER DETERMINATION OF USE AND CONSTRUCTION OF THE SUBDIVISION LOTS.

PARKING TABLE		
	PARALLEL	HEAD-IN
PROPOSED PARKING	61	119
STALL WIDTH	8 FT (BIKE LANE)	9 FT
STALL LENGTH	9 FT (NO BIKE LANE)	18 FT

REVISIONS

DRAWING TITLE

Layout Plan A

SUBDIVISION NAME & LOCATION

King Street Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

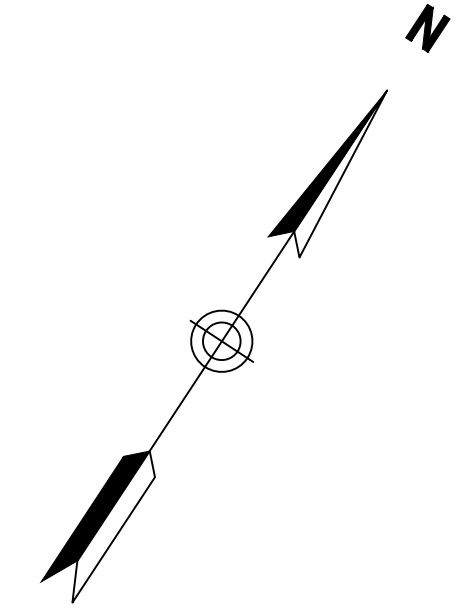
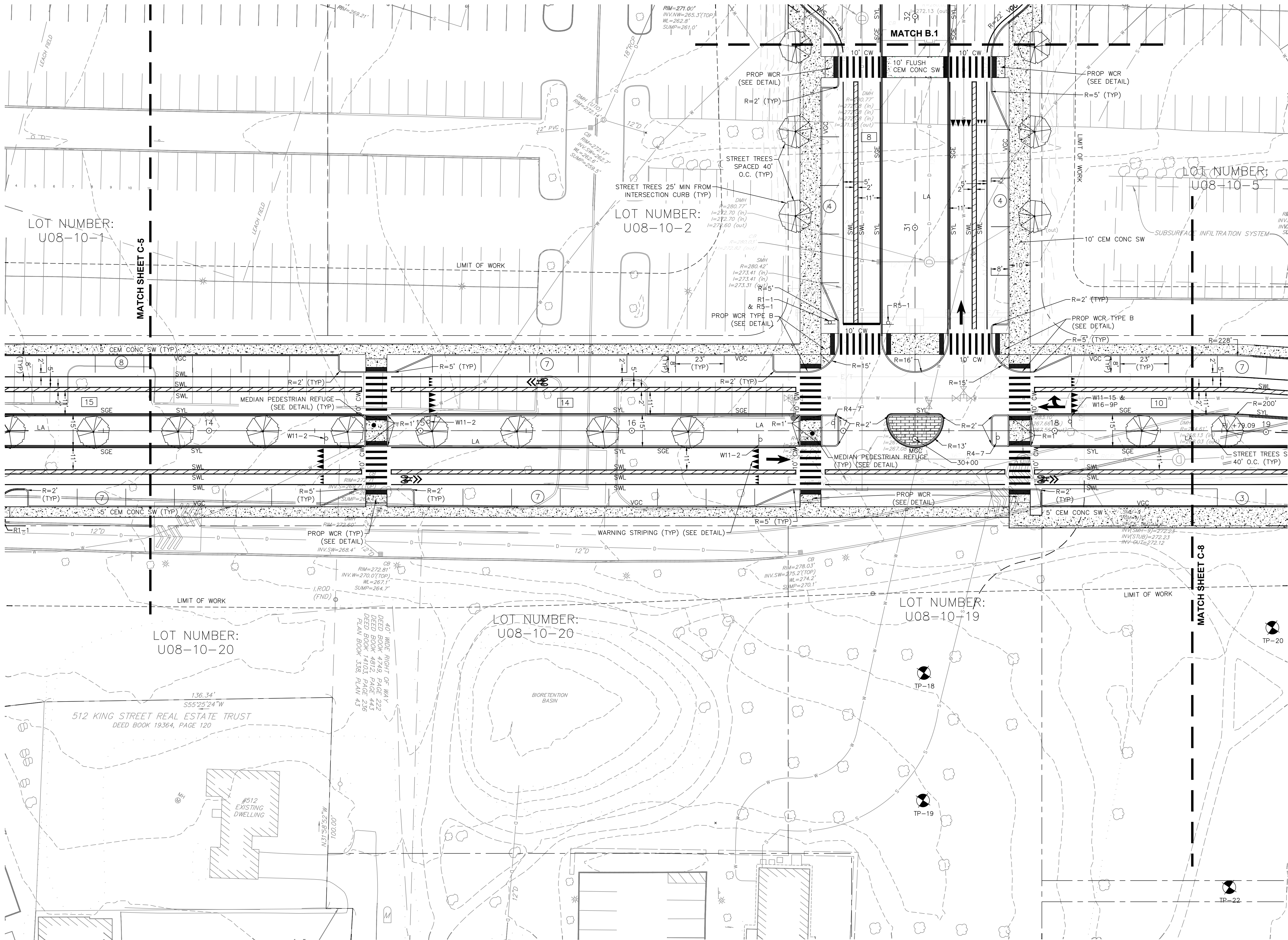
DESIGNER / ENGINEER

TEC, Inc.
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Lawrence, Massachusetts 01843
978.794.1792
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DESIGNED BY RJF DATE 11-26-25
CHECKED BY CPR SCALE 1"=20'

PROJECT NO. T1180
TEC CAD FILE
T1180_SITE
DRAWING NO. C-10
SHEET 10 OF 63

11/26/2025



REVISIONS	

DRAWING TITLE
Layout Plan B

SUBDIVISION NAME & LOCATION
King Street Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER
Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

DESIGNER / ENGINEER

TEC, Inc.
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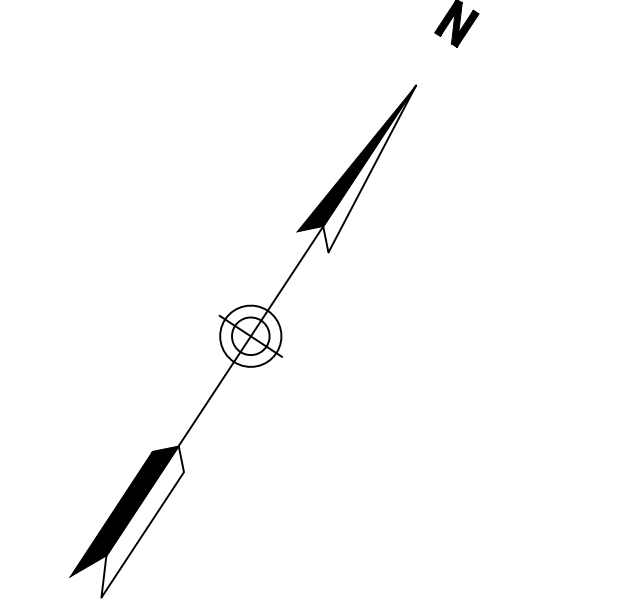
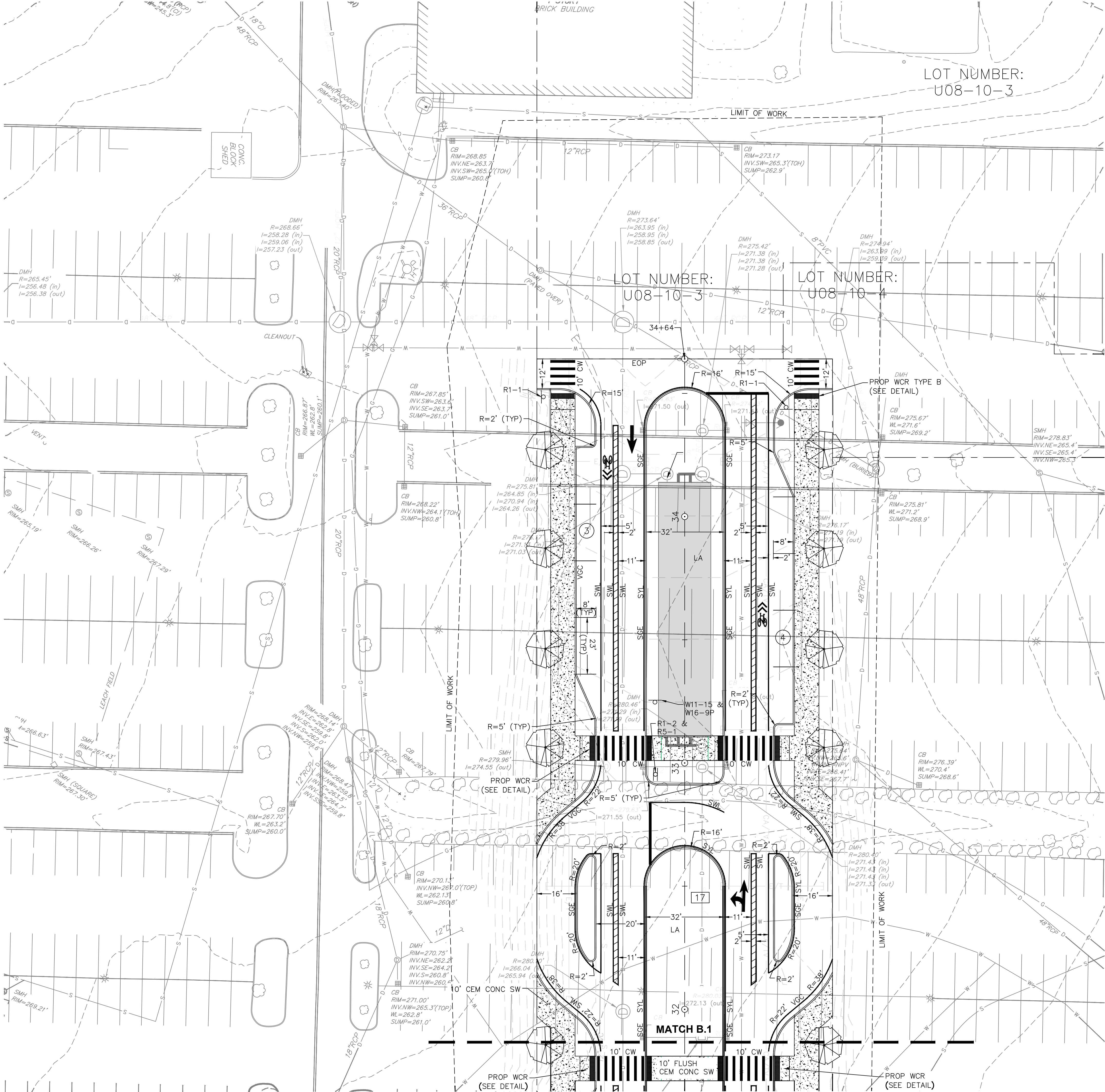
DESIGNED BY RJF DATE 11-26-25
CHECKED BY CPR SCALE 1"=20'

PROJECT NO. T1180
TEC CAD FILE
T1180_SITE
DRAWING NO. **C-11**
SHEET 11 OF 63

COMMONWEALTH OF MASSACHUSETTS
RAYMOND P. RAYMOND
No. 60365
PROFESSIONAL ENGINEER
11/26/2025

TRAFFIC SIGN SUMMARY							
ID NUMBER	SIZE OF SIGN (in)		LEGEND	TEXT DIMENSIONS (in)			NUMBER OF POSTS REQUIRED
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ROUTE MARKER	
R1-1	30	30		SEE MUTCD SIGN STANDARDS			13
R1-2	36 X 36 X 36						7
R1-3P	18	6					3
R2-1	24	30					4
R3-2	24	24					2
R3-4	24	24					2
R3-8(15)	30	30					1
R3-17	24	18					3
R3-17B P	24	8					1
R4-7	24	30					2
R5-1	30	30					4
R6-5P	30	30					2
R7-8	12	18					6
R7-8P	18	9					2
W11-1	30	30					2
W11-2	30	30					5
W11-15	30	30					4
W16-7P L	24	12					1
W16-9P	24	12					5

* HANDICAP PARKING SIGNS SHALL BE IN ACCORDANCE WITH TOWN OF LITTLETON STANDARDS, AND ADA REGULATIONS. VAN SIGNS SHALL BE LOCATED AT ALL ADA SPACES. PER ADA ACCESSIBILITY GUIDELINES (AMENDED 2010) ANY SPACE WITH A VAN SIGN IS NOT INTENDED TO BE RESTRICTED ONLY TO VANS



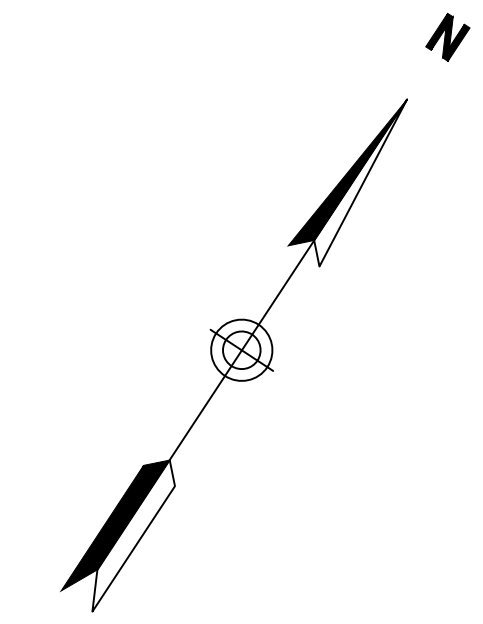
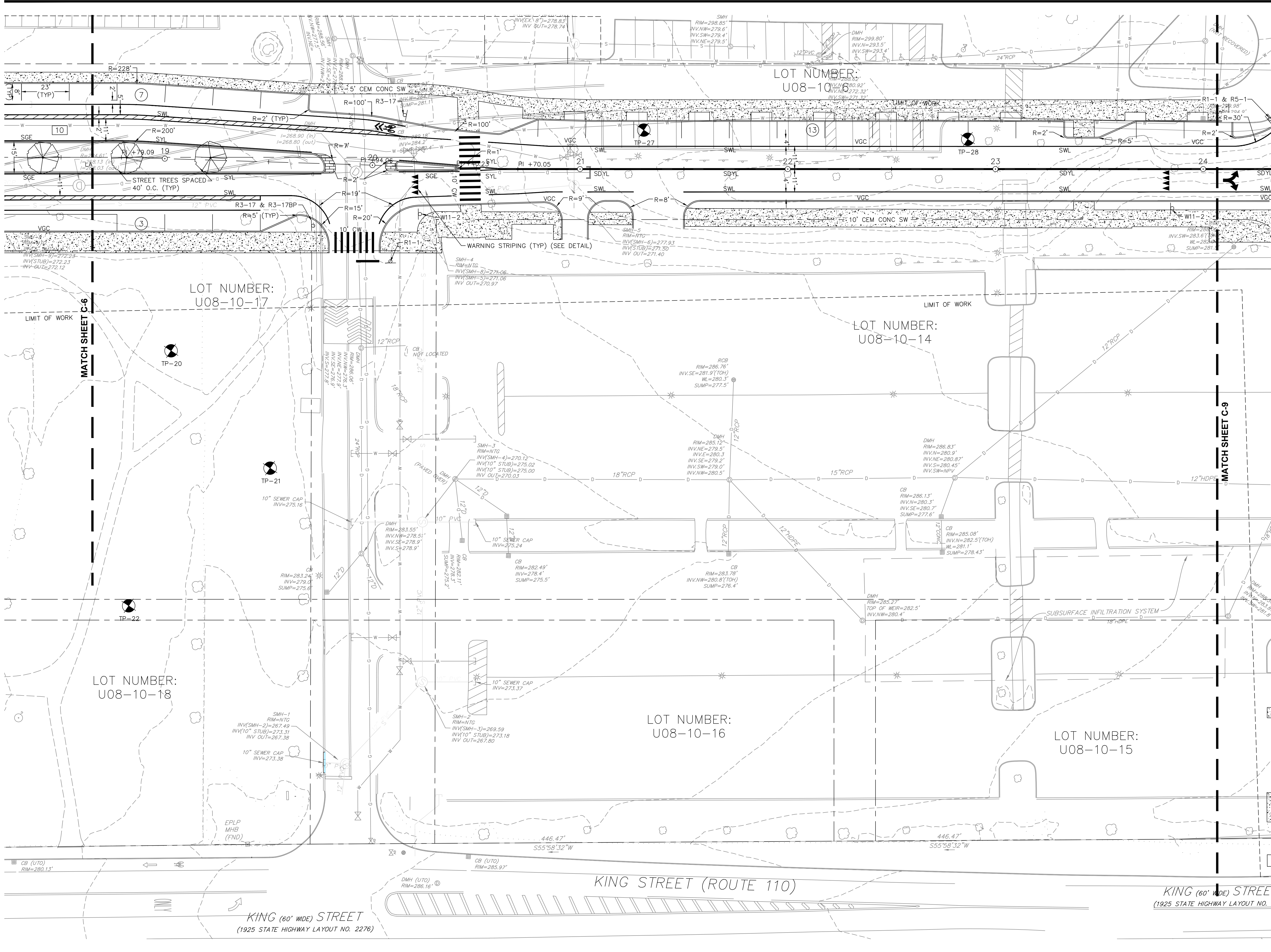
REVISIONS
DRAWING TITLE
Layout Plan B
SUBDIVISION NAME & LOCATION
King Street Commons 550 King Street Littleton, MA 01460
OWNER / APPLICANT / SUBDIVIDER
Lupoli Companies 282 Merrimack Street Lawrence, MA 01843
DESIGNER / ENGINEER

TEC, Inc.
282 Merrimack Street, 2nd Floor
Lawrence, Massachusetts 01843
978.794.1792
www.TheEngineeringCorp.com
Lawrence | Hampton | Worcester

DESIGNED BY RJF DATE 11-26-25
CHECKED BY CPR SCALE 1"=20'

PROJECT NO. T1180
TEC CAD FILE
T1180_SITE
DRAWING NO. C-12
SHEET 12 OF 63

11/26/2025



REVISIONS	

DRAWING TITLE
Layout Plan C

SUBDIVISION NAME & LOCATION
King Street Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER
Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

DESIGNER / ENGINEER

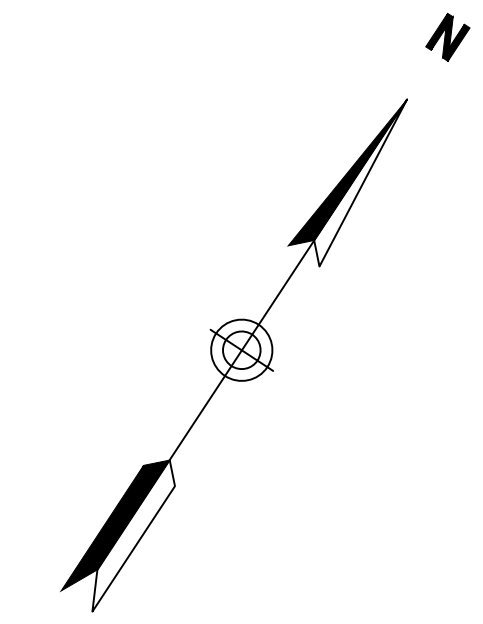
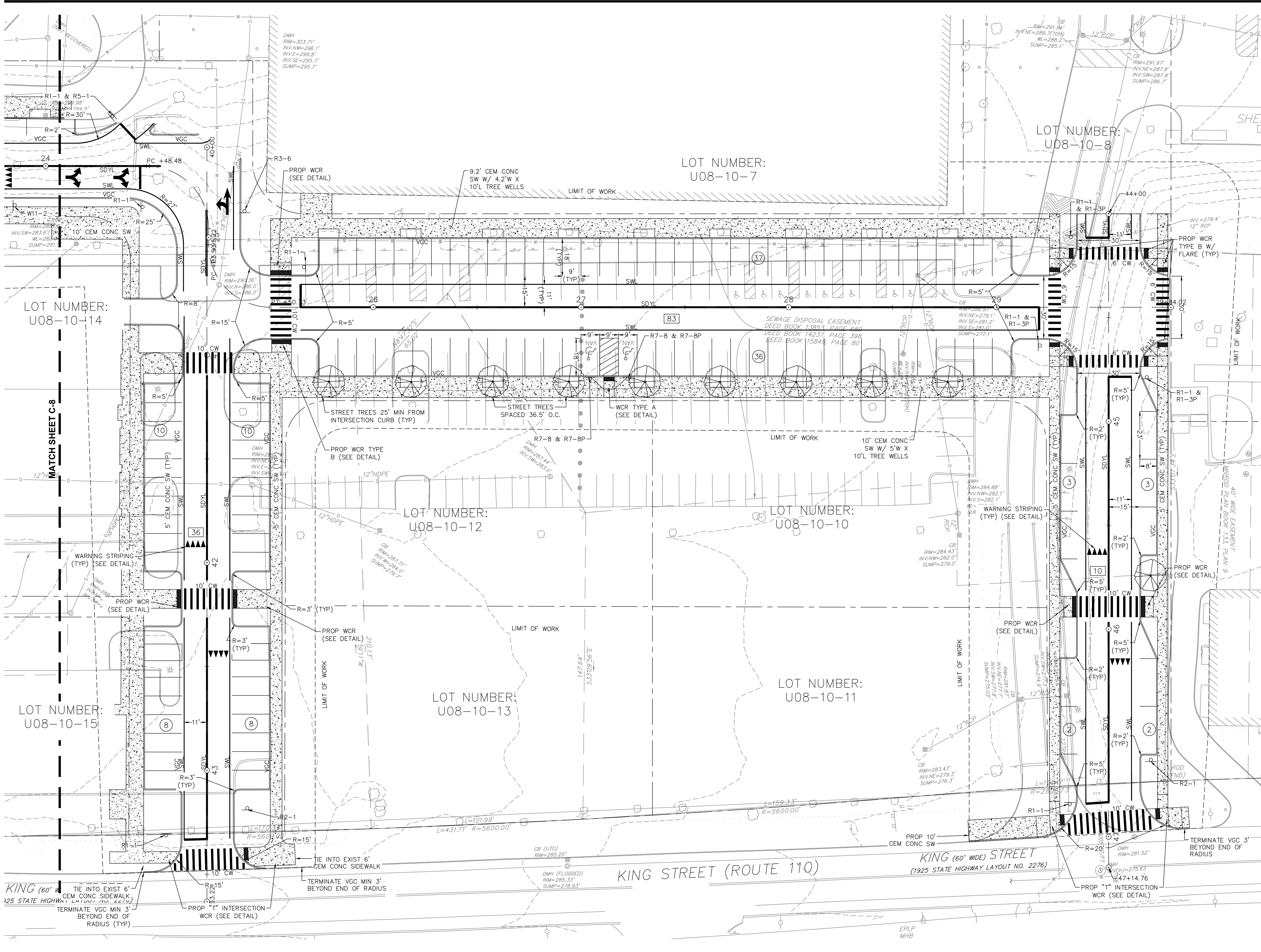
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Lawrence, Massachusetts 01843
978.794.1792
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DESIGNED BY RJF DATE 11-26-25
CHECKED BY CPR SCALE 1"=20'

PROJECT NO. T1180
TEC CAD FILE
T1180_SITE
DRAWING NO. **C-13**
SHEET 13 OF 63

KING STREET (ROUTE 110)

KING (60' WIDE) STREET
(1925 STATE HIGHWAY LAYOUT NO. 2276)



REVISIONS	

DRAWING TITLE
Layout Plan D

SUBDIVISION NAME & LOCATION
King Street Commons
550 King Street
Littleton, MA 01460

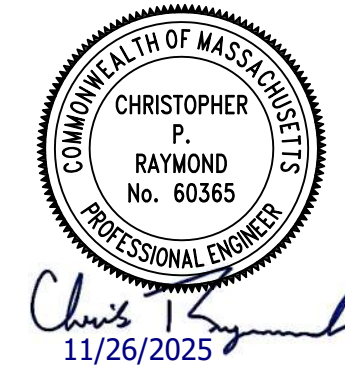
OWNER / APPLICANT / SUBDIVIDER
Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

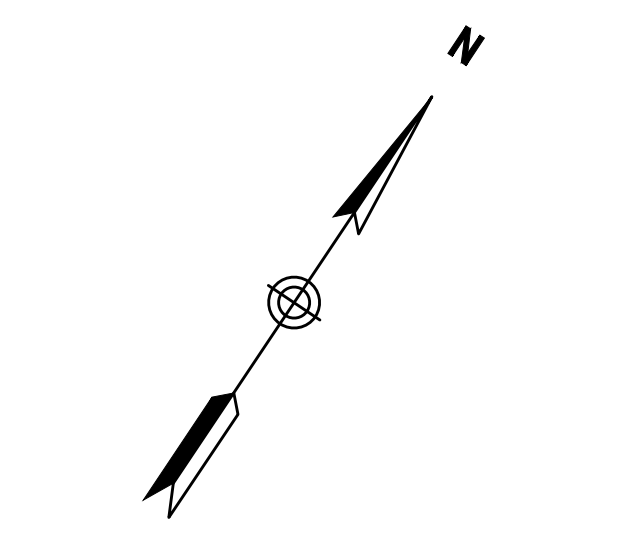
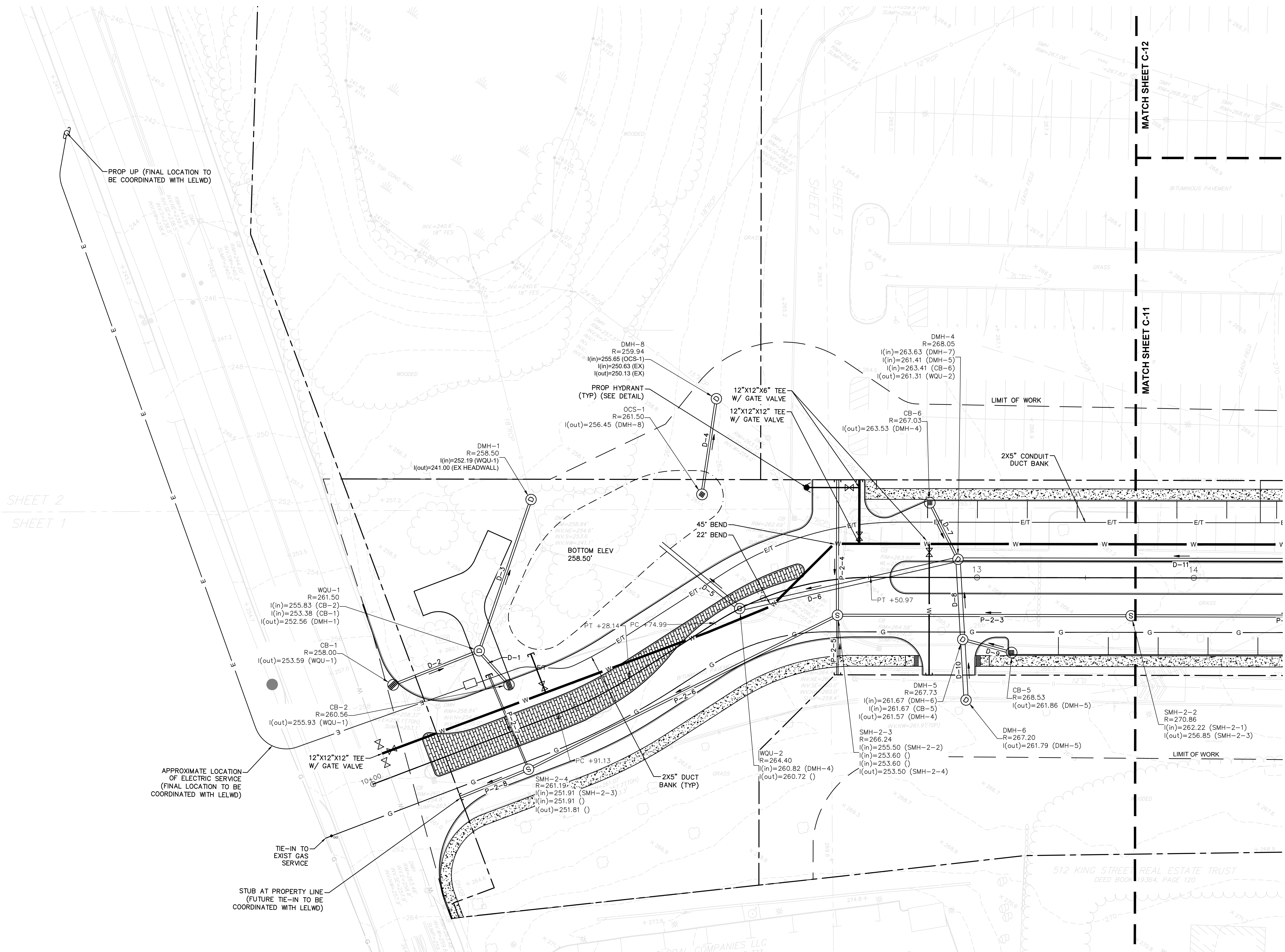
DESIGNER / ENGINEER

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Lawrence, Massachusetts 01843
978.794.1792
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DESIGNED BY	RJF	DATE	11-26-25
CHECKED BY	CPR	SCALE	1"=20'

PROJECT NO. T1180
TEC CAD FILE
T1180_SITE
DRAWING NO. **C-14**
SHEET 14 OF 63





20 0 20 40
SCALE IN FEET

REVISIONS

DRAWING TITLE

Drainage & Utility
Plan A

SUBDIVISION NAME & LOCATION

King Street
Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

DESIGNER / ENGINEER



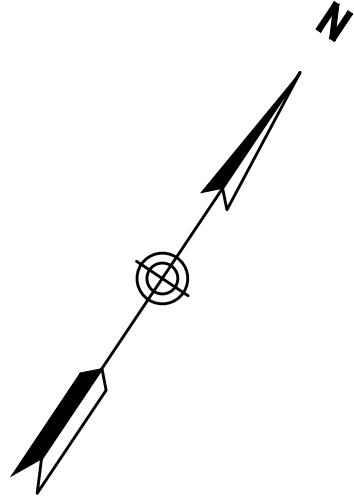
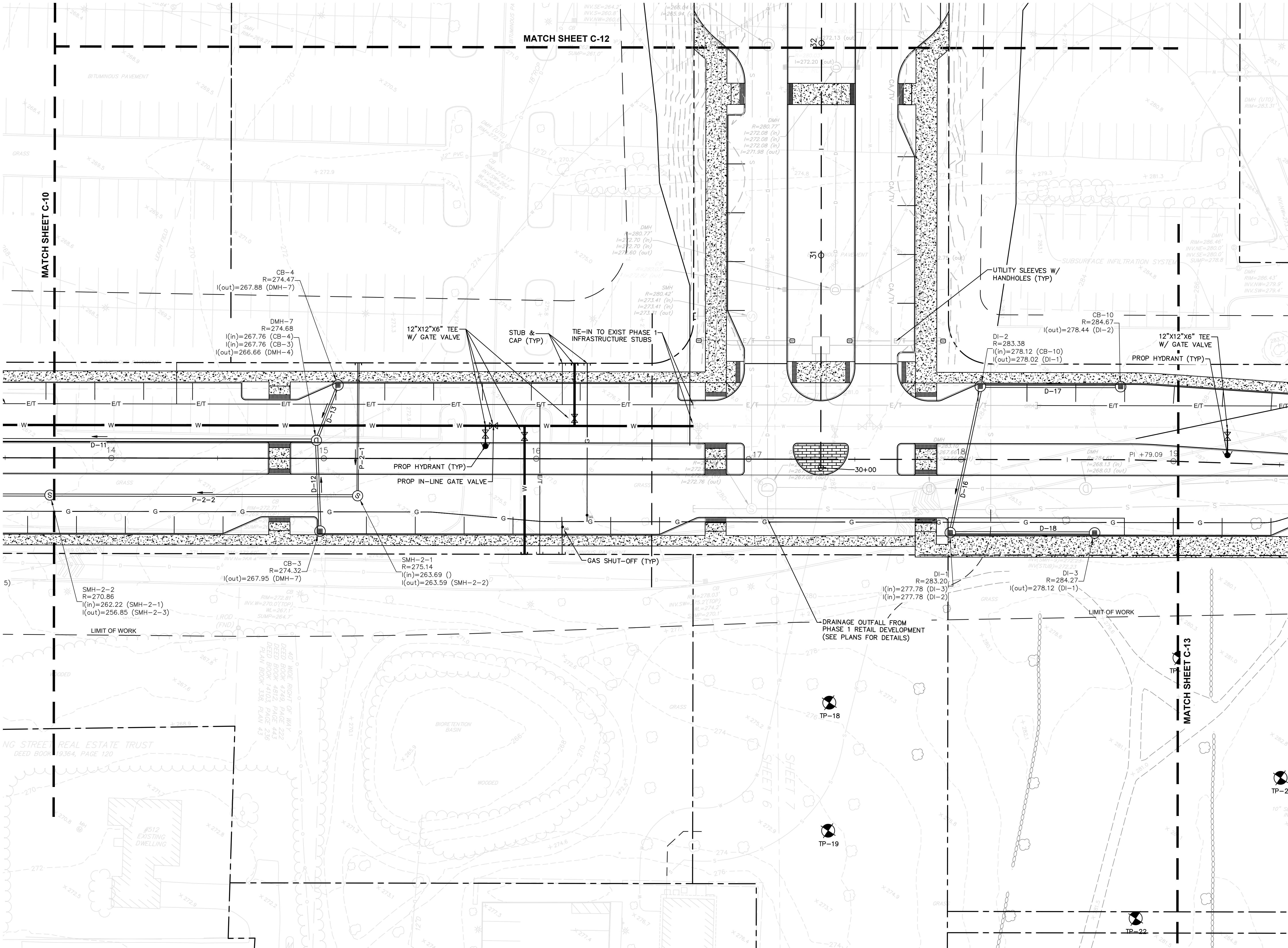
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Lawrence, Massachusetts 01843
978.794.1792

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DESIGNED BY: RJF, RMM DATE: 11-26-25
CHECKED BY: CPR SCALE: AS NOTED

PROJECT NO. T1180
TEC CAD FILE
T1180_GD&UT
DRAWING NO. C-15
SHEET 15 OF 63

11/26/2025



REVISIONS

DRAWING TITLE

**Drainage & Utility
Plan B**

SUBDIVISION NAME & LOCATION

**King Street
Commons**
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

DESIGNER / ENGINEER



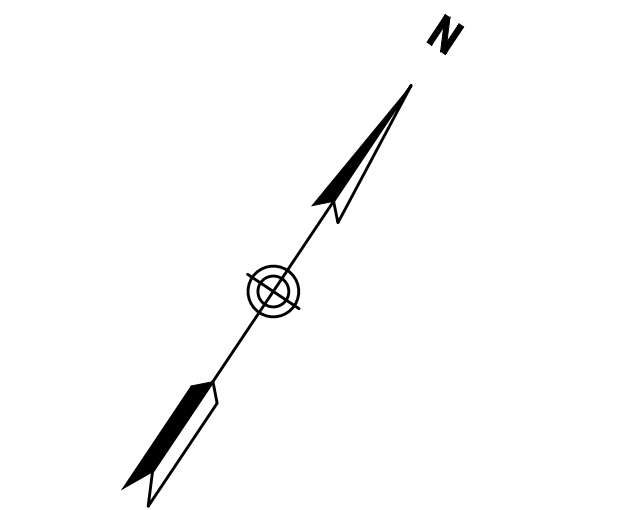
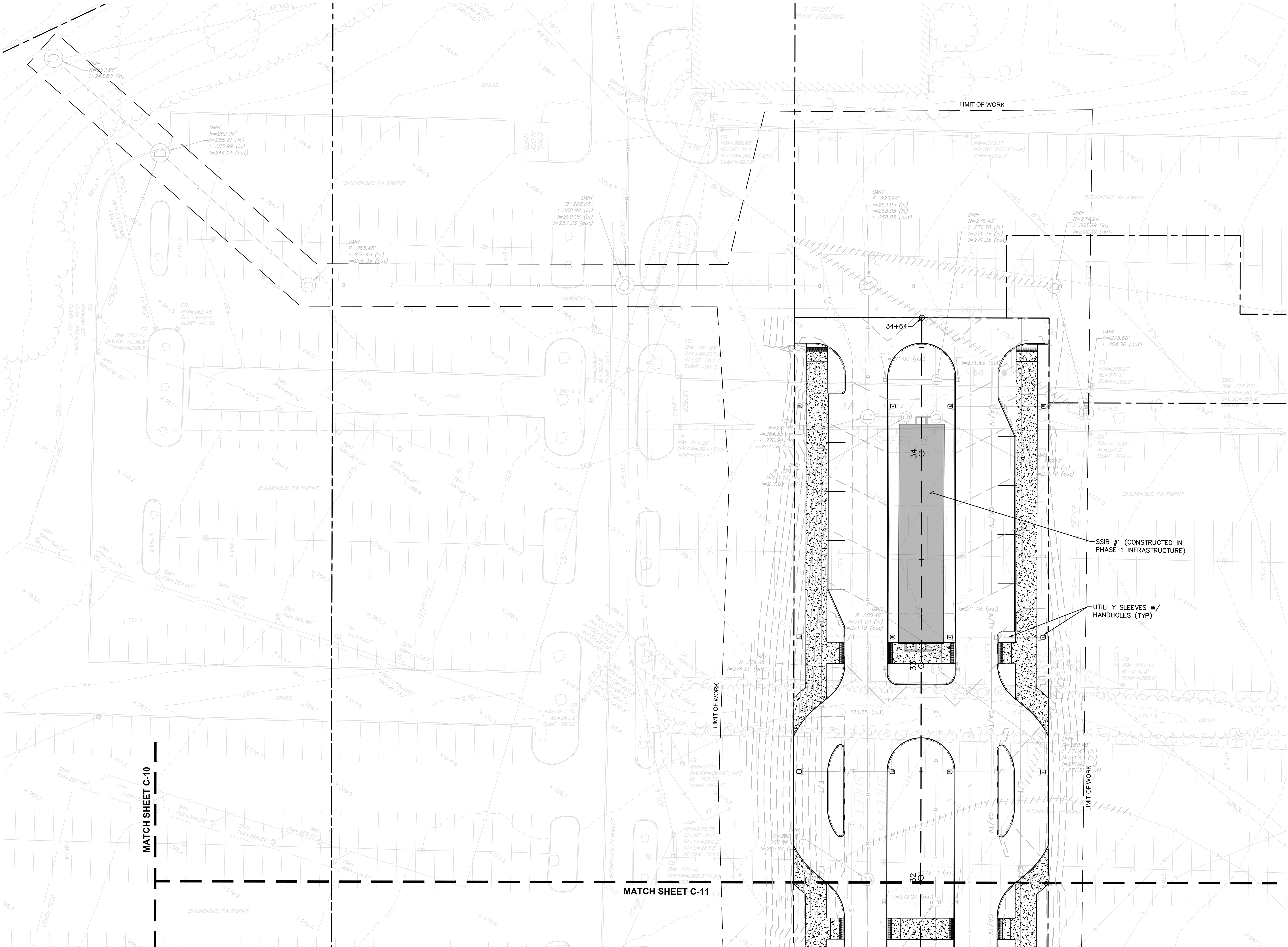
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978.794.1792

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DESIGNED BY: RJF, RMM DATE: 11-26-25
CHECKED BY: CPR SCALE: AS NOTED

PROJECT NO. T1180
TEC CAD FILE
T1180_GD&UT
DRAWING NO. **C-16**
SHEET 16 OF 63

11/26/2025



REVISIONS

DRAWING TITLE

Drainage & Utility Plan C

SUBDIVISION NAME & LOCATION

**King Street
Commons**
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

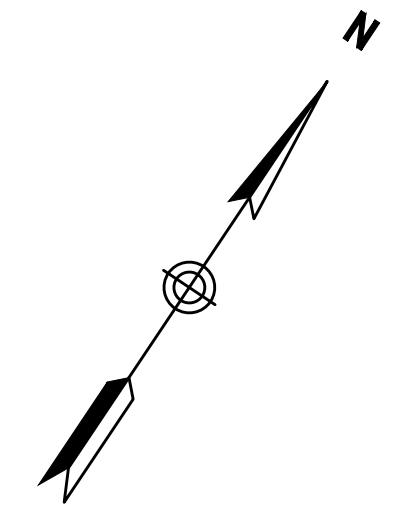
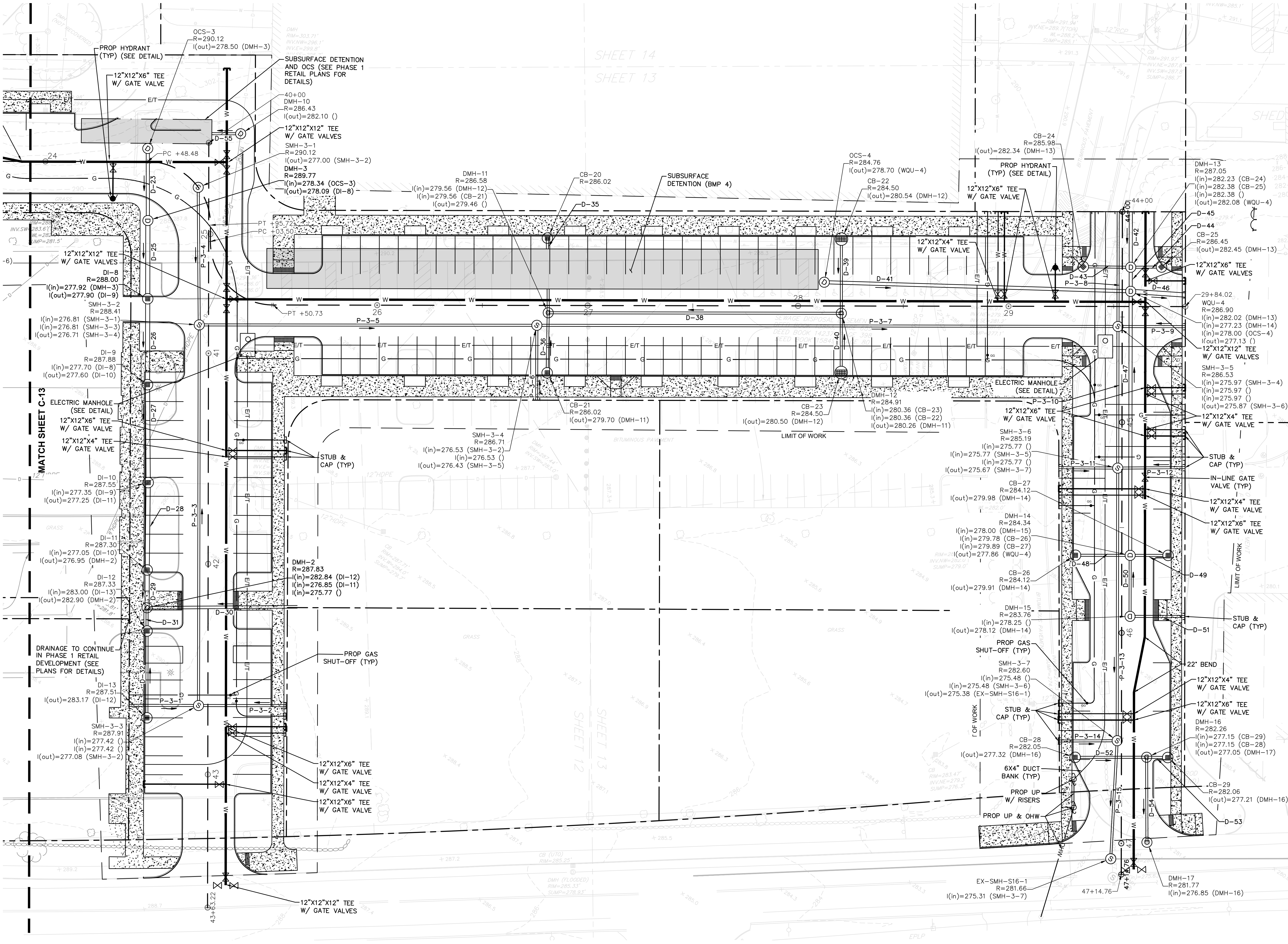
DESIGNER / ENGINEER

TEC, Inc.
282 Merrimack Street, 2nd Floor
Lawrence, Massachusetts 01843
978.794.1792
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DESIGNED BY: RJF, RMM DATE: 11-26-25
CHECKED BY: CPR SCALE: AS NOTED

PROJECT NO.: T1180
TEC CAD FILE: T1180_GD&UT
DRAWING NO.: C-17
SHEET 17 OF 63

11/26/2025



REVISIONS

DRAWING TITLE

Drainage & Utility Plan E

SUBDIVISION NAME & LOCATION
King Street Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER
Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

DESIGNER / ENGINEER



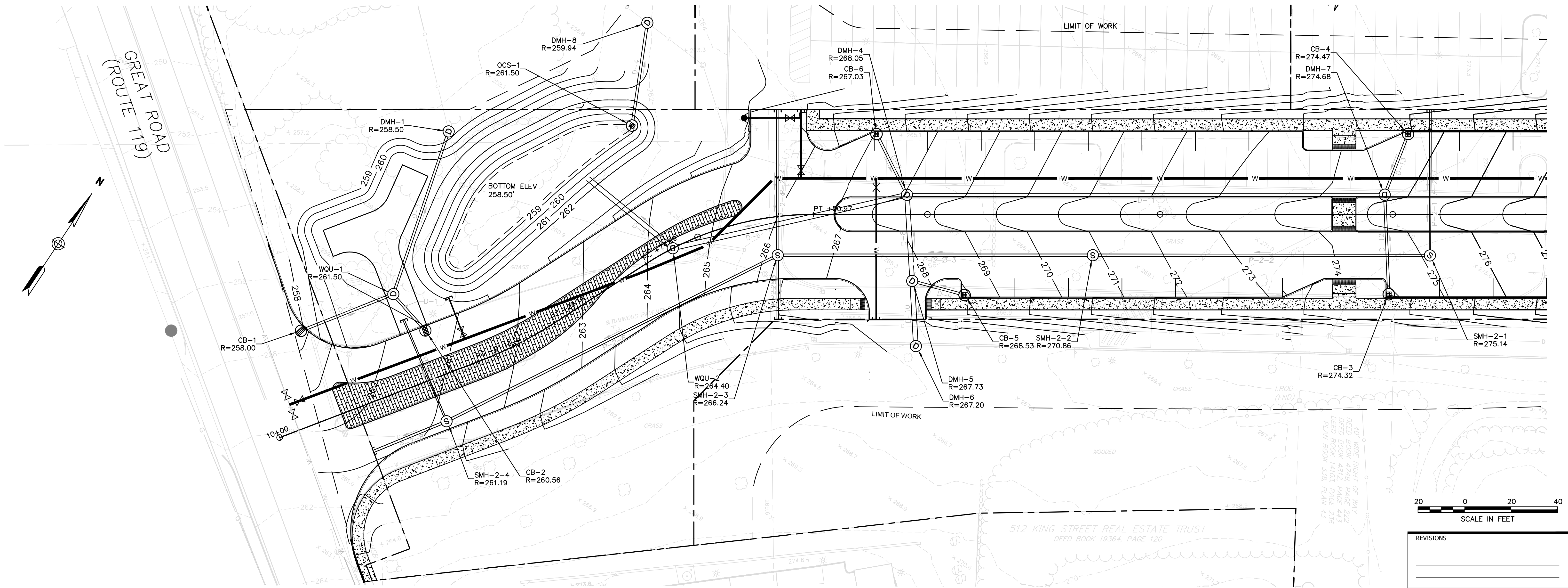
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Lawrence, Massachusetts 01843
978.794.1792

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DESIGNED BY RJF, RMM DATE 11-26-25
CHECKED BY CPR SCALE AS NOTED

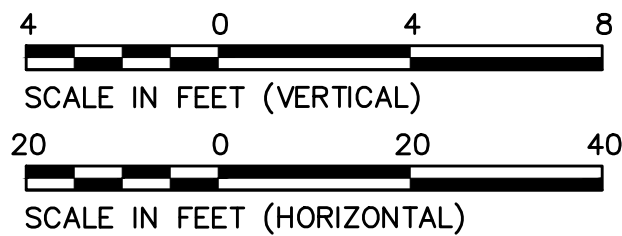
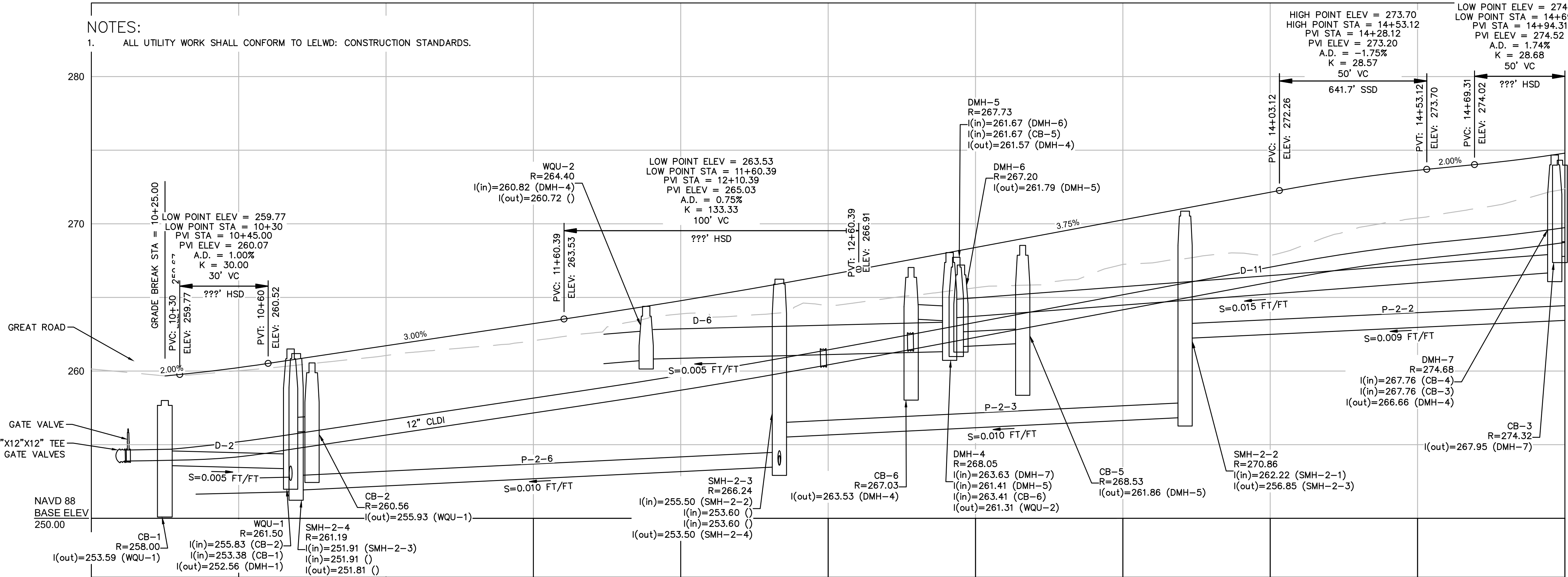
PROJECT NO.	T1180
TEC CAD FILE	T1180_GD&UT
DRAWING NO.	C-19

11/26/2025
SHEET 19 OF 63



NOTES:

1. ALL UTILITY WORK SHALL CONFORM TO LELWD: CONSTRUCTION STANDARDS.



REVISIONS	
DRAWING TITLE	
Roadway Plan & Profile #1	
Main Road	
SUBDIVISION NAME & LOCATION	
King Street Commons	
550 King Street	
Littleton, MA 01460	
OWNER / APPLICANT / SUBDIVIDER	
Lupoli Companies	
282 Merrimack Street	
Lawrence, MA 01843	
DESIGNER / ENGINEER	

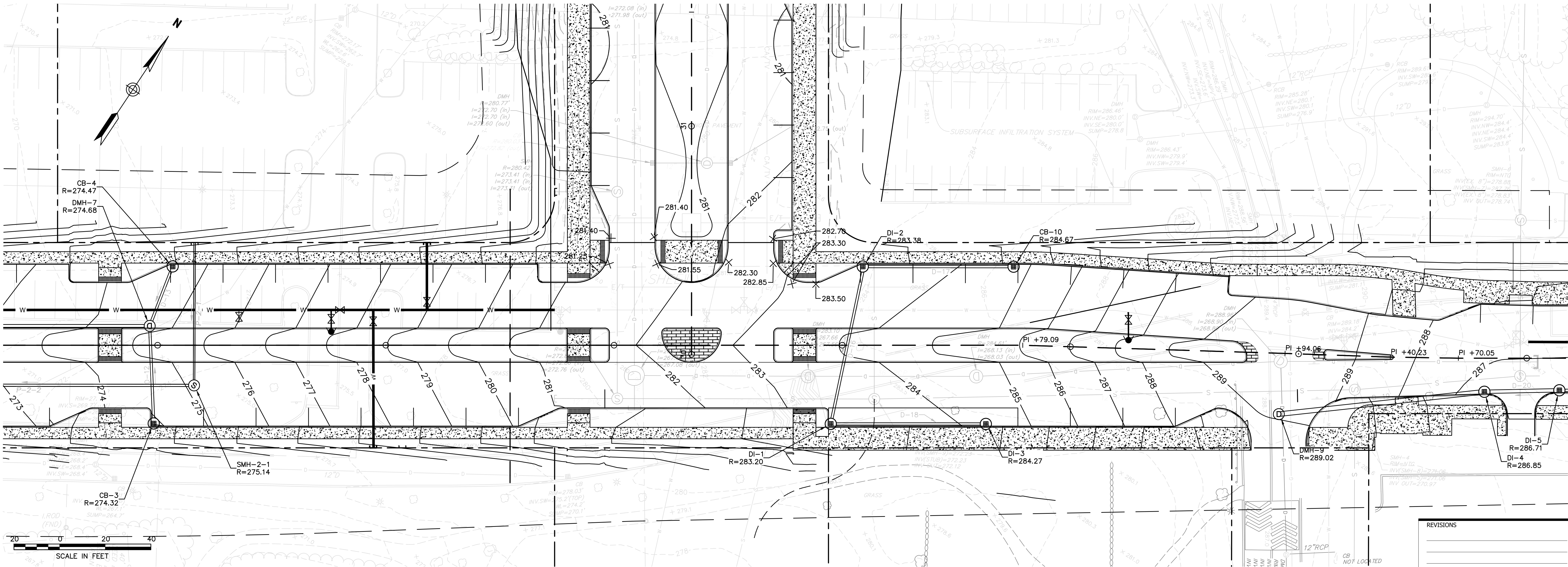
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Lawrence, Massachusetts 01843
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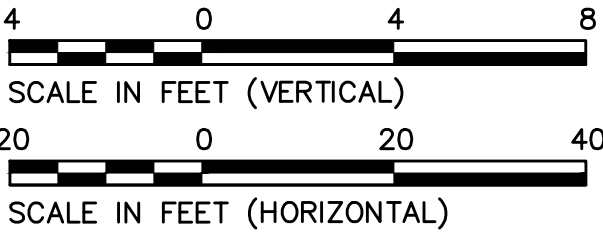
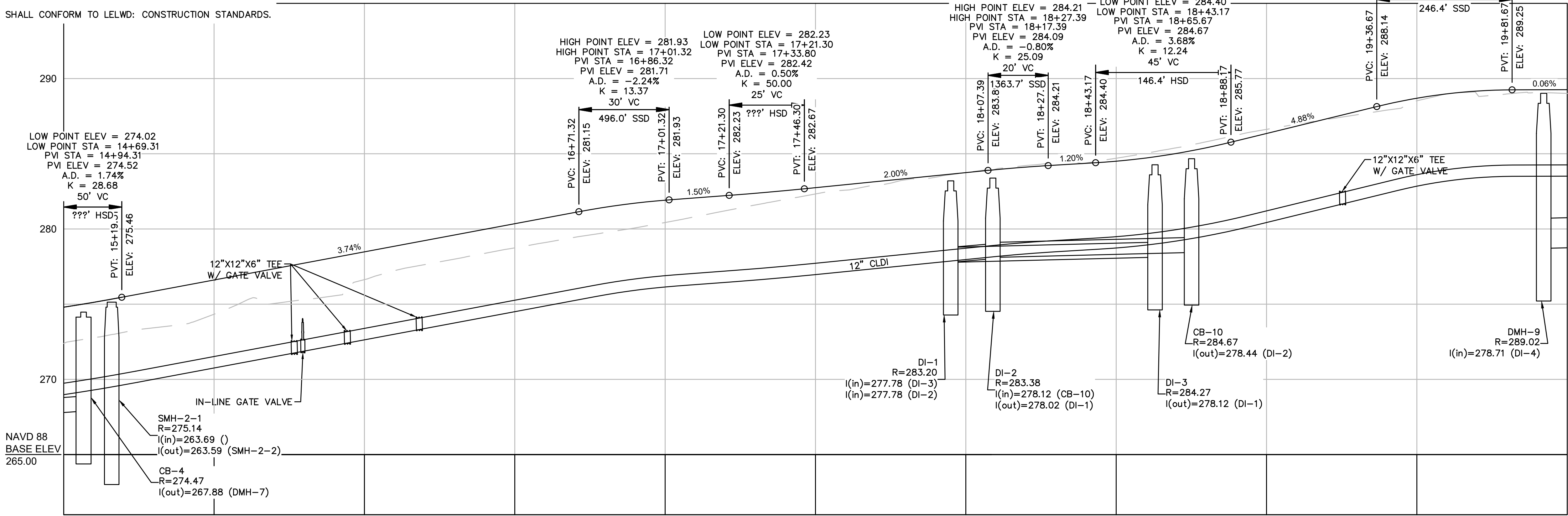
DESIGNED BY RMM DATE 11-26-25
CHECKED BY CPR SCALE AS NOTED

PROJECT NO. T1180
TEC CAD FILE
T1180_PROFILE
DRAWING NO. C-20
SHEET 20 OF 63

11/26/2025



NOTES:
1. ALL UTILITY WORK SHALL CONFORM TO LELWD: CONSTRUCTION STANDARDS.



REVISIONS

DRAWING TITLE
**Roadway Plan &
Profile #2
Main Road**

SUBDIVISION NAME & LOCATION
**King Street
Commons**
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER
Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

DESIGNER / ENGINEER



TEC, Inc.
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Lawrence, Massachusetts 01843
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DESIGNED BY RMM DATE 11-26-25
CHECKED BY CPR SCALE AS NOTED

PROJECT NO.
T1180

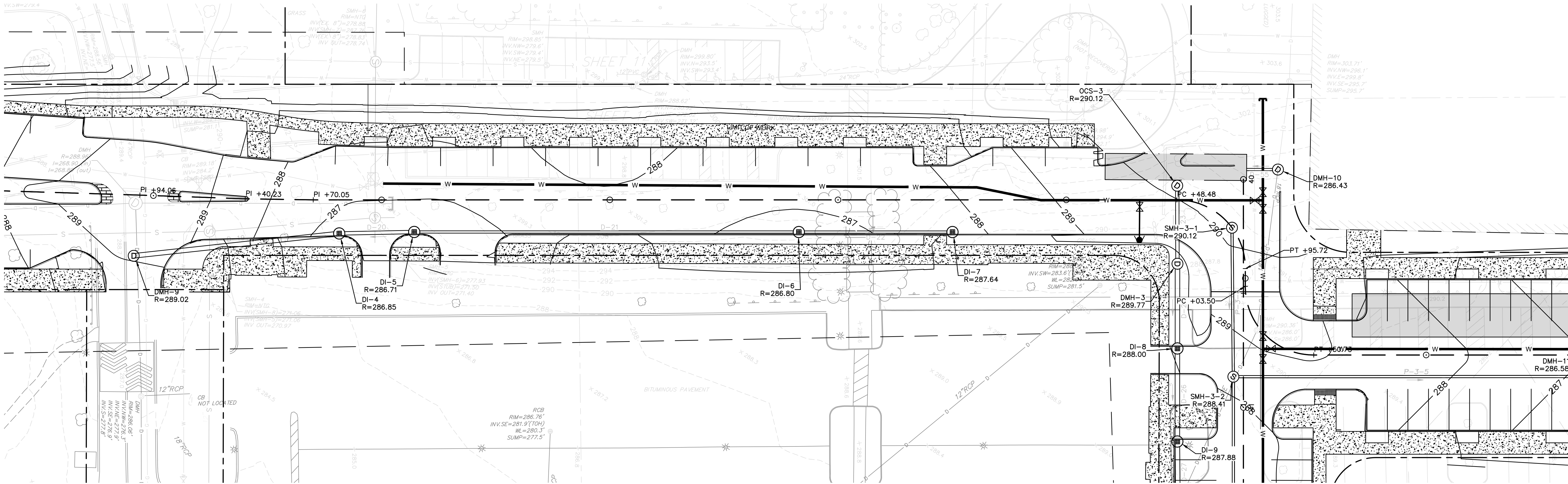
TEC CAD FILE

T1180_PROFILE

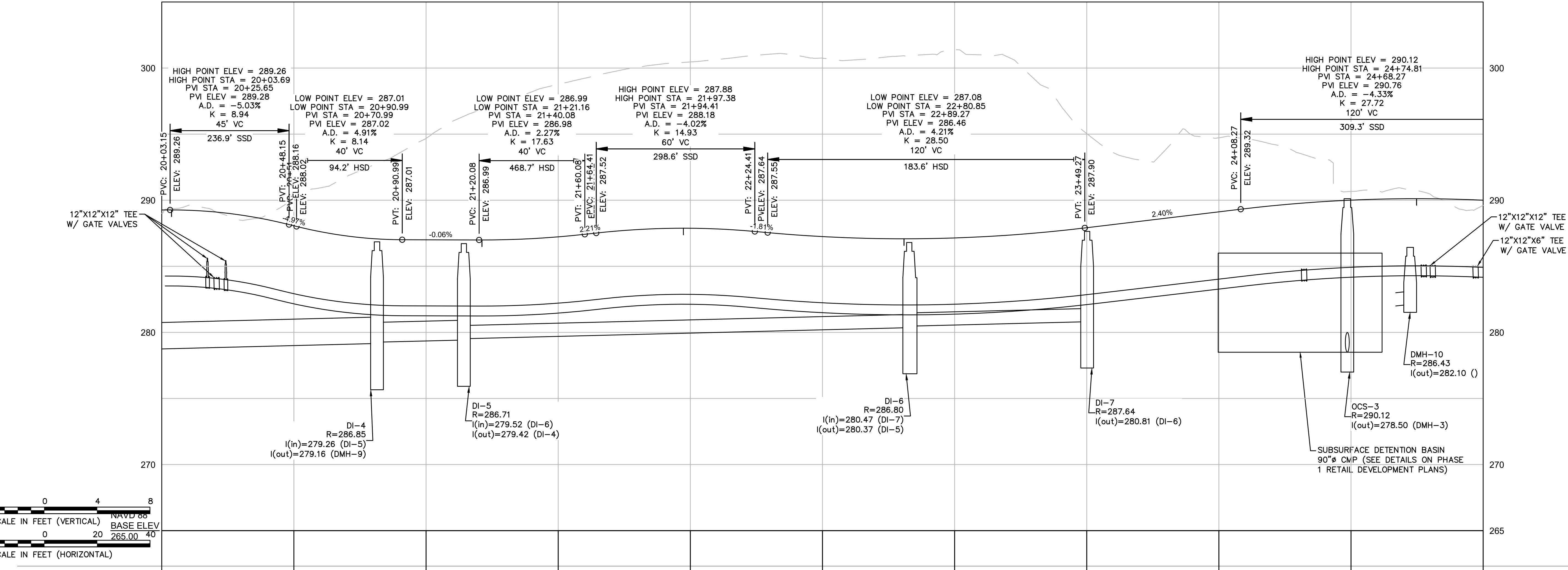
DRAWING NO.

C-21

SHEET 21 OF 63



NOTES:
1. ALL UTILITY WORK SHALL CONFORM TO LELWD: CONSTRUCTION STANDARDS.



REVISIONS

DRAWING TITLE

Roadway Plan & Profile #3
Main Road

SUBDIVISION NAME & LOCATION

King Street Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

DESIGNER / ENGINEER

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The Engineering Corp

TEC, Inc.
282 Merrimack Street, 2nd Floor
Lawrence, Massachusetts 01843
978.794.1792
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DESIGNED BY RMM DATE 11-26-25
CHECKED BY CPR SCALE AS NOTED

PROJECT NO. T1180
TEC CAD FILE
T1180_PROFILE
DRAWING NO. C-22
SHEET 22 OF 63



DRAWING TITLE

SUBDIVISION NAME & LOCATION

OWNER / APPLICANT / SUBDIVIDER

DESIGNER / ENGINEER



Profile view of a road section showing vertical alignment, drainage structures, and subsurface infiltration details.

Vertical Alignment Data:

- HIGH POINT ELEV = 290.12
- HIGH POINT STA = 24+74.81
- PVI STA = 24+68.27
- PVI ELEV = 290.76
- A.D. = -4.33%
- K = 27.72
- 120' VC

Vertical Curve Data:

- LOW POINT ELEV = 284.98
- LOW POINT STA = 28+16.94
- PVI STA = 28+18.75
- PVI ELEV = 284.00
- A.D. = 3.93%
- K = 50.91
- 200' VC

Vertical Curve Points:

- PVI: 25+28.27 ELEV: 289.60
- PVC: 27+18.75 ELEV: 285.93
- PVT: 29+18.75 BREAK STA = 29+18.75 ELEV: 286.00

Grades:

- 1.93%
- 271.6' HSD

Drainage Structures:

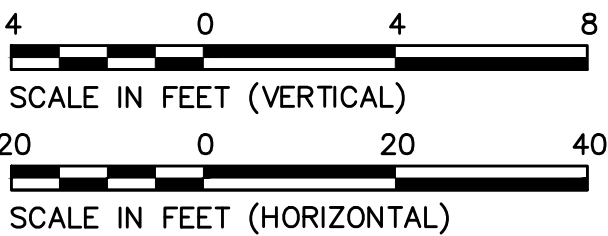
- SMH-3-3 R=287.91 I(in)=277.42 () I(out)=277.42 () I(out)=277.08 (SMH-3-2)
- SMH-3-2 R=288.41 I(in)=276.81 (SMH-3-1) I(in)=276.81 (SMH-3-3) I(out)=276.71 (SMH-3-4)
- SMH-3-4 R=286.71 I(in)=276.53 (SMH-3-2) I(in)=276.53 () I(out)=276.43 (SMH-3-5)
- CB-20 R=286.02
- DMH-12 R=284.91 I(in)=280.36 (CB-23) I(in)=280.36 (CB-22) I(out)=280.26 (DMH-11)
- CB-23 R=284.50 I(out)=280.50 (DMH-12)
- OCS-4 R=284.76 I(out)=278.70 (WQU-4)

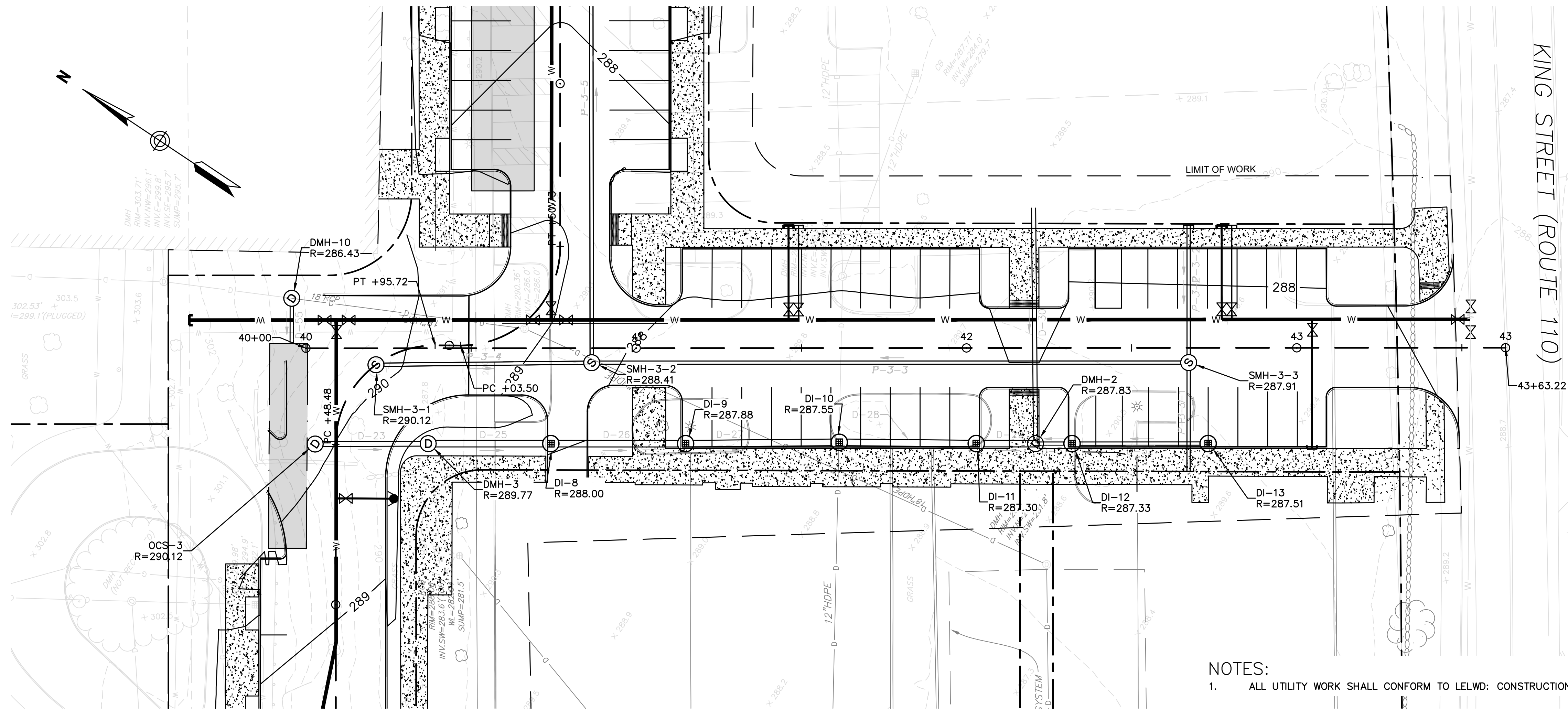
Subsurface Infiltration Structure:

- 7" CMP CONTECH SUBSURFACE INFILTRATION STRUCTURE (SEE DETAIL)

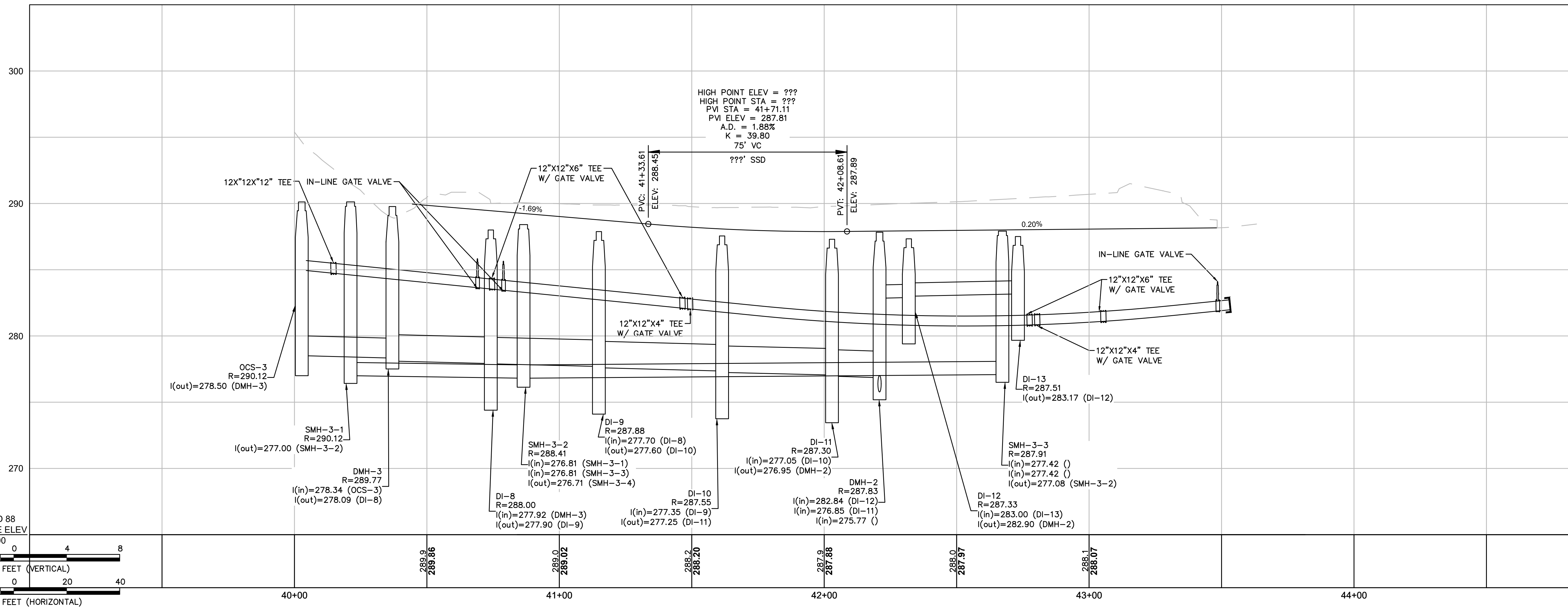
Other Labels:

- 309.3' SSD
- 88 ELEV





NOTES:
1. ALL UTILITY WORK SHALL CONFORM TO LELWD: CONSTRUCTION STANDARDS.



REVISIONS	

DRAWING TITLE
**Roadway Plan &
Profile #6
South Road #2**
SUBDIVISION NAME & LOCATION
**King Street
Commons**
550 King Street
Littleton, MA 01460
OWNER / APPLICANT / SUBDIVIDER
Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843
DESIGNER / ENGINEER

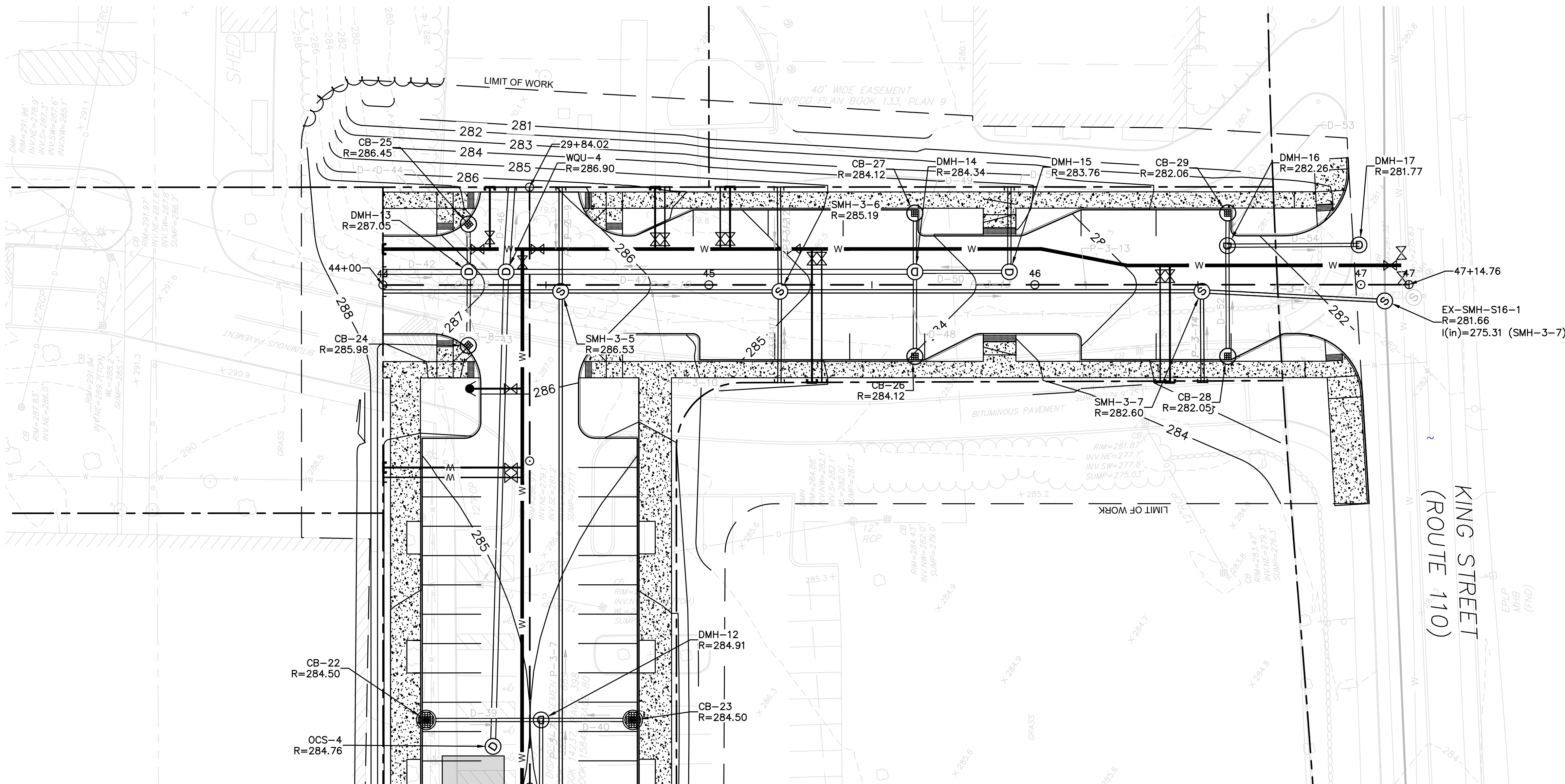
TEC
The Engineering Corp

TEC, Inc.
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Lawrence, Massachusetts 01843
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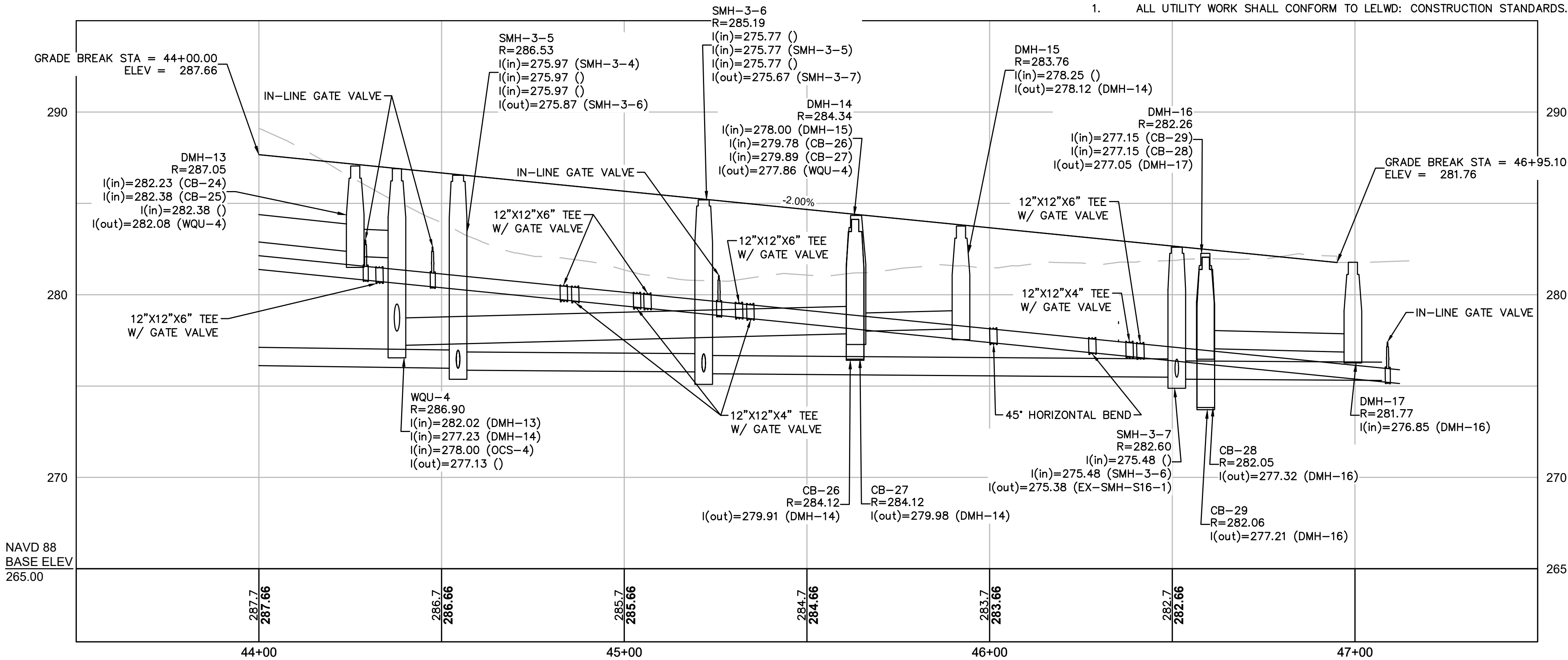
DESIGNED BY RMM DATE 11-26-25
CHECKED BY CPR SCALE AS NOTED

PROJECT NO. T1180
TEC CAD FILE
T1180_PROFILE
DRAWING NO. **C-25**
SHEET 25 OF 63

11/26/2025



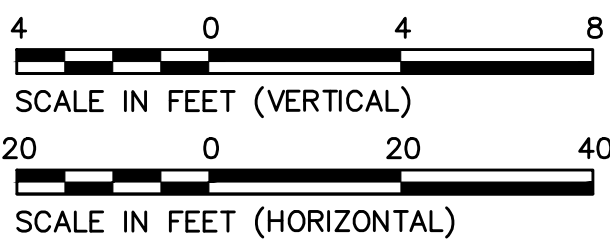
NOTES:
1. ALL UTILITY WORK SHALL CONFORM TO LELWD: CONSTRUCTION STANDARDS.



REVISIONS

DRAWING TITLE
Roadway Plan & Profile #3
SUBDIVISION NAME & LOCATION
King Street Commons
550 King Street
Littleton, MA 01460
OWNER / APPLICANT / SUBDIVIDER
Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843
DESIGNER / ENGINEER

TEC
The Engineering Corp.
TEC, Inc.
282 Merrimack Street, 2nd Floor
Lawrence, Massachusetts 01843
978.794.1792
www.TheEngineeringCorp.com
Lawrence | Hampton | Worcester
DESIGNED BY RMM DATE 11-26-25
CHECKED BY CPR SCALE AS NOTED
PROJECT NO. T1180
TEC CAD FILE
T1180_PROFILE
DRAWING NO. **C-26**
SHEET 26 OF 63



PHASE 2 SANITARY SEWER:

SEWER STRUCTURE DATA					
NO.	TYPE	STATION	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT
SMH-2-1	SMH 48"	15+16 17.6' RT	275.14	I=263.69' ()	I=263.59' (SMH-2-2)
SMH-2-2	SMH 48"	13+71.1 17.5' RT	270.86	I=262.22' (SMH-2-1)	I=256.85' (SMH-2-3)
SMH-2-3	SMH 48"	12+33.5 16.5' RT	266.24	I=255.50' (SMH-2-2) I=253.60' () I=253.60' ()	I=253.50' (SMH-2-4)
SMH-2-4	SMH 48"	10+69.5 19.0' RT	261.19	I=251.91' (SMH-2-3) I=251.91' ()	I=251.81' ()

SEWER PIPE DATA					
PIPE	PIPE LOCATION	SIZE & TYPE	LENGTH	SLOPE	SHEET # (C-)
P-2-1	TO SMH-2-1 STA 15+16 TO 15+16	8" PVC	61 LF	0.005	20
P-2-2	SMH-2-1 TO SMH-2-2 STA 15+16 TO 13+71	12" PVC	141 LF	0.009	20
P-2-3	SMH-2-2 TO SMH-2-3 STA 13+71 TO 12+33	12" PVC	131 LF	0.010	20
P-2-4	TO SMH-2-3 STA 12+40 TO 12+33	12" PVC	61 LF	0.005	20
P-2-5	TO SMH-2-3 STA 12+28 TO 12+33	8" PVC	25 LF	0.005	20
P-2-6	SMH-2-3 TO SMH-2-4 STA 12+33 TO 10+69	12" PVC	155 LF	0.010	20
P-2-7	TO SMH-2-4 STA 10+68 TO 10+69	8" PVC	47 LF	0.005	20
P-2-8	SMH-2-4 TO STA 10+69 TO 10+36	12" PVC	32 LF	0.005	20

PHASE 3 SANITARY SEWER:

SEWER STRUCTURE DATA					
NO.	TYPE	STATION	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT
EX-SMH-S16-1	SMH-48	47+07.3 5.0' RT	281.66	I=275.31' (SMH-3-7)	
SMH-3-1	SMH-48	??? ??? ?	290.12		I=277.00' (SMH-3-2)
SMH-3-2	SMH-48	??? ??? ?	288.41	I=276.81' (SMH-3-1) I=276.81' (SMH-3-3)	I=276.71' (SMH-3-4)
SMH-3-3	SMH-48	??? ??? ?	287.91	I=277.42' () I=277.42' ()	I=277.08' (SMH-3-2)
SMH-3-4	SMH-48	??? ??? ?	286.71	I=276.53' (SMH-3-2) I=276.53' ()	I=276.43' (SMH-3-5)
SMH-3-5	SMH-48	44+54.5 2.0' RT	286.53	I=275.97' (SMH-3-4) I=275.97' () I=275.97' ()	I=275.87' (SMH-3-6)
SMH-3-6	SMH-48	45+21.8 2.0' RT	285.19	I=275.77' () I=275.77' (SMH-3-5) I=275.77' ()	I=275.67' (SMH-3-7)
SMH-3-7	SMH-48	46+51.2 2.0' RT	282.60	I=275.48' () I=275.48' (SMH-3-6)	I=275.38' (EX-SMH-S16-1)

SEWER PIPE DATA					
PIPE	PIPE LOCATION	SIZE & TYPE	LENGTH	SLOPE	SHEET # (C-)
P-3-1	TO SMH-3-3 STA ??? TO ???	10" PVC	31 LF	0.002	25
P-3-2	TO SMH-3-3 STA ??? TO ???	10" PVC	40 LF	0.003	25
P-3-3	SMH-3-3 TO SMH-3-2 STA ??? TO ???	15" PVC	177 LF	0.002	25
P-3-4	SMH-3-1 TO SMH-3-2 STA ??? TO ???	15" PVC	61 LF	0.003	25
P-3-5	SMH-3-2 TO SMH-3-4 STA ??? TO ???	15" PVC	156 LF	0.001	23
P-3-6	TO SMH-3-4 STA ??? TO ???	10" PVC	34 LF	0.003	23
P-3-7	SMH-3-4 TO SMH-3-5 STA 26+76 TO 29+52	15" PVC	272 LF	0.002	23
P-3-8	TO SMH-3-5 STA ??? TO ???	10" PVC	53 LF	0.003	26
P-3-9	TO SMH-3-5 STA ??? TO ???	10" PVC	30 LF	0.003	26
P-3-10	SMH-3-5 TO SMH-3-6 STA 44+55 TO 45+22	15" PVC	63 LF	0.001	26
P-3-11	TO SMH-3-6 STA 45+22 TO 45+22	10" PVC	26 LF	0.002	26
P-3-12	TO SMH-3-6 STA 45+21 TO 45+22	10" PVC	30 LF	0.003	26
P-3-13	SMH-3-6 TO SMH-3-7 STA 45+22 TO 46+51	15" PVC	125 LF	0.002	26
P-3-14	TO SMH-3-7 STA 46+51 TO 46+51	10" PVC	26 LF	0.002	26
P-3-15	SMH-3-7 TO EX-SMH-S16-1 STA 46+51 TO 47+07	15" PVC	52 LF	0.001	26

DRAINAGE NETWORK 1:

DRAINAGE STRUCTURE DATA					
NO.	TYPE	STATION	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT
CB-1	DCB	10+24.9 -39.6' LT	258.00		I=253.59' (WQU-1)
CB-2	DCB	10+74.9 -20.6' LT	260.56		I=255.93' (WQU-1)
DMH-1		11+34.6 -93.8' LT	258.50	I=252.19' (WQU-1)	
WQU-1	DMH (4'Ø)	10+67.6 -40.1' LT	261.50	I=255.83' (CB-2) I=253.38' (CB-1)	I=252.56' (DMH-1)

DRAINAGE PIPE DATA				
PIPE	PIPE LOCATION	SIZE & TYPE	LENGTH	SLOPE
D-1	CB-2 TO WQU-1 STA 10+75 TO 10+68	12" CLASS III RCP	17 LF	0.005
D-2	CB-1 TO WQU-1 STA 10+25 TO 10+65	12" CLASS III RCP	39 LF	0.005
D-3	WQU-1 TO DMH-1 STA 10+69 TO 11+33	12" HDPE	70 LF	0.005

DRAINAGE NETWORK 2:

DRAINAGE STRUCTURE DATA					
NO.	TYPE	STATION	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT
CB-3	CB	14+98.3 34.3' RT	274.32		I=267.95' (DMH-7)
CB-4	CB	15+06.6 -34.5' LT	274.47		I=267.88' (DMH-7)
CB-5	CB	13+16 34.6' RT	268.53		I=261.86' (DMH-5)
CB-6	CB	12+78.2 -34.5' LT	267.03		I=263.53' (DMH-4)
DMH-4	DMH	12+91.2 -8.4' LT	268.05	I=263.63' (DMH-7) I=261.41' (DMH-5) I=263.41' (CB-6)	I=261.31' (WQU-2)
DMH-5	DMH	12+93.5 28.6' RT	267.73	I=261.67' (DMH-6) I=261.67' (CB-5)	I=261.57' (DMH-4)
DMH-6	DMH	12+95.1 56.5' RT	267.20		I=261.79' (DMH-5)
DMH-7	DMH	14+96.5 -8.5' LT	274.68	I=267.76' (CB-4) I=267.76' (CB-3)	I=266.66' (DMH-4)
DMH-8	EXISTING DMH	12+08.5 -93.8' LT	259.94	I=255.65' (OCS-1)	
OCS-1	OUTLET CONTROL STRUCTURE	11+94.2 -55.1' LT	261.50		I=256.45' (DMH-8)
WQU-2	WQU	11+88.3 0.0' LT	264.40	I=260.82' (DMH-4)	I=260.72' ()

DRAINAGE PIPE DATA				
PIPE	PIPE LOCATION	SIZE & TYPE	LENGTH	SLOPE
D-4	OCS-1 TO DMH-8 STA 11+95 TO 12+08	12" HDPE	41 LF	0.020
D-5	WQU-2 TO STA 11+87 TO 11+74	24" Class III RCP	45 LF	0.005
D-6	DMH-4 TO WQU-2 STA 12+89 TO 11+91	24" Class III RCP	99 LF	0.005
D-7	CB-6 TO DMH-4 STA 12+79 TO 12+90	12" Class III RCP	25 LF	0.005
D-8	DMH-5 TO DMH-4 STA 12+93 TO 12+91	24" Class III RCP	33 LF	0.005
D-9	CB-5 TO DMH-5 STA 13+14 TO 12+96	12" Class III RCP	19 LF	0.010
D-10	DMH-6 TO DMH-5 STA 12+95 TO 12+94	24" Class III RCP	24 LF	0.005
D-11	DMH-7 TO DMH-4 STA 14+94 TO 12+94	15" Class III RCP	201 LF	0.015
D-12	CB-3 TO DMH-7 STA 14+98 TO 14+97	12" Class III RCP	39 LF	0.005
D-13	CB-4 TO DMH-7 STA 15+06 TO 14+97	12" Class III RCP	24 LF	0.005

REVISIONS

DRAWING TITLE

Sanitary & Storm
Sewer Tables

SUBDIVISION NAME & LOCATION

King Street
Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

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DESIGNED BY RMM DATE 11-26-25
CHECKED BY CPR SCALE AS NOTED

PROJECT NO.
T1180

TEC CAD FILE

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DRAWING NO.
C-27
SHEET 27 OF 63

Seal: COMMONWEALTH OF MASSACHUSETTS, CHRISTOPHER P. RAYMOND, No. 60365, PROFESSIONAL ENGINEER

Chris [Signature]
11/26/2025

DRAINAGE NETWORK 3:

DRAINAGE STRUCTURE DATA					
NO.	TYPE	STATION	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT
CB-10	CB	18+75.1 -34.4' LT	284.67		I=278.44' (DI-2)
DI-1	DROP INLET	17+95 34.5' RT	283.20	I=277.78' (DI-3) I=277.78' (DI-2)	
DI-2	DROP INLET	18+09 -34.5' LT	283.38	I=278.12' (CB-10)	I=278.02' (DI-1)
DI-3	DROP INLET	18+62.9 34.5' RT	284.27		I=278.12' (DI-1)
DI-4	DROP INLET	20+81.4 14.7' RT	286.85	I=279.26' (DI-5)	I=279.16' (DMH-9)
DI-5	DROP INLET	21+14.3 14.1' RT	286.71	I=279.52' (DI-6)	I=279.42' (DI-4)
DI-6	DROP INLET	22+82.8 14.1' RT	286.80	I=280.47' (DI-7)	I=280.37' (DI-5)
DI-7	DROP INLET	23+50.2 14.1' RT	287.64		I=280.81' (DI-6)
DI-8	DROP INLET	40+74.1 28.9' RT	288.00	I=277.92' (DMH-3)	I=277.90' (DI-9)
DI-9	DROP INLET	41+14.9 28.9' RT	287.88	I=277.70' (DI-8)	I=277.60' (DI-10)
DI-10	DROP INLET	41+61.5 28.5' RT	287.55	I=277.35' (DI-9)	I=277.25' (DI-11)
DI-11	DROP INLET	42+02.9 28.9' RT	287.30	I=277.05' (DI-10)	I=276.95' (DMH-2)
DI-12	DROP INLET	42+31.9 29.0' RT	287.33	I=283.00' (DI-13)	I=282.90' (DMH-2)
DI-13	DROP INLET	42+73.2 29.0' RT	287.51		I=283.17' (DI-12)
DMH-2	DMH	42+20.9 29.0' RT	287.83	I=282.84' (DI-12) I=276.85' (DI-11) I=275.77' ()	
DMH-3	DMH	40+37 28.9' RT	289.77	I=278.34' (OCS-3)	I=278.09' (DI-8)
DMH-9	DMH	19+92.2 26.7' RT	289.02	I=278.71' (DI-4)	
DMH-10	DMH	24+72.4 -31.9' LT	286.43		I=282.10' ()
OCS-3	DMH	24+48.6 -6.2' LT	290.12		I=278.50' (DMH-3)

DRAINAGE PIPE DATA				
PIPE	PIPE LOCATION	SIZE & TYPE	LENGTH	SLOPE
D-16	DI-2 TO DI-1 STA 18+09 TO 17+95	12" RCP	66 LF	0.004
D-17	CB-10 TO DI-2 STA 18+75 TO 18+11	12" RCP	62 LF	0.005
D-18	DI-1 TO DI-3 STA 17+95 TO 18+63	12" RCP	64 LF	0.005
D-19	DMH-9 TO DI-4 STA 19+92 TO 20+81	24" RCP	87 LF	0.005
D-20	DI-4 TO DI-5 STA 20+81 TO 21+14	18" RCP	29 LF	0.005
D-21	DI-5 TO DI-6 STA 21+14 TO 22+85	12" RCP	165 LF	0.005
D-22	DI-7 TO DI-6 STA 23+50 TO 22+83	12" RCP	63 LF	0.005
D-23	OCS-3 TO DMH-3 STA 24+49 TO 24+50	18" RCP	30 LF	0.005
D-25	DMH-3 TO DI-8 STA 40+39 TO 40+74	24" RCP	33 LF	0.005
D-26	DI-8 TO DI-9 STA 40+74 TO 41+14	24" RCP	37 LF	0.005
D-27	DI-9 TO DI-10 STA 41+15 TO 41+61	24" RCP	43 LF	0.005
D-28	DI-10 TO DI-11 STA 41+61 TO 42+03	24" RCP	38 LF	0.005
D-29	DI-11 TO DMH-2 STA 42+05 TO 42+21	24" RCP	14 LF	0.006
D-30	TO DMH-2 STA 42+20 TO 42+21	12" RCP	69 LF	0.005
D-31	DI-12 TO DMH-2 STA 42+32 TO 42+21	12" RCP	7 LF	0.005
D-32	DI-13 TO DI-12 STA 42+73 TO 42+32	12" RCP	37 LF	0.004
D-55	DMH-10 TO STA 24+72 TO 24+67	12" RCP	12 LF	0.009

DRAINAGE NETWORK 5:

DRAINAGE STRUCTURE DATA					
NO.	TYPE	STATION	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT
CB-20	CB	26+80.8 -32.0' LT	286.02		
CB-21	CB	26+80.8 32.0' RT	286.02		I=279.70' (DMH-11)
CB-22	DI-TYPE CF (DOUBLE)	28+20.6 -31.8' LT	284.50		I=280.54' (DMH-12)
CB-23	DI-TYPE CF (DOUBLE)	28+20.6 31.6' RT	284.50		I=280.50' (DMH-12)
CB-24	CB	44+26.2 18.6' RT	285.98		I=282.34' (DMH-13)
CB-25	CB	44+26.2 -18.7' LT	286.45		I=282.45' (DMH-13)
CB-26	CB	45+63.2 22.0' RT	284.12		I=279.91' (DMH-14)
CB-27	CB	45+63.2 -22.0' LT	284.12		I=279.98' (DMH-14)
DMH-11	DMH	26+81.3 3.5' RT	286.58	I=279.56' (DMH-12) I=279.56' (CB-21)	I=279.46' ()
DMH-12	DMH	28+20.6 3.5' RT	284.91	I=280.36' (CB-23) I=280.36' (CB-22)	I=280.26' (DMH-11)
DMH-13	WQU	44+26.4 -4.0' LT	287.05	I=282.23' (CB-24) I=282.38' (CB-25) I=282.38' ()	I=282.08' (WQU-4)
DMH-14	DMH	45+63.2 -4.0' LT	284.34	I=278.00' (DMH-15) I=279.78' (CB-26) I=279.89' (CB-27)	I=277.86' (WQU-4)
DMH-15	DMH	45+92.2 -4.0' LT	283.76	I=278.25' ()	I=278.12' (DMH-14)
OCS-4	DMH	28+12.5 -11.3' LT	284.76		I=278.70' (WQU-4)
WQU-4	WQU	44+37.8 -4.0' LT	286.90	I=282.02' (DMH-13) I=277.23' (DMH-14) I=278.00' (OCS-4)	I=277.13' ()

DRAINAGE PIPE DATA				
PIPE	PIPE LOCATION	SIZE & TYPE	LENGTH	SLOPE
D-35	TO STA 26+81 TO 26+81	12" RCP	5 LF	0.005
D-36	CB-21 TO DMH-11 STA 26+81 TO 26+81	12" RCP	25 LF	0.005
D-37	DMH-11 TO STA 26+81 TO 26+81	12" RCP	9 LF	0.005
D-38	DMH-12 TO DMH-11 STA 28+21 TO 26+81	12" RCP	135 LF	0.005
D-39	CB-22 TO DMH-12 STA 28+21 TO 28+21	12" RCP	31 LF	0.005
D-40	CB-23 TO DMH-12 STA 28+21 TO 28+21	12" RCP	24 LF	0.005
D-41	OCS-4 TO WQU-4 STA 28+15 TO 29+56	18" RCP	142 LF	0.005
D-42	TO DMH-13 STA 44+00 TO 44+24	18" RCP	24 LF	0.021
D-43	CB-24 TO DMH-13 STA 44+26 TO 44+26	12" RCP	19 LF	0.006
D-44	CB-25 TO DMH-13 STA 44+26 TO 44+26	12" RCP	11 LF	0.006
D-45	DMH-13 TO WQU-4 STA 44+29 TO 44+35	18" RCP	7 LF	0.009
D-46	WQU-4 TO STA 44+38 TO 44+40	24" RCP	24 LF	0.006
D-47	DMH-14 TO WQU-4 STA 45+61 TO 44+40	18" RCP	121 LF	0.005
D-48	CB-26 TO DMH-14 STA 45+63 TO 45+63	12" RCP	22 LF	0.006
D-49	CB-27 TO DMH-14 STA 45+63 TO 45+63	12" RCP	14 LF	0.007
D-50	DMH-15 TO DMH-14 STA 45+90 TO 45+66	12" RCP	25 LF	0.005
D-51	TO DMH-15 STA 45+92 TO 45+92	12" RCP	24 LF	0.005

DRAINAGE NETWORK 4:

DRAINAGE STRUCTURE DATA					
NO.	TYPE	STATION	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT
CB-28	CB	46+59.2 22.0' RT	282.05		I=277.32' (DMH-16)
CB-29	CB	46+59.2 -22.0' LT	282.06		I=277.21' (DMH-16)
DMH-16	DMH	46+59.1 -12.0' LT	282.26	I=277.15' (CB-29) I=277.15' (CB-28)	I=277.05' (DMH-17)
DMH-17	DMH	46+99.4 -12.2' LT	281.77	I=276.85' (DMH-16)	

DRAINAGE PIPE DATA				
PIPE	PIPE LOCATION	SIZE & TYPE	LENGTH	SLOPE
D-52	CB-28 TO DMH-16 STA 46+59 TO 46+59	12" RCP	30 LF	0.005
D-53	CB-29 TO DMH-16 STA 46+59 TO 46+59	12" RCP	6 LF	0.005
D-54	DMH-16 TO DMH-17 STA 46+59 TO 46+99	12" RCP	36 LF	0.005

REVISIONS

DRAWING TITLE
Storm Sewer Tables

SUBDIVISION NAME & LOCATION
King Street
Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER
Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

DESIGNER / ENGINEER

TEC

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DESIGNED BY RMM DATE 11-26-25

CHECKED BY CPR SCALE AS NOTED

PROJECT NO.
T1180

TEC CAD FILE

T1180_PROFILE

DRAWING NO.

C-28

SHEET 28 OF 63

COMMONWEALTH OF MASSACHUSETTS

CHRISTOPHER P. RAYMOND

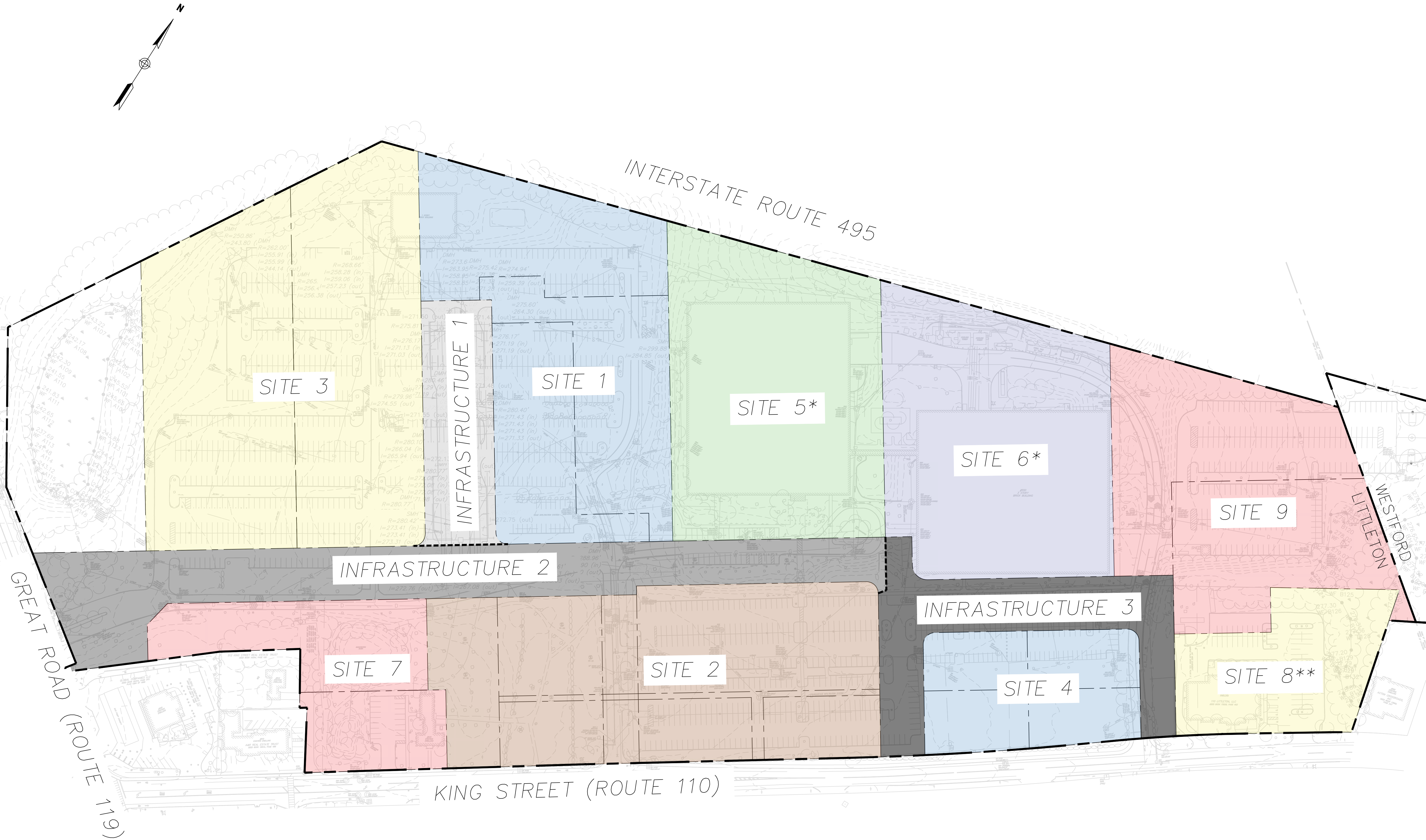
No. 60365

PROFESSIONAL ENGINEER

Chris Raymond

11/26/2025

- NOTES:
1. *DEVELOPMENT OF SITES 5 & 6, BOTH OF WHICH ARE CURRENTLY OCCUPIED BY OFFICE BUILDINGS, IS DEPENDENT UPON MARKET CONDITIONS.
 2. **SITE 8 TO BE INCORPORATED INTO PLANNED DEVELOPMENT UPON COMPLETION OF LAND PURCHASE.
 3. INFRASTRUCTURE PHASE 1 UTILITIES HAVE BEEN INSTALLED THROUGH THE PROPOSED NORTHERN ROAD AND THROUGH AUMAN STREET STUBBED TO KING STREET



REVISIONS

DRAWING TITLE
Construction Phasing

SUBDIVISION NAME & LOCATION
King Street Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER
Lupoli Companies
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DESIGNED BY RJF DATE 11-26-25
CHECKED BY CPR SCALE AS NOTED

COMMONWEALTH OF MASSACHUSETTS

CHRISTOPHER P. RAYMOND

No. 60365

PROFESSIONAL ENGINEER

PROJECT NO.

T1180

TEC CAD FILE

T1180_PHASING

DRAWING NO.

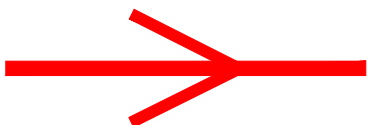
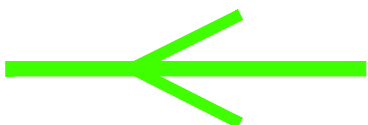
C-29

SHEET 29 OF 63

11/26/2025



LEGEND

-  TO THE SITE
-  FROM THE SITE

NOTES:
1. CONSTRUCTION SHALL OCCUR MON-SAT BETWEEN 7:00 AM AND 7:00 PM WITH THE EXCEPTION OF HOLIDAYS. ALL HOURS OF CONSTRUCTION OPERATIONS SHALL BE IN ACCORDANCE WITH ALL STATE AND LOCAL REGULATIONS.
2. SITE ENTRANCE/EXIT SHALL BE STABILIZED THROUGHOUT CONSTRUCTION, SEE EROSION AND SEDIMENT CONTROL PLAN FOR DETAILS.

REVISIONS

DRAWING TITLE
Construction Management Plan
SUBDIVISION NAME & LOCATION
King Street Commons 550 King Street Littleton, MA 01460
OWNER / APPLICANT / SUBDIVIDER
Lupoli Companies 282 Merrimack Street Lawrence, MA 01843
DESIGNER / ENGINEER



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DESIGNED BY	RJF	DATE	11-26-25
CHECKED BY	CPR	SCALE	AS NOTED



PROJECT NO.
T1180
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C-30
SHEET 30 OF 63



11/26/2025

Notes for Figure 6H-6—Typical Application 6
Shoulder Work with Minor Encroachment

Guidance:

1. All lanes should be a minimum of 10 feet in width as measured to the near face of the channelizing devices.
2. The treatment shown should be used on a minor road having low speeds. For higher-speed traffic conditions, a lane closure should be used.

Option:

3. For short-term use on low-volume, low-speed roadways with vehicular traffic that does not include longer and wider heavy commercial vehicles, a minimum lane width of 9 feet may be used.
4. Where the opposite shoulder is suitable for carrying vehicular traffic and of adequate width, lanes may be shifted by use of closely-spaced channelizing devices, provided that the minimum lane width of 10 feet is maintained.
5. Additional advance warning may be appropriate, such as a ROAD NARROWS sign.
6. Temporary traffic barriers may be used along the work space.
7. The shadow vehicle may be omitted if a taper and channelizing devices are used.
8. A truck-mounted attenuator may be used on the shadow vehicle.
9. For short-duration work, the taper and channelizing devices may be omitted if a shadow vehicle with activated high-intensity rotating, flashing, oscillating, or strobe lights is used.
10. Vehicle hazard warning signals may be used to supplement high-intensity rotating, flashing, oscillating, or strobe lights.

Standard:

11. Vehicle-mounted signs shall be mounted in a manner such that they are not obscured by equipment or supplies. Sign legends on vehicle-mounted signs shall be covered or turned from view when work is not in progress.
12. Shadow and work vehicles shall display high-intensity rotating, flashing, oscillating, or strobe lights.
13. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity rotating, flashing, oscillating, or strobe lights.

Notes for Figure 6H-10—Typical Application 10
Lane Closure on a Two-Lane Road Using Flaggers

Option:

1. For low-volume situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger, positioned to be visible to road users approaching from both directions, may be used (see Chapter 6E).
2. The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short-duration operations.
3. Flashing warning lights and/or flags may be used to call attention to the advance warning signs. A BE PREPARED TO STOP sign may be added to the sign series.

Guidance:

4. The buffer space should be extended so that the two-way traffic taper is placed before a horizontal (or crest vertical) curve to provide adequate sight distance for the flagger and a queue of stopped vehicles.

Standard:

5. At night, flagger stations shall be illuminated, except in emergencies.

Guidance:

6. When used, the BE PREPARED TO STOP sign should be located between the Flagger sign and the ONE LANE ROAD sign.
7. When a grade crossing exists within or upstream of the transition area and it is anticipated that queues resulting from the lane closure might extend through the grade crossing, the TTC zone should be extended so that the transition area precedes the grade crossing.
8. When a grade crossing equipped with active warning devices exists within the activity area, provisions should be made for keeping flaggers informed as to the activation status of these warning devices.
9. When a grade crossing exists within the activity area, drivers operating on the left-hand side of the normal center line should be provided with comparable warning devices as for drivers operating on the right-hand side of the normal center line.
10. Early coordination with the railroad company or light rail transit agency should occur before work starts.

Option:

11. A flagger or a uniformed law enforcement officer may be used at the grade crossing to minimize the probability that vehicles are stopped within 15 feet of the grade crossing, measured from both sides of the outside rails.

NOTES:

1. APPROPRIATE TRAFFIC MANAGEMENT METHODS ARE TO BE USED ON ALL PUBLIC ROADS TO ENSURE AND PROTECT THE SAFETY OF BOTH THE PUBLIC AND WORKERS DURING CONSTRUCTION OF THE SITE DRIVEWAYS. ALL TRAFFIC MANAGEMENT SHALL BE PERFORMED IN ACCORDANCE WITH MUTCD STANDARDS.
2. IF DETOURS ARE REQUIRED DURING CONSTRUCTION, ALL DETOUR ROUTES AND ASSOCIATED SIGNAGE SHALL BE SHOWN IN ACCORDANCE WITH MUTCD AND ARE SUBJECT TO APPROVAL BY THE FIRE DEPARTMENT AND POLICE DEPARTMENT.
3. TO MINIMIZE IMPACTS TO LOCAL ROADS, SCHOOLS, PARKS, RESIDENTS, AND ABUTTERS ALL TRUCK TRAFFIC SHALL BE ROUTED TO AND FROM THE ABUTTING I-495 FREEWAY AND TO AND FROM THE NEAREST SITE DRIVEWAY ON GREAT ROAD.
4. SHOULDER AND PARTIAL LANE CLOSURE ON THE NORTHEAST SIDE OF GREAT ROAD IS EXPECTED AT THE LOACTION OF UTILITY CONNECTIONS. PARTIAL LANE CLOSURE SHALL FOLLOW TA-6. TWO-WAY TRAVEL SHALL BE MAINTAINED BY USE OF THE SOUTHBOUND SHOULDER AND LEFT TURN LANE, AS NECESSARY.
5. FULL WEST-BOUND LANE CLOSURE IS EXPECTED ON KING STREET AT THE LOCATION OF UTILITY CONNECTIONS. LANE CLOSURE SHALL FOLLOW TA-10.

Figure 6H-6. Shoulder Work with Minor Encroachment (TA-6)

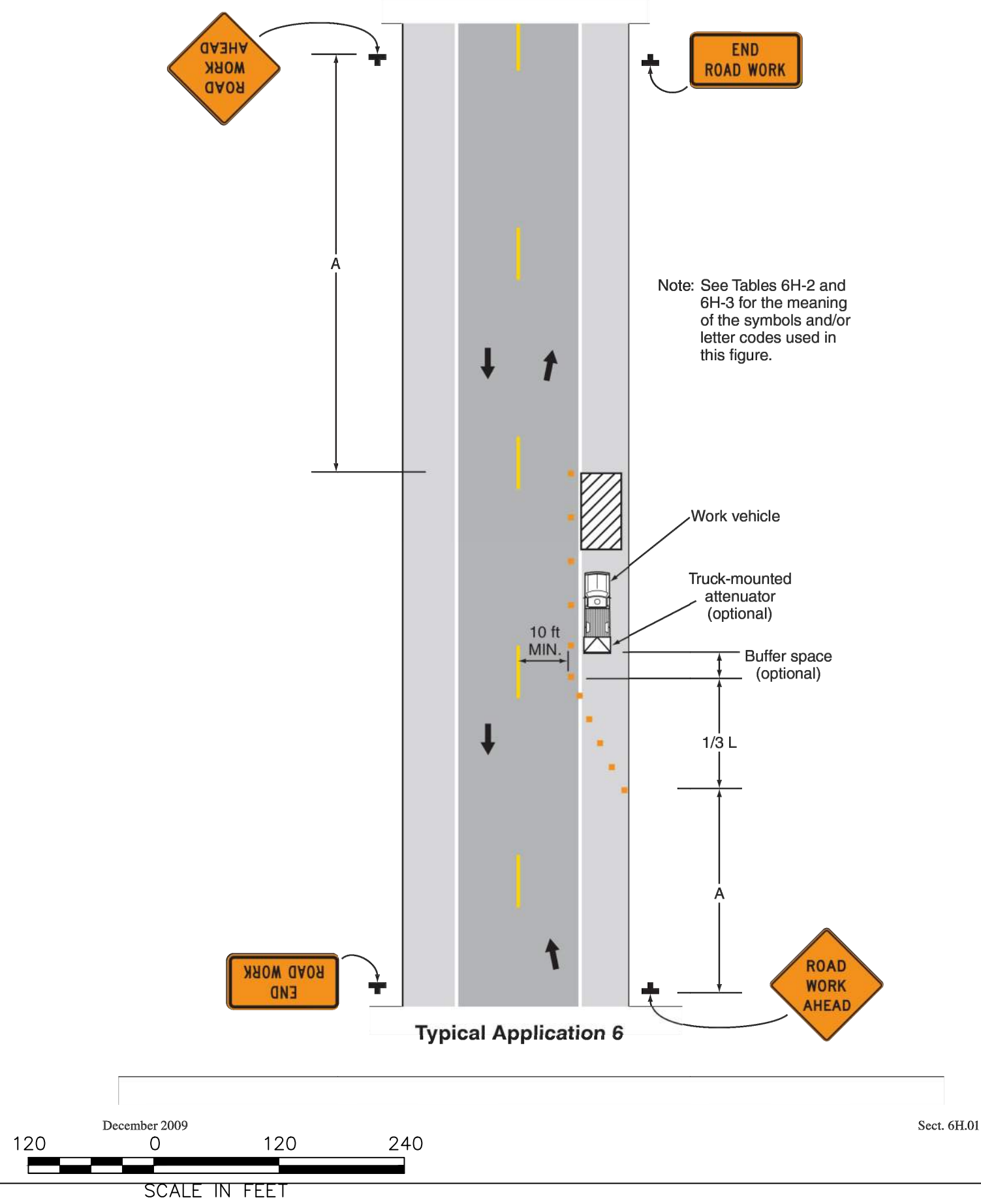
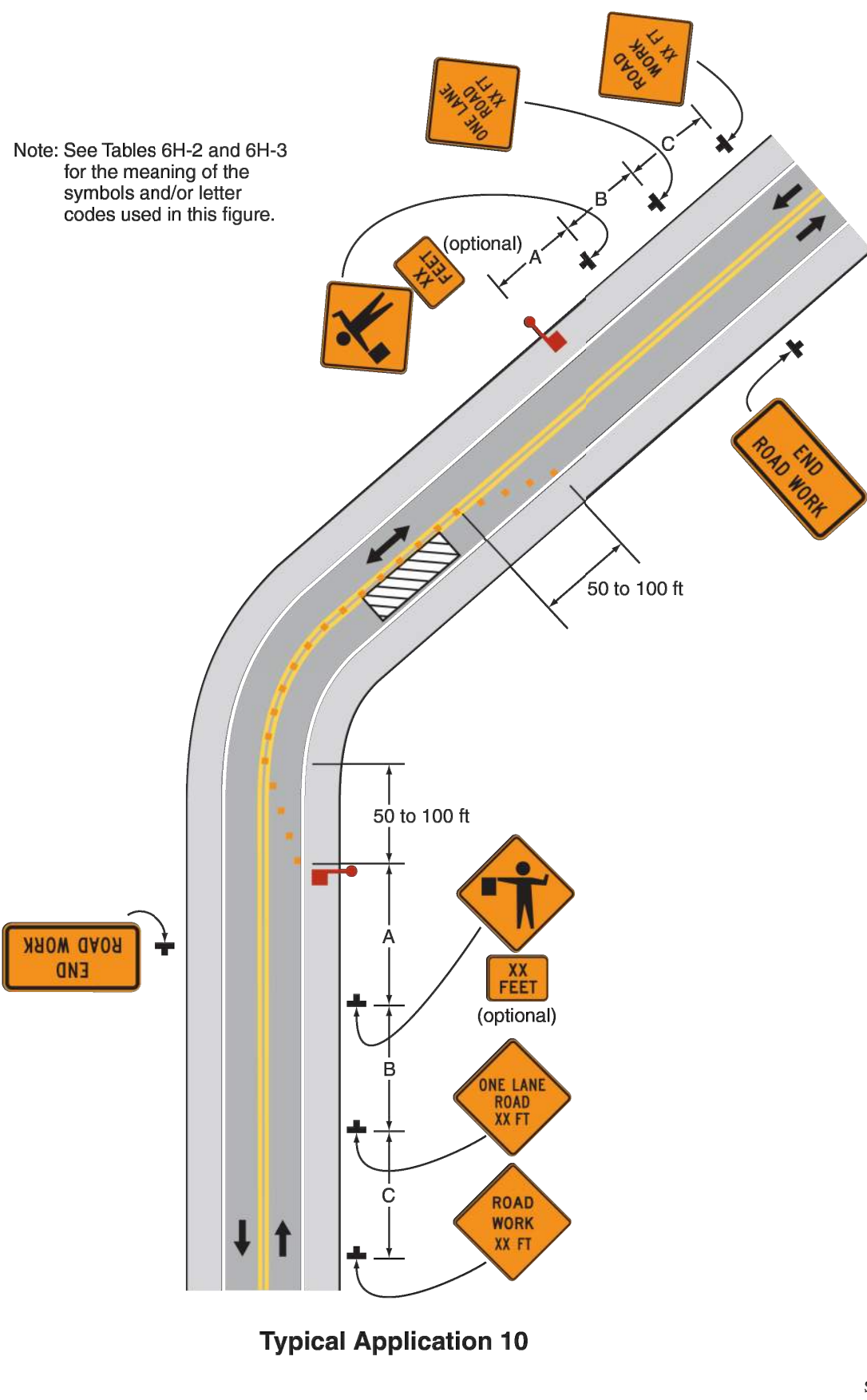


Figure 6H-10. Lane Closure on a Two-Lane Road Using Flaggers (TA-10)



REVISIONS

DRAWING TITLE

Traffic
Management Plan

SUBDIVISION NAME & LOCATION

King Street
Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

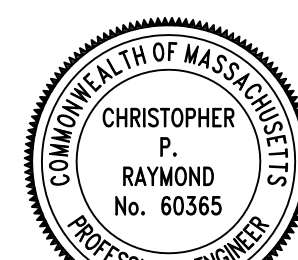
DESIGNER / ENGINEER



TEC, Inc.
282 Merrimack Street, 2nd Floor
Lawrence, Massachusetts 01843
978.794.1792

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DESIGNED BY RJF DATE 11-26-25
CHECKED BY CPR SCALE AS NOTED



PROJECT NO.

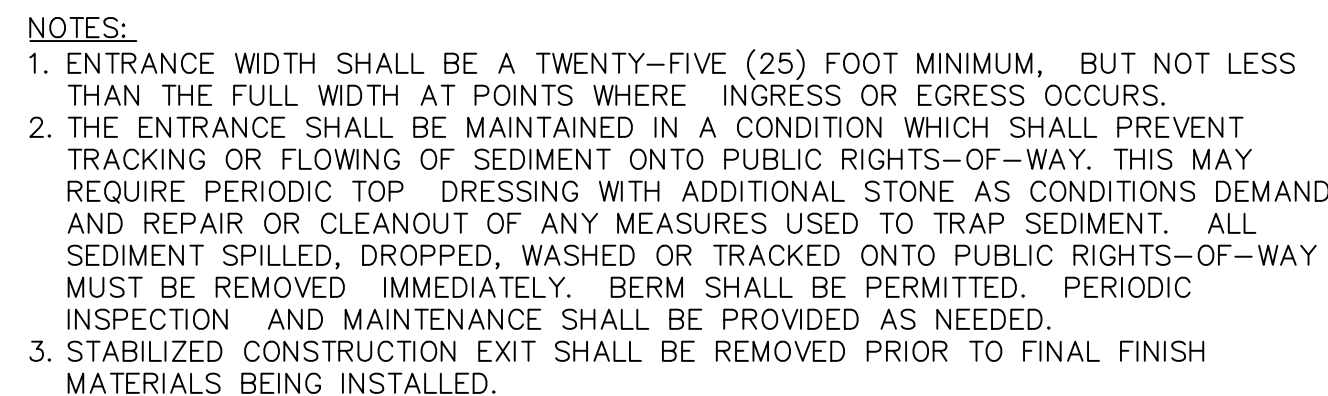
T1180

TEC CAD FILE

T1180_CMP.dwg

DRAWING NO.

C-31
SHEET 31 OF 63



CATCH BASIN INLET PROTECTION

NOTES:

1. INSTALL SILTSACK IN ALL DOWNGRADIENT EXISTING CATCH BASINS BEFORE COMMENCING WORK, AND IN NEW CATCH BASINS IMMEDIATELY AFTER INSTALLATION OF STRUCTURE. MAINTAIN UNTIL BINDER COURSE PAVING IS COMPLETE OR A PERMANENT STAND OF GRASS HAS BEEN ESTABLISHED.
2. GRATE TO BE PLACED OVER SILTSACK.
3. SILTSACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED.

The diagram illustrates the installation of a catch basin inlet protection. The **SECTION VIEW** shows a cross-section of the catch basin inlet with a grate on top. Below the grate is an expansion restraint, and further down is a silt sack. The **PLAN VIEW** shows a top-down view of the catch basin inlet, which is a rectangular structure with a grid pattern representing the grate. A silt sack is shown surrounding the inlet structure.

CATCH BASIN INLET PROTECTION

N.T.S.

The diagram shows a perspective view of a stockpile of material. The stockpile is surrounded by a double-staked straw bale fence. A silt fence is also shown, which is 6 inches deep into the ground. The diagram is labeled **N.T.S.** (Not To Scale).

— STOCKPILES SHALL BE SURROUNDED BY DOUBLE-STAKED STRAW BALES, OR SILT FENCE ENTRENCHED 6" INTO THE GROUND.

NOTES:
SOIL STOCKPILES SHALL BE COVERED WITH ANCHORED TARPS AND THE END OF EACH WORK DAY.

The diagram illustrates the construction of a wire mesh for a seed bed. It includes several key components and specifications:

- STAPLE 12" O.C.:** Indicated for the top and bottom horizontal wires.
- 4" MIN. OVERLAP:** Specified for the horizontal wire connections.
- 6" MIN. OVERLAP:** Specified for the vertical wire connections.
- 6" LOAM & SEED:** The depth of the seed bed below the mesh.
- TYPICAL STAPLES NO. 11 GAUGE WIRE:** Two cross-sectional views of the staples are shown, with dimensions:
 - Staple 1: 1 1/2" wide base, 6" high.
 - Staple 2: 1 1/2" wide base, 10" high.

NOTES:

1. BEGIN AT THE TOP OF BLANKET INSTALLATION AREA BY ANCHORING BLANKET IN A 6" DEEP TRENCH. BACKFILL AND COMPACT TRENCH AFTER STAPLING.
2. ROLL THE BLANKET DOWN THE SWALE IN THE DIRECTION OF THE WATER FLOW.
3. THE EDGE OF THE BLANKET SHALL BE STAPLED WITH APPROX. 4 INCH OVERLAP WHERE 2 OR MORE STRIP WIDTHS ARE REQUIRED.
4. WHEN BLANKETS ARE SPLICED DOWN THE SWALE, PLACE UPPER BLANKET END OVER LOWER END WITH 6 INCH (MIN) OVERLAP AND STAPLE BOTH TOGETHER.
5. METHOD OF INSTALLATION SHALL BE AS PER MANUFACTURERS RECOMMENDATIONS.

The diagram illustrates the required construction for a tree pit. A tree is shown with its root ball, which is a cylinder of soil and roots. The root ball is placed in a pit that is 3 times its diameter. The pit is filled with a backfill mix. The root ball is wrapped in burlap and lacing. The tree is planted so that its crown is 3 inches above the finish grade. A watering saucer is placed around the tree pit, and a 2-inch to 3-inch layer of aged pine bark mulch is applied around the saucer. The root ball is placed 6 inches below the rootball grade. The backfill mix is placed on undisturbed subgrade.

NOTES:

1. TREE WRAP SHALL NOT BE USED
2. TREE SHALL BE SET PLUMB
3. WATERING SAUCER SHALL BE FLOODED TWICE DURING THE FIRST 24 HOURS OF PLANTING
4. 6" LOAM FROM BACK OF SIDEWALK TO THE LIMIT OF WORK.
5. MINIMUM 3" CALIPER TREE

3" INCH HIGH EARTH WATERING SAUCER AROUND TREE PIT

2"—3" AGED PINE BARK MULCH (PULL MULCH AWAY FROM TRUNK OF TREE)

6" BELOW ROOTBALL

ROOTBALL

3 x ROOTBALL DIA

TREE SHALL BE PLANTED SO THAT CROWN IS 3" ABOVE FINISH GRADE AFTER SETTLEMENT

CUT & ROLL BACK 1/3 OF BURLAP BEFORE BACKFILLING. COMPLETELY REMOVE SYNTHETIC BURLAP & LACING BED

BACKFILL MIX PER SPECIAL PROVISIONS

ROOTBALL SHALL BE PLACED ON UNDISTURBED SUBGRADE

NOTES:

1. TREE WRAP SHALL NOT BE USED
2. TREE SHALL BE SET PLUMB
3. WATERING SAUCER SHALL BE FLOWED TWICE DURING THE FIRST 24 HOURS OF PLANTING
4. 6" LOAM FROM BACK OF SIDEWALK TO THE LIMIT OF WORK.
5. MINIMUM 3" CALIPER TREE

TREE SHALL BE PLANTED SO THAT CROWN IS 3" ABOVE FINISH GRADE AFTER SETTLEMENT

CUT & ROLL BACK 1/3 OF BURLAP BEFORE BACKFILLING. COMPLETELY REMOVE SYNTHETIC BURLAP & LACING BED

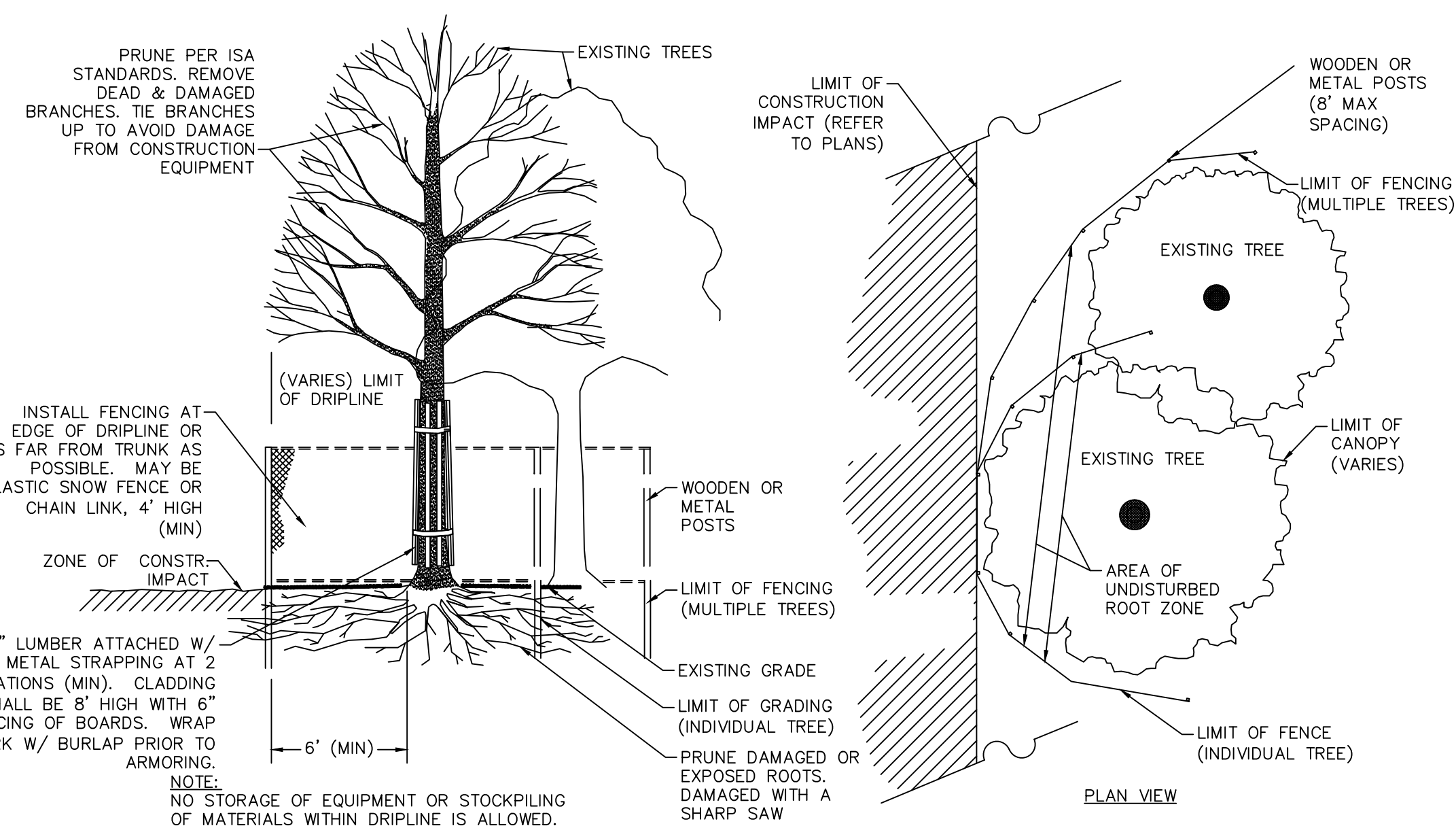
BACKFILL MIX PER SPECIAL PROVISIONS

ROOTBALL SHALL BE PLACED ON UNDISTURBED SUBGRADE

[illegible]

NOTES:

1. ACTUAL LAYOUT TO BE DETERMINED IN FIELD.
2. THE "CONCRETE WASHOUT" SIGN SHALL BE INSTALLED WITHIN 30 FEET OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
3. PIT CAPACITY IS MINIMUM OF 6 CUBIC FEET PER 10 CUBIC YARDS OF CONCRETE.



1½"x1½"x48" WOOD STAKE OR APPROVED EQUAL

SILT FENCE

1"x1 x 36" WOOD STAKE, 2 PER BALE

BALE TWINE TO BE PARALLEL TO GROUND SURFACE

PROTECTED AREA

FLOW

FINISHED GRADE

ENTRENCH BOTTOM OF BALE 4"-6"

WORK AREA

4" EMBEDMENT (MIN)

8" (MIN)

STAPLE

WRAP SILT FENCE AROUND WOOD STAKE

SILT FENCE

WOOD STAKE JOINT DETAIL

2" x 2" x 36" WOOD STAKE,
PLACED 10' O.C.

COMPOST FILTER TUBE
(12"-18" DIAMETER)

3'-4" MIN

WORK AREA

FLOW

2" OF COMPOST

FINISHED GRADE

6"

12" (TYP)

12" (MIN)

PROTECTED AREA

WORK AREA

FLOW

36" MIN

PROTECTED AREA

PLAN VIEW

STAKE CAN BE INSTALLED
ALONG THE OUTSIDE OR
ROUGH COMPOST FILTER TUBE

NOTES:

NOTES:

1. CONFIGURE TUBES AROUND EXISTING FEATURES TO MINIMIZE SITE DISTURBANCE AND MAXIMIZE CAPTURE AREA OF STORMWATER RUN-OFF. TUBES SHALL BE PLACED PERPENDICULARLY TO STORMWATER FLOW WHERE POSSIBLE.
2. TUBES FOR COMPOST FILTERS SHALL BE JUTE MESH OR APPROVED BIODEGRADABLE MATERIAL. ADDITIONAL TUBES SHALL BE USED AT THE DIRECTION OF THE ENGINEER.
3. TUBES MAY BE SLEEVED OR PROVIDED A 3 FEET MINIMUM OVERLAP AT THE ENDS OF THE TUBE FOR A CONTINUOUS BARRIER.
4. TAMP TUBES IN PLACE TO ENSURE GOOD CONTACT WITH SOIL SURFACE. IT IS NOT NECESSARY TO TRENCH TUBES INTO EXISTING GRADE.
5. WHEN STAKING IS NOT POSSIBLE, SUCH AS WHEN TUBES MUST BE PLACED ON PAVEMENT, HEAVY CONCRETE OR OTHER BLOCKS CAN BE USED BEHIND TUBES UP TO 5 FT. APART OR AS REQUIRED TO SECURE TUBES IN PLACE. DO NOT PUNCTURE TUBES WITH STAKES.
6. TUBES CAN BE PLACED DIRECTLY ON EXISTING PAVEMENT WHEN NECESSARY.
7. UPON COMPLETION OF PROJECT, ALL TUBES USED FOR EROSION CONTROL SHALL BE REMOVED FROM PROJECT LIMITS, OR DETERMINED BY THE ENGINEER, CAN BE DISPERSED ON SITE.

PERIMETER EROSION CONTROL
N.T.S.



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DESIGNED BY	RJF	DATE	11-26-25
CHECKED BY	CPR	SCALE	AS NOTED

PROJECT NO.
T1180

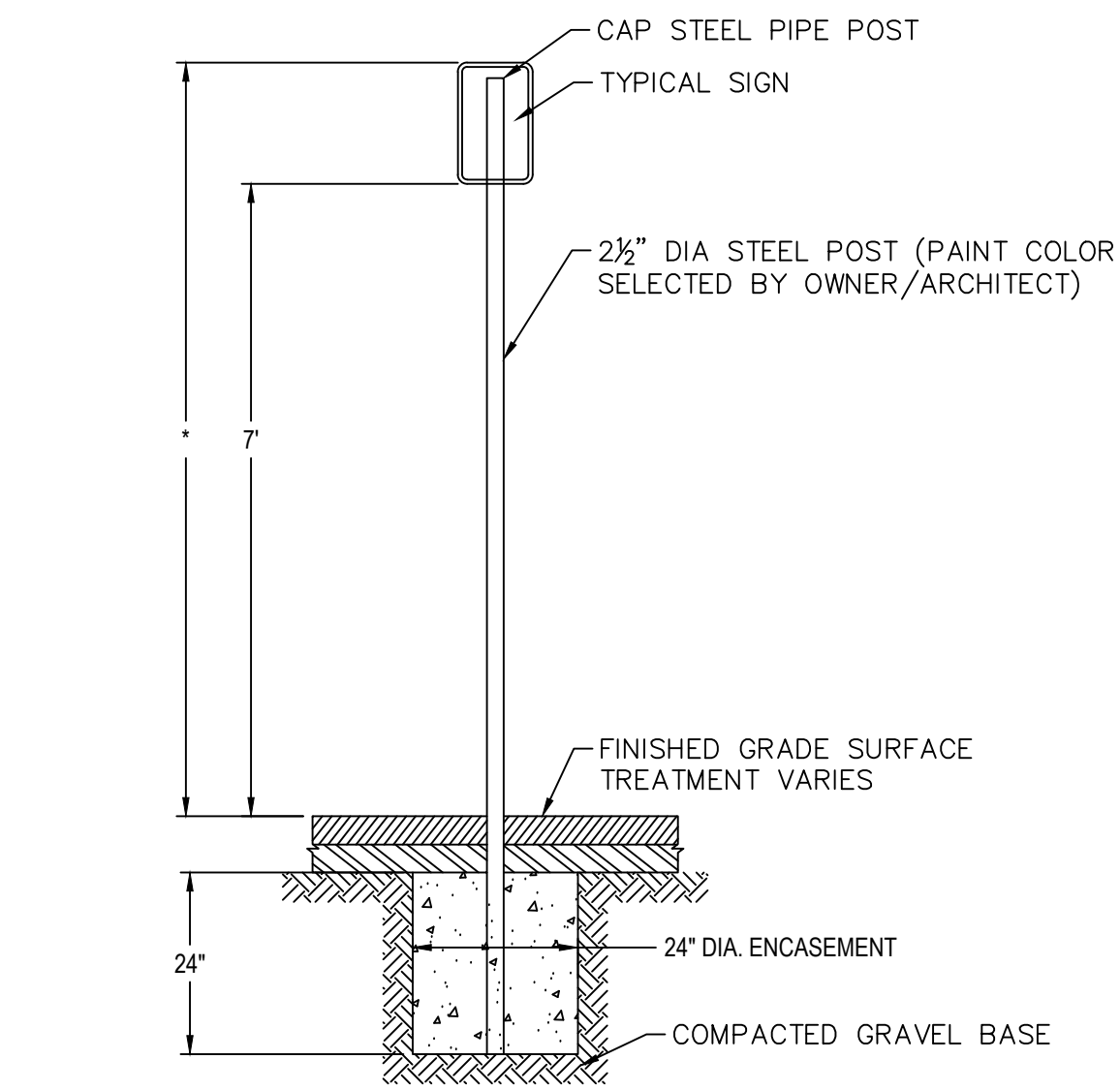
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DRAWING NO.
C-32

SHEET 32 OF 63

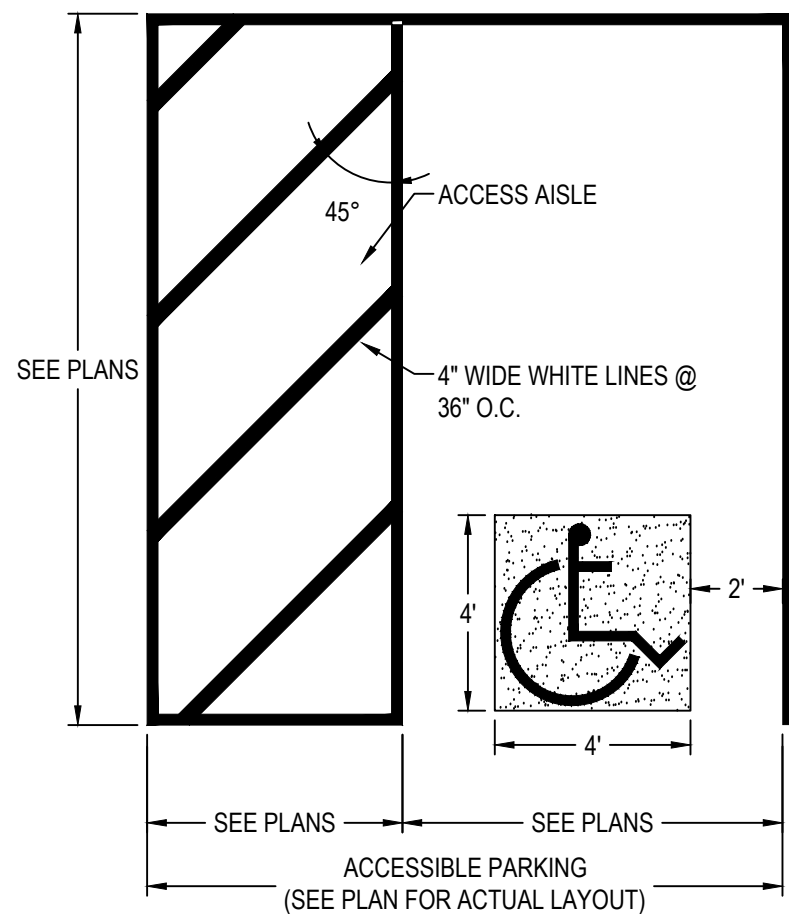


Chris T. Lyman
11/26/2025



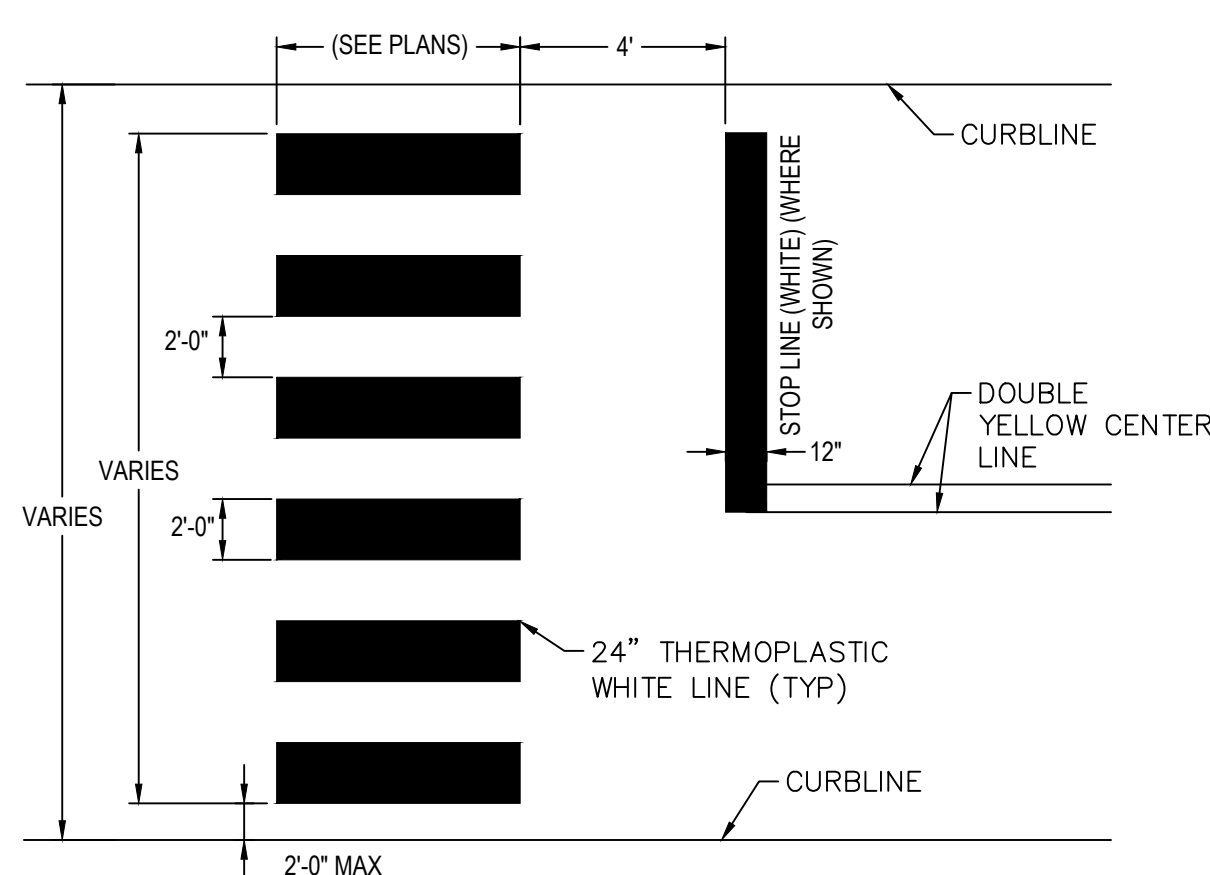
*THIS DIMENSION SHALL BE A MINIMUM OF 5' AND A MAXIMUM OF 8' FOR ACCESSIBLE SIGNAGE IN THE COMMONWEALTH OF MASSACHUSETTS.

SIGN POST
N.T.S.



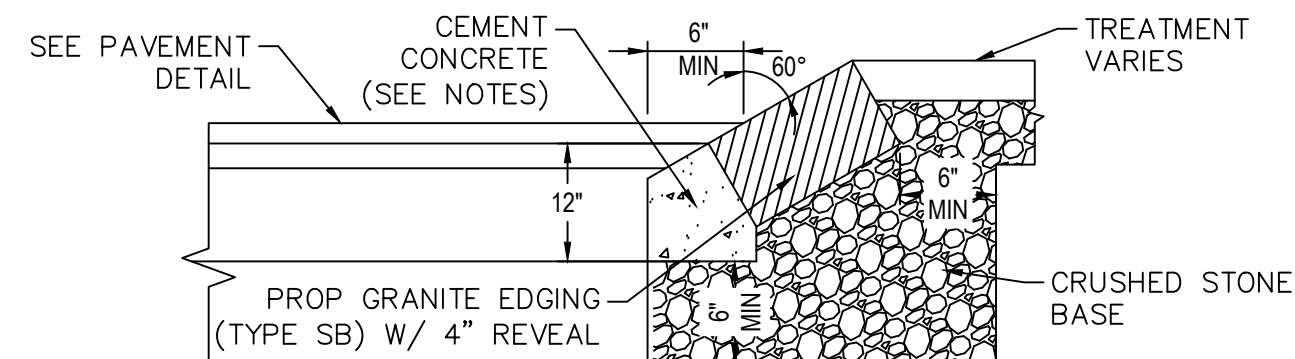
- NOTES:
1. ALL DIMENSIONS TO EDGE OF 4" PAVEMENT STRIPING. ALL STRIPING SHALL BE 4" WIDE SOLID WHITE PAVEMENT MARKINGS UNLESS OTHERWISE NOTED.
 2. 8' CLEAR WIDTH REFERS TO 8' BETWEEN INSIDE EDGES OF PAVEMENT MARKINGS. SYMBOL SHALL BE CENTERED WITHIN PARKING STALL
 - 3.
 - 4.

ACCESSIBLE PARKING SPACE
N.T.S.



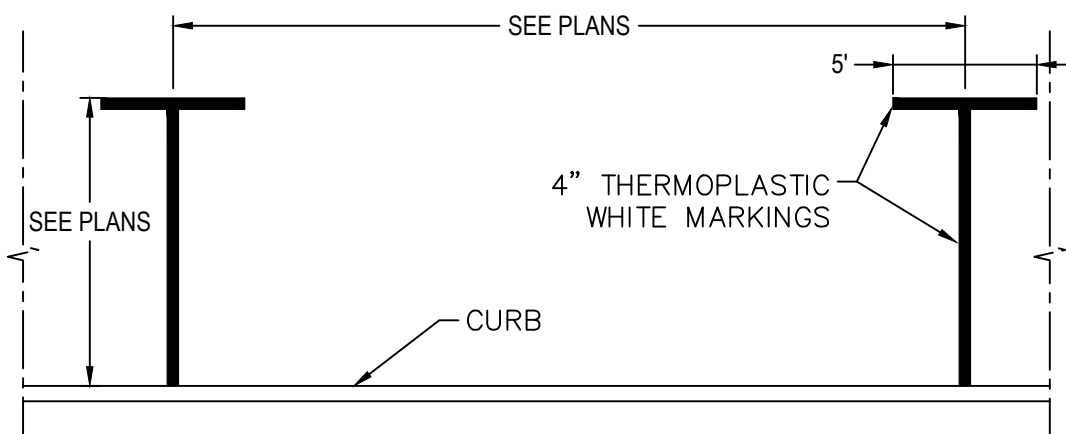
- NOTES:
1. ALL 12" LINES SHALL BE APPLIED IN ONE APPLICATION. NO COMBINATION OF LINES (TWO - 6" LINES) WILL BE ACCEPTED. ALL 24" LINES MAY BE EITHER ONE 24" LINE OR A COMBINATION OF TWO - 12" LINES.
 2. LAYOUT OF CROSSWALKS SHALL BE APPROVED BY THE ENGINEER PRIOR TO APPLICATION.
 3. CROSSWALK BARS SHALL BE PLACED OUTSIDE THE VEHICULAR WHEEL PATH WHEREVER POSSIBLE.

CROSSWALK PAVEMENT MARKING
N.T.S.

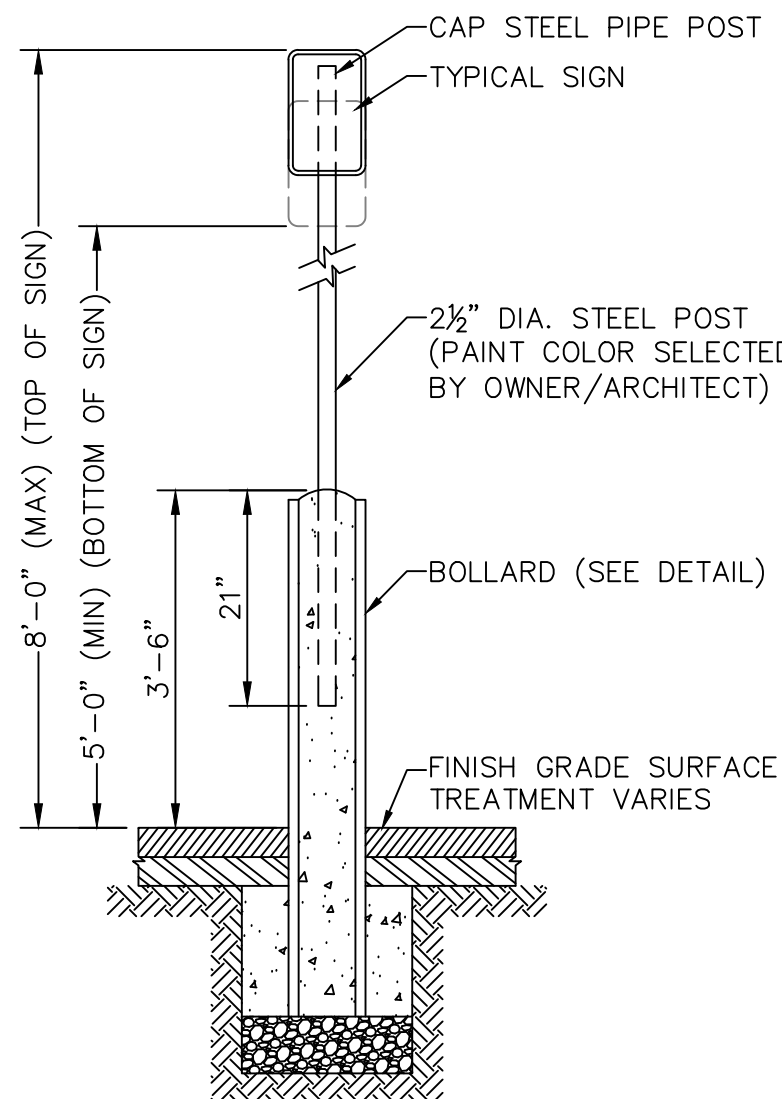


1. CONCRETE SHALL BE INCLUDED IN PRICE BID FOR VARIOUS GRANITE EDGING ITEMS FOR 6" OFFSET FROM FACE OF CURB.
2. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE MASSDOT STANDARD SPECIFICATIONS MAY BE USED; ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT BE USED AS A SUBSTITUTE.
3. FOR ALL OTHER DIMENSIONS, SEE MASSDOT CONSTRUCTION STANDARD E106.5.0

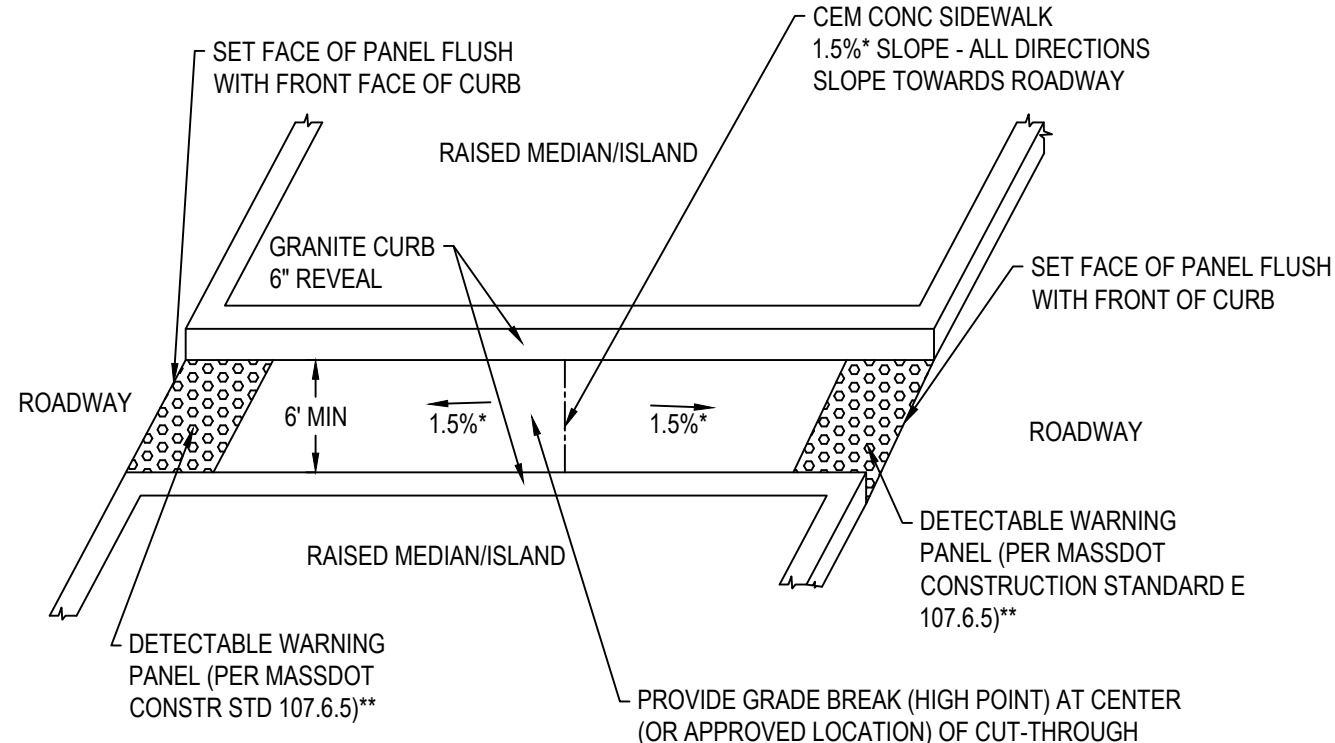
GRANITE EDGING
N.T.S.



PARALLEL PARKING PAVEMENT MARKING
N.T.S.

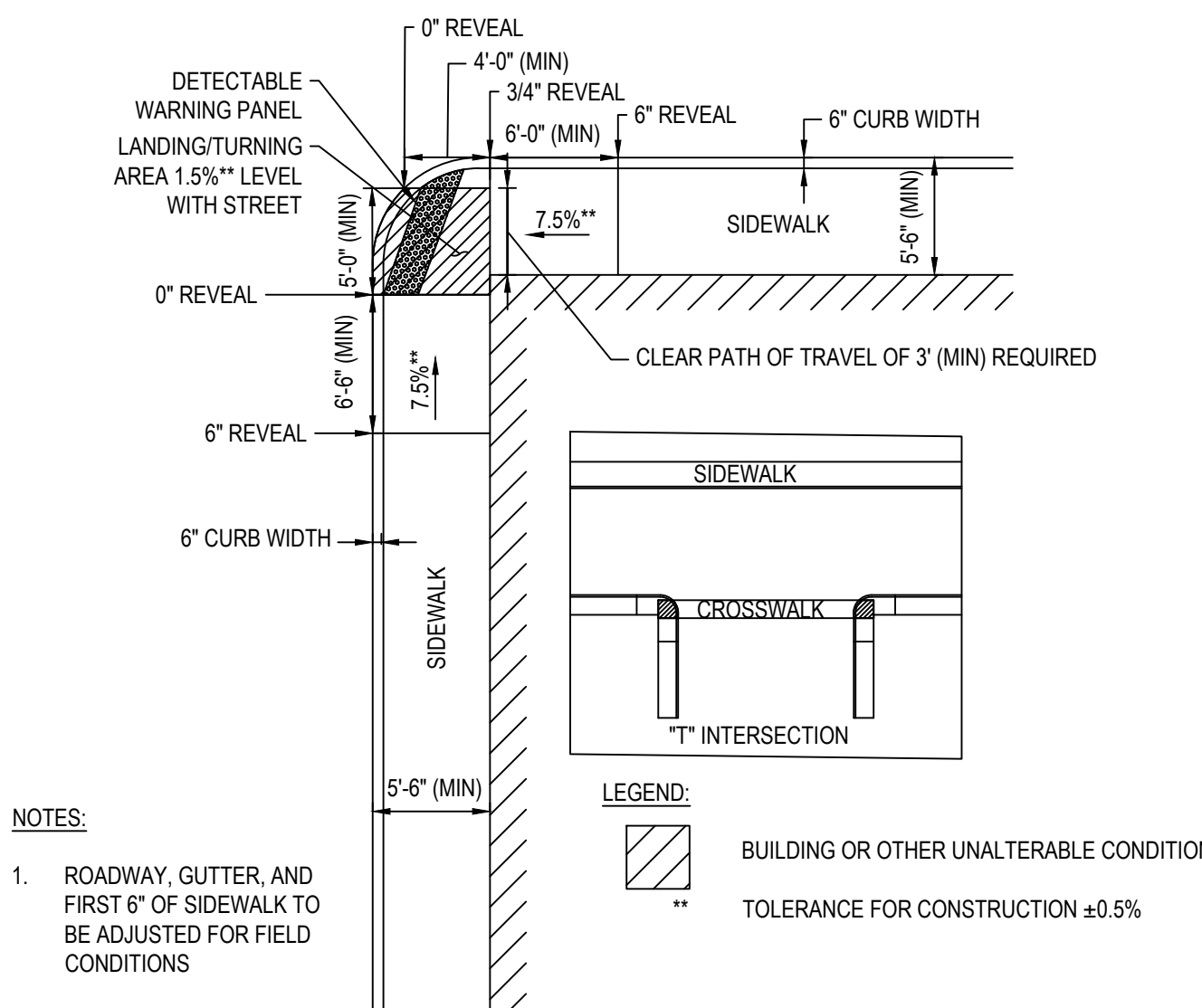


BOLLARD MOUNTED SIGN
N.T.S.



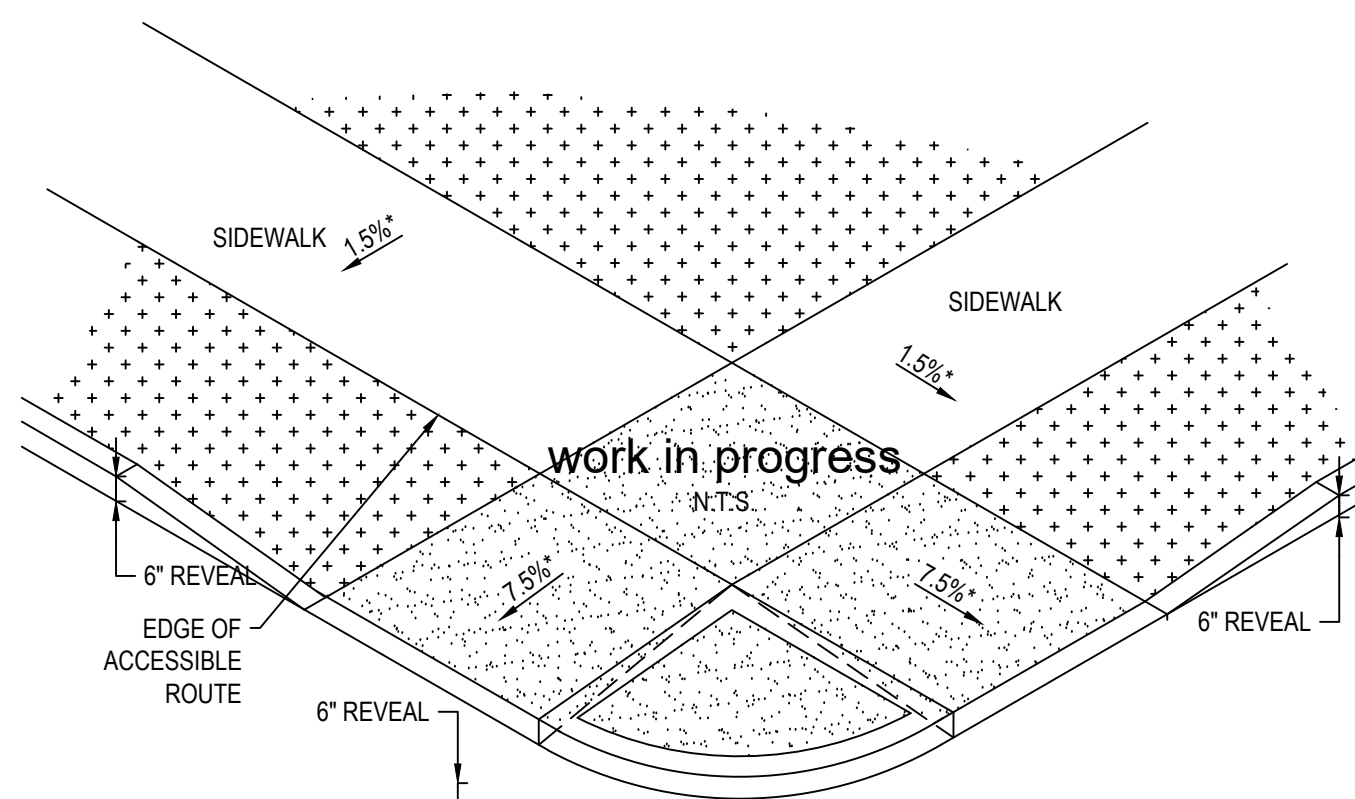
- NOTES:
1. ALL SLOPES ARE MAXIMUMS. TOLERANCE FOR CONSTRUCTION $\pm 0.5\%$
 2. DETECTABLE WARNING PANELS TO BE PLACED WHEN MEDIAN OPENING IS 6' OR GREATER IN WIDTH.
 3. CROSS SLOPE TO MATCH ROADWAY SLOPE

MEDIAN CUT-THROUGH
N.T.S.



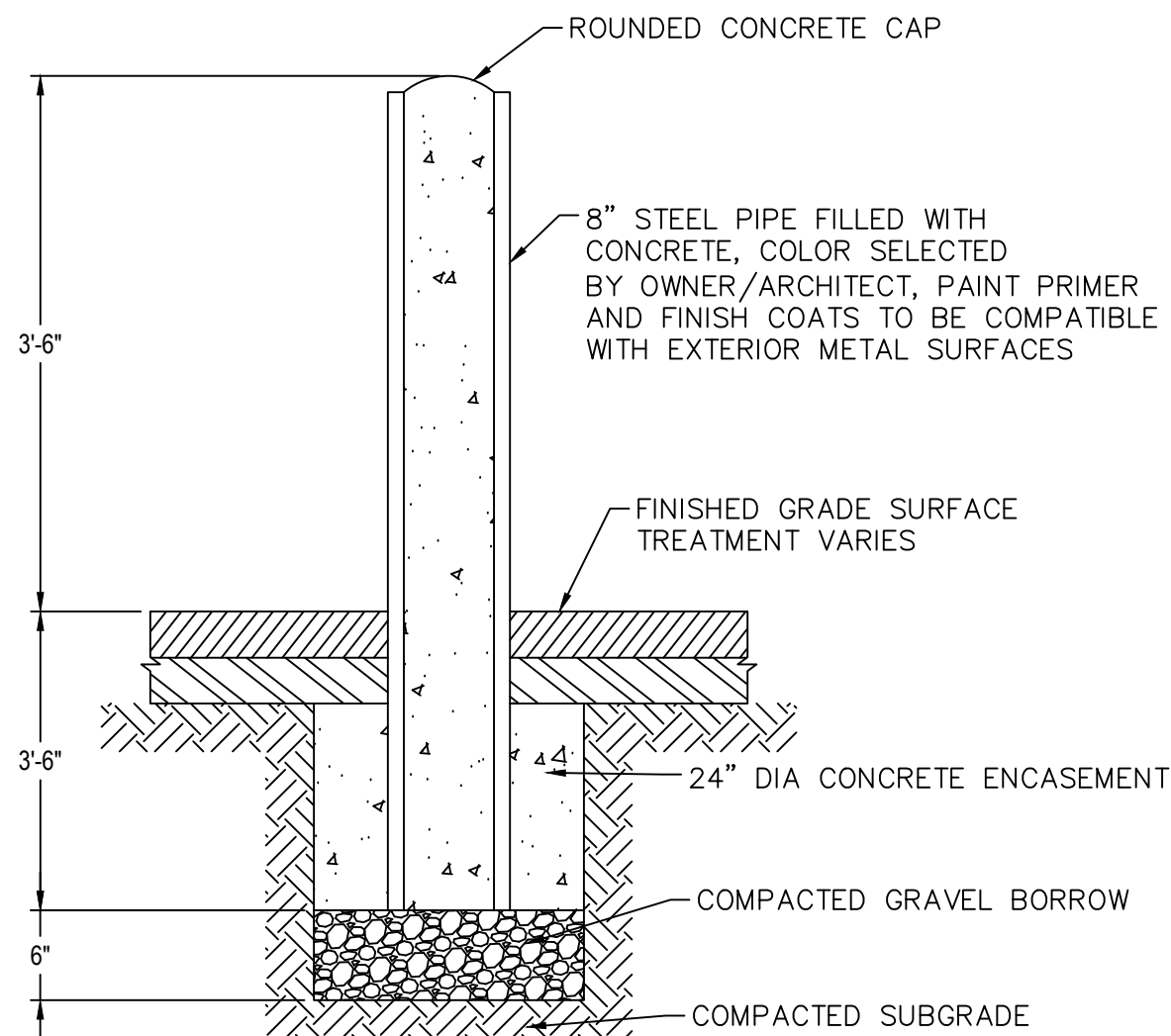
- NOTES:
1. ROADWAY, GUTTER, AND FIRST 6" OF SIDEWALK TO BE ADJUSTED FOR FIELD CONDITIONS

"T" INTERSECTION WHEELCHAIR RAMP
N.T.S.



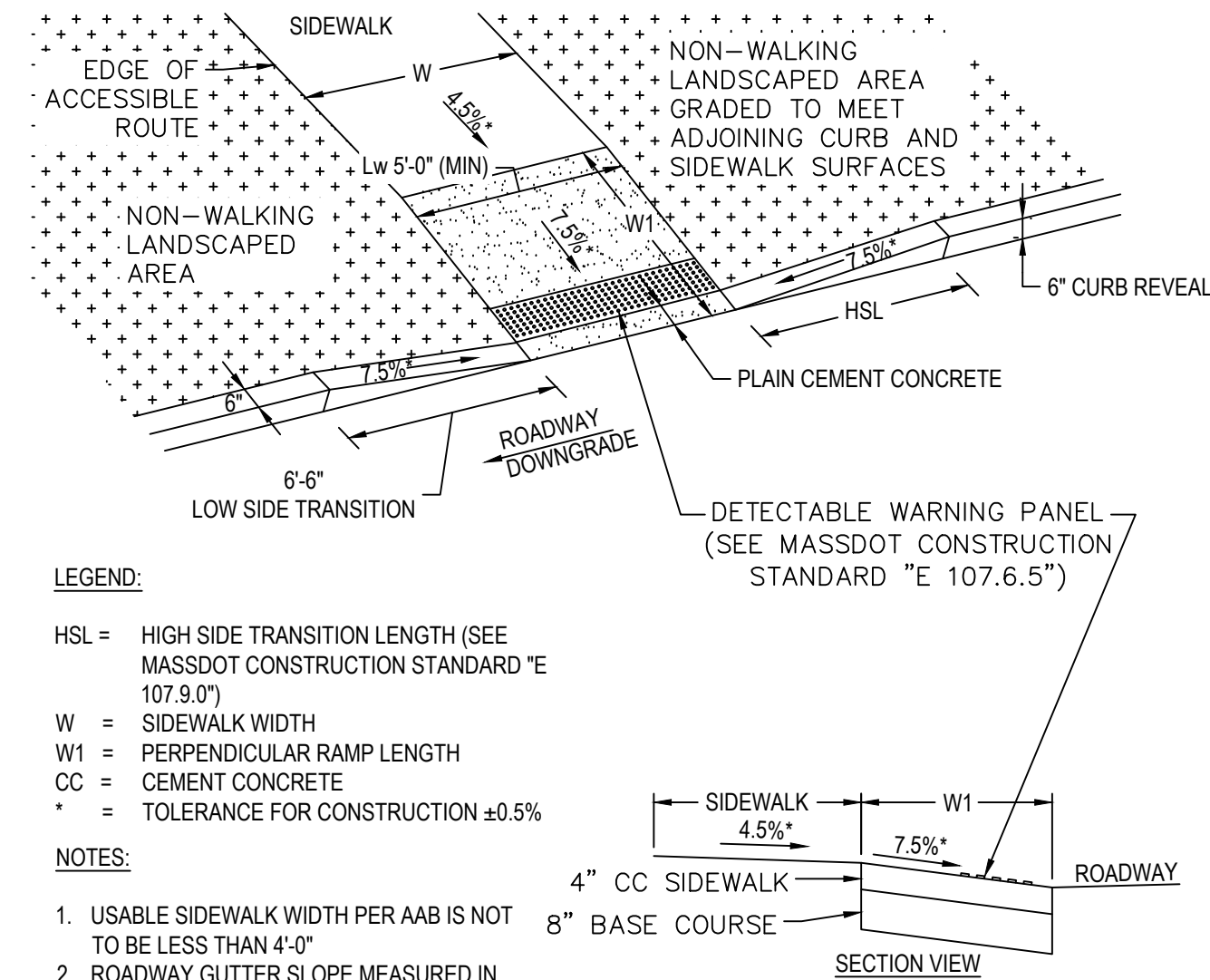
- LEGEND:
- HSL = HIGH SIDE TRANSITION LENGTH (SEE MASSDOT CONSTRUCTION STANDARDS)
- LSL = LOW SIDE TRANSITION LENGTH
- W = SIDEWALK WIDTH
- W1 = PERPENDICULAR RAMP LENGTH
- CC = CEMENT CONCRETE
- * = TOLERANCE FOR CONSTRUCTION $\pm 0.5\%$
- NOTES:
1. USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'-0".
 2. ROADWAY GUTTER SLOPE MEASURED IN UPSTATION DIRECTION.
 3. SEE MASSDOT CONSTRUCTION STANDARDS FOR DETECTABLE WARNING PANEL DETAILS.

WHEELCHAIR RAMP
N.T.S.



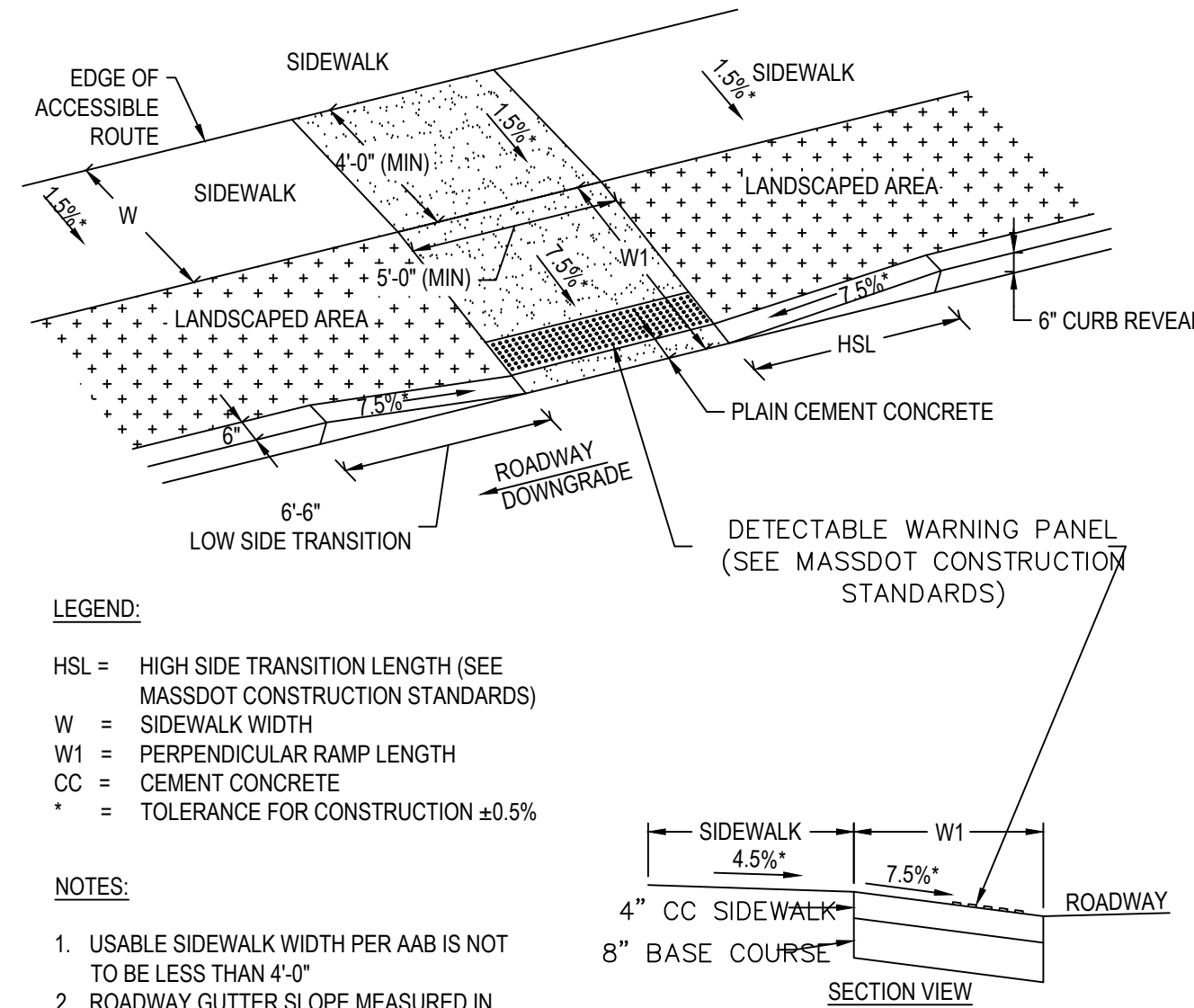
NOTE: BOLLARDS SHALL BE PLACED IN ACCORDANCE WITH THE ADA ACCESSIBILITY GUIDELINES. A MINIMUM CLEAR WIDTH OF 36" SHALL BE PROVIDED TO MAINTAIN AN ACCESSIBLE PATH.

BOLLARD
N.T.S.



- LEGEND:
- HSL = HIGH SIDE TRANSITION LENGTH (SEE MASSDOT CONSTRUCTION STANDARD "E 107.9.0")
- W = SIDEWALK WIDTH
- W1 = PERPENDICULAR RAMP LENGTH
- CC = CEMENT CONCRETE
- * = TOLERANCE FOR CONSTRUCTION $\pm 0.5\%$
- NOTES:
1. USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'-0".
 2. ROADWAY GUTTER SLOPE MEASURED IN UPSTATION DIRECTION
 3. SEE MASSDOT CONSTRUCTION STANDARD "E 107.6.5" FOR DETECTABLE WARNING PANEL DETAILS

WHEELCHAIR RAMP
N.T.S.



- LEGEND:
- HSL = HIGH SIDE TRANSITION LENGTH (SEE MASSDOT CONSTRUCTION STANDARDS)
- W = SIDEWALK WIDTH
- W1 = PERPENDICULAR RAMP LENGTH
- CC = CEMENT CONCRETE
- * = TOLERANCE FOR CONSTRUCTION $\pm 0.5\%$
- NOTES:
1. USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'-0".
 2. ROADWAY GUTTER SLOPE MEASURED IN UPSTATION DIRECTION
 3. SEE MASSDOT CONSTRUCTION STANDARDS FOR DETECTABLE WARNING PANEL DETAILS

WHEELCHAIR RAMP
N.T.S.

REVISIONS	
DRAWING TITLE	
Construction Details	
SUBDIVISION NAME & LOCATION	
King Street Commons	
550 King Street Littleton, MA 01460	
OWNER / APPLICANT / SUBDIVIDER	
Lupoli Companies	
282 Merrimack Street Lawrence, MA 01843	
DESIGNER / ENGINEER	

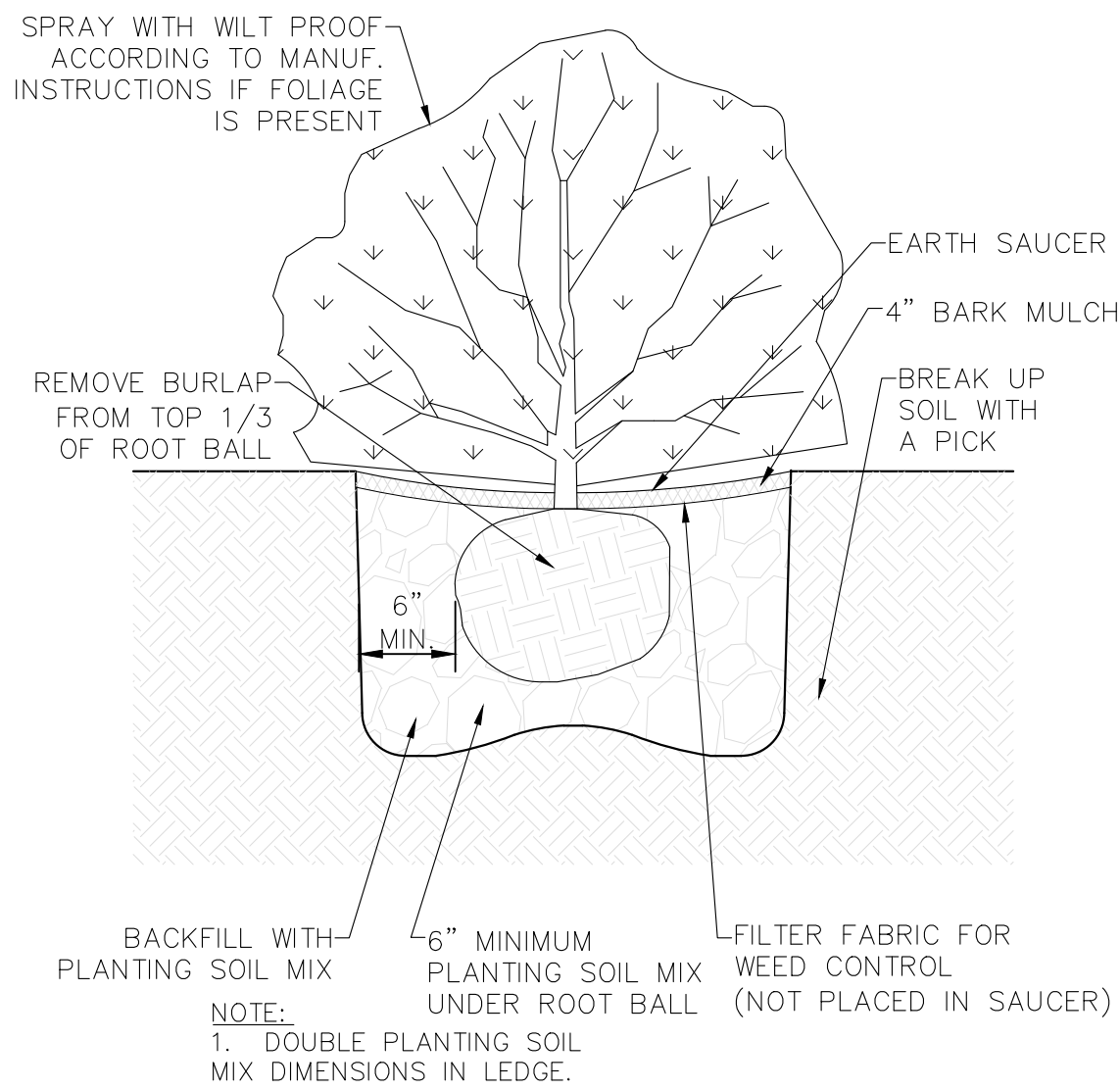


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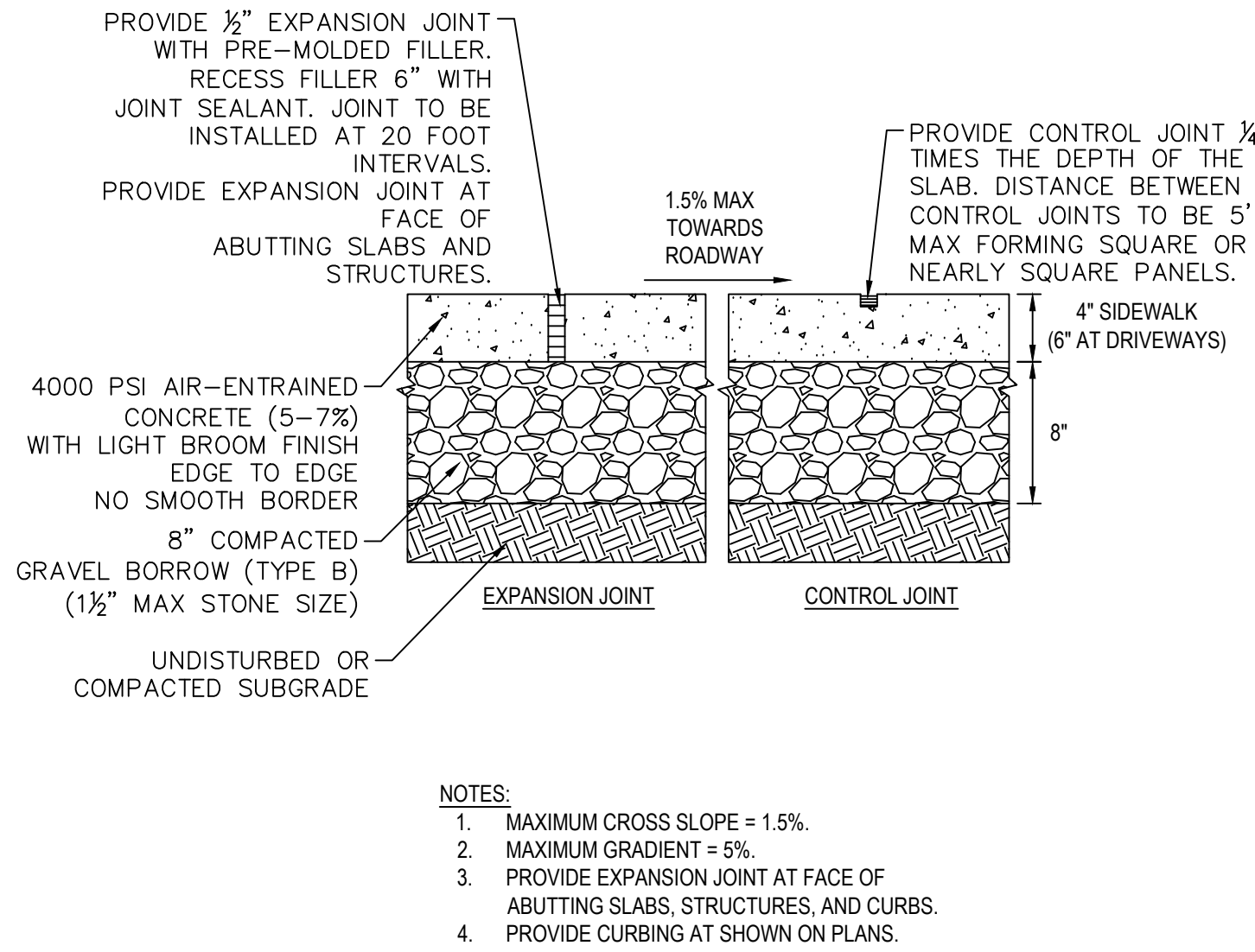
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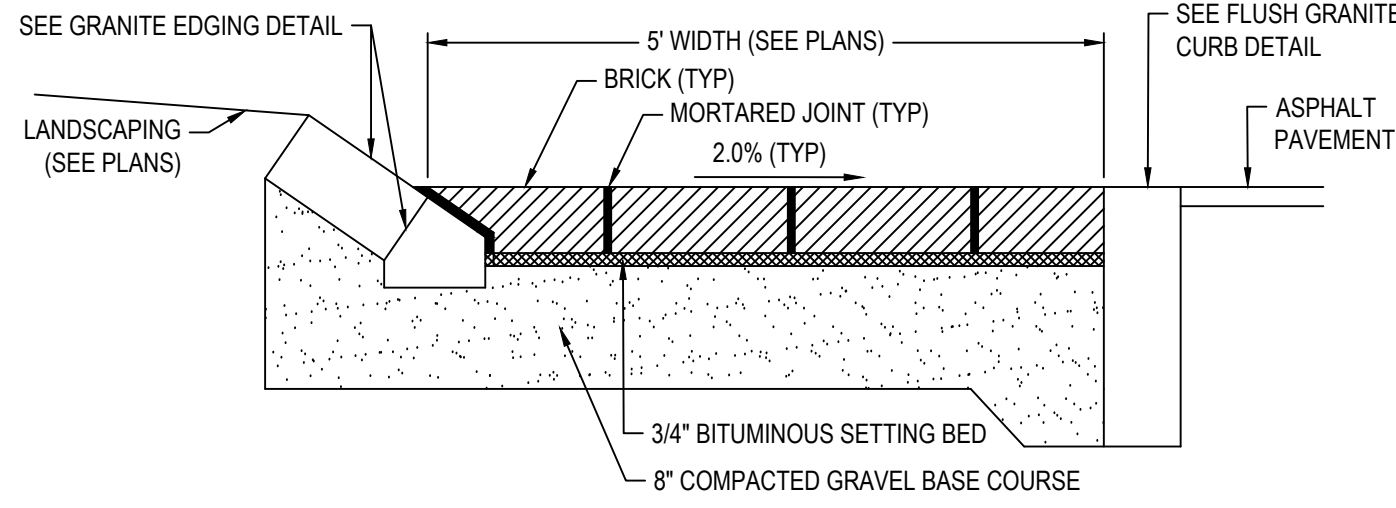
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SHEET 33 OF 63



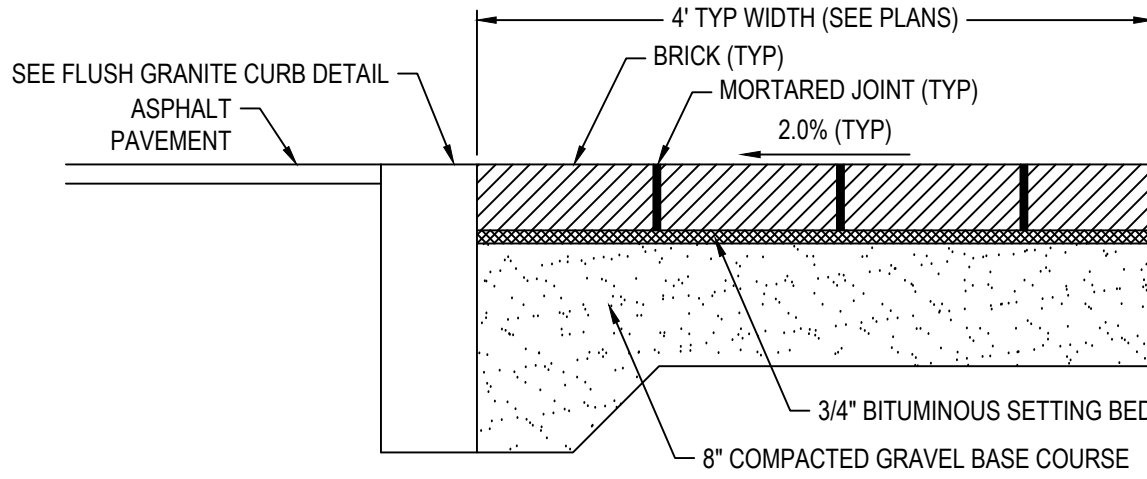
SHRUB PLANTING DETAIL
N.T.S.



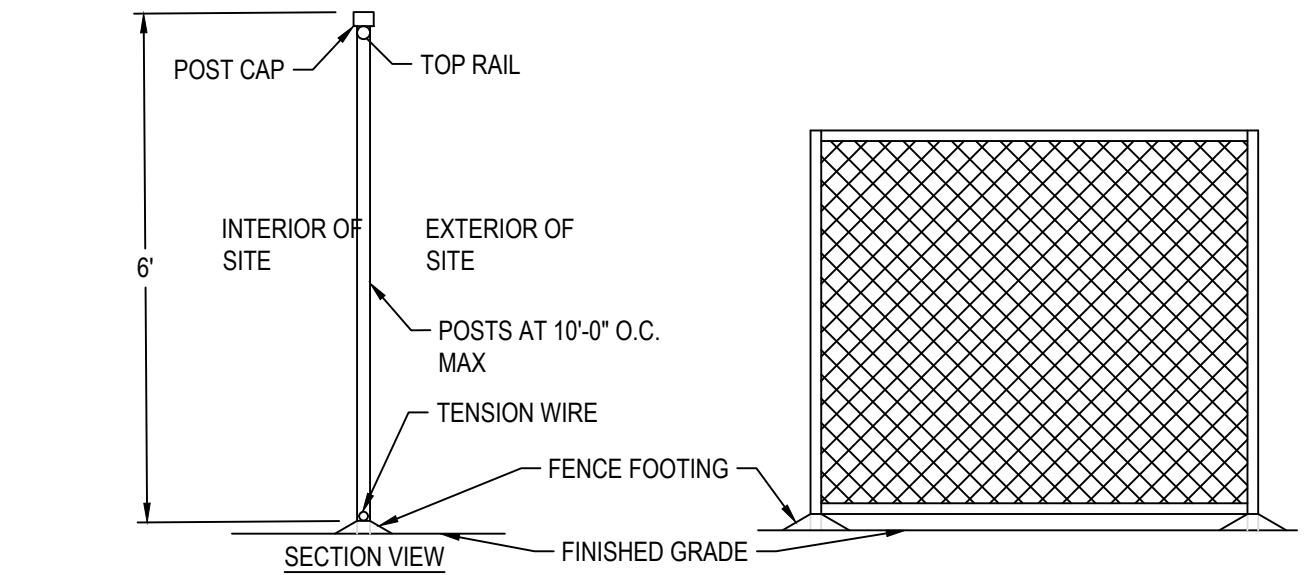
CEMENT CONCRETE SIDEWALK
N.T.S.



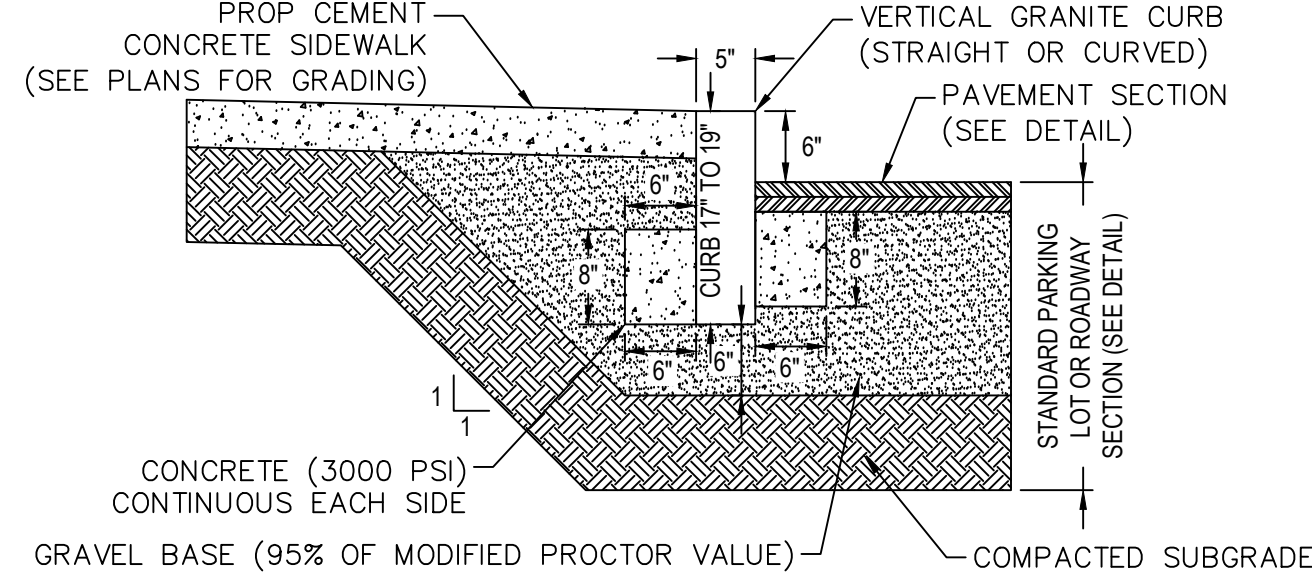
ROUNDBOUT BRICK TURN APRON
N.T.S.



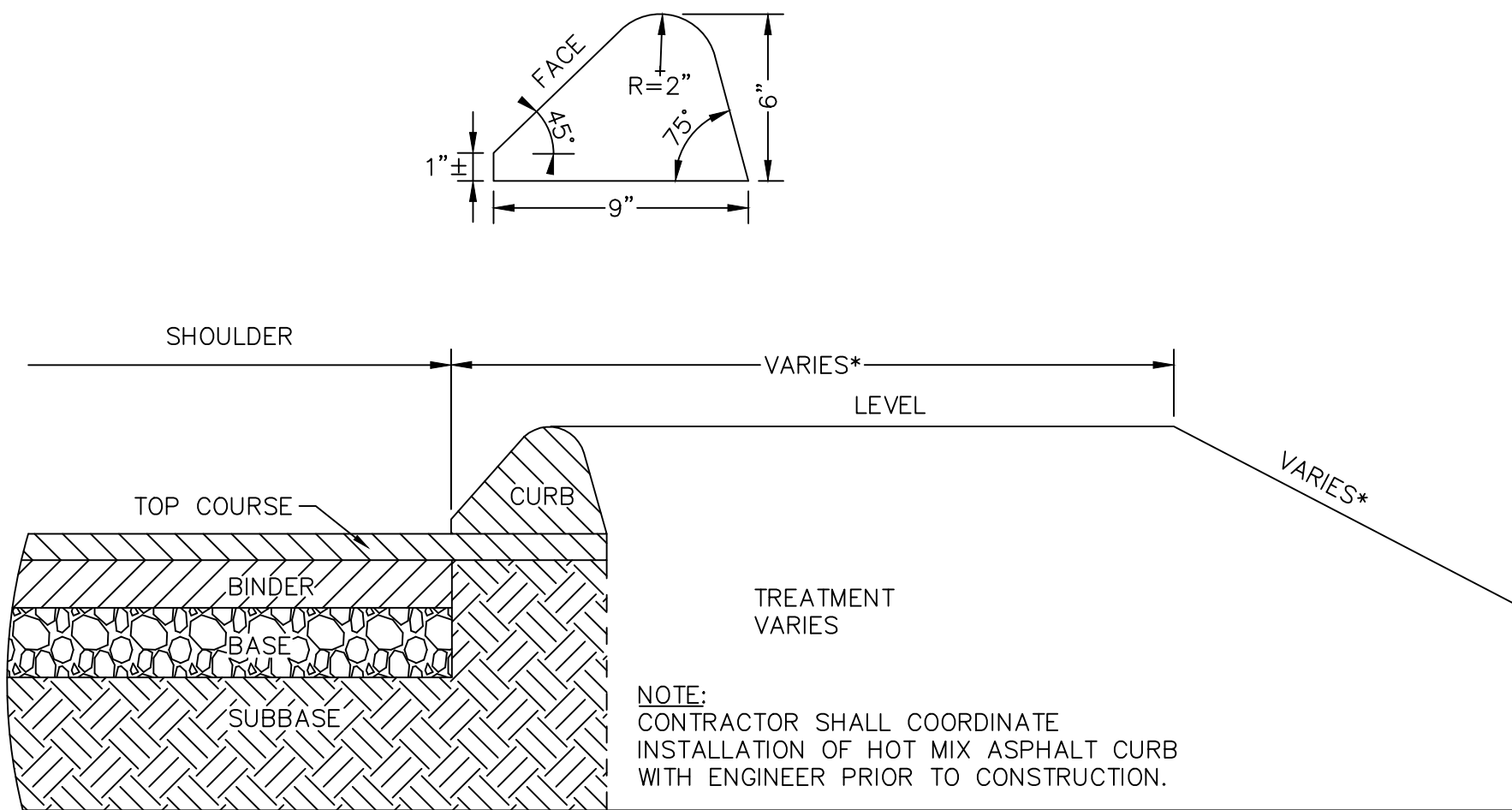
BRICK PAVER MEDIAN
N.T.S.



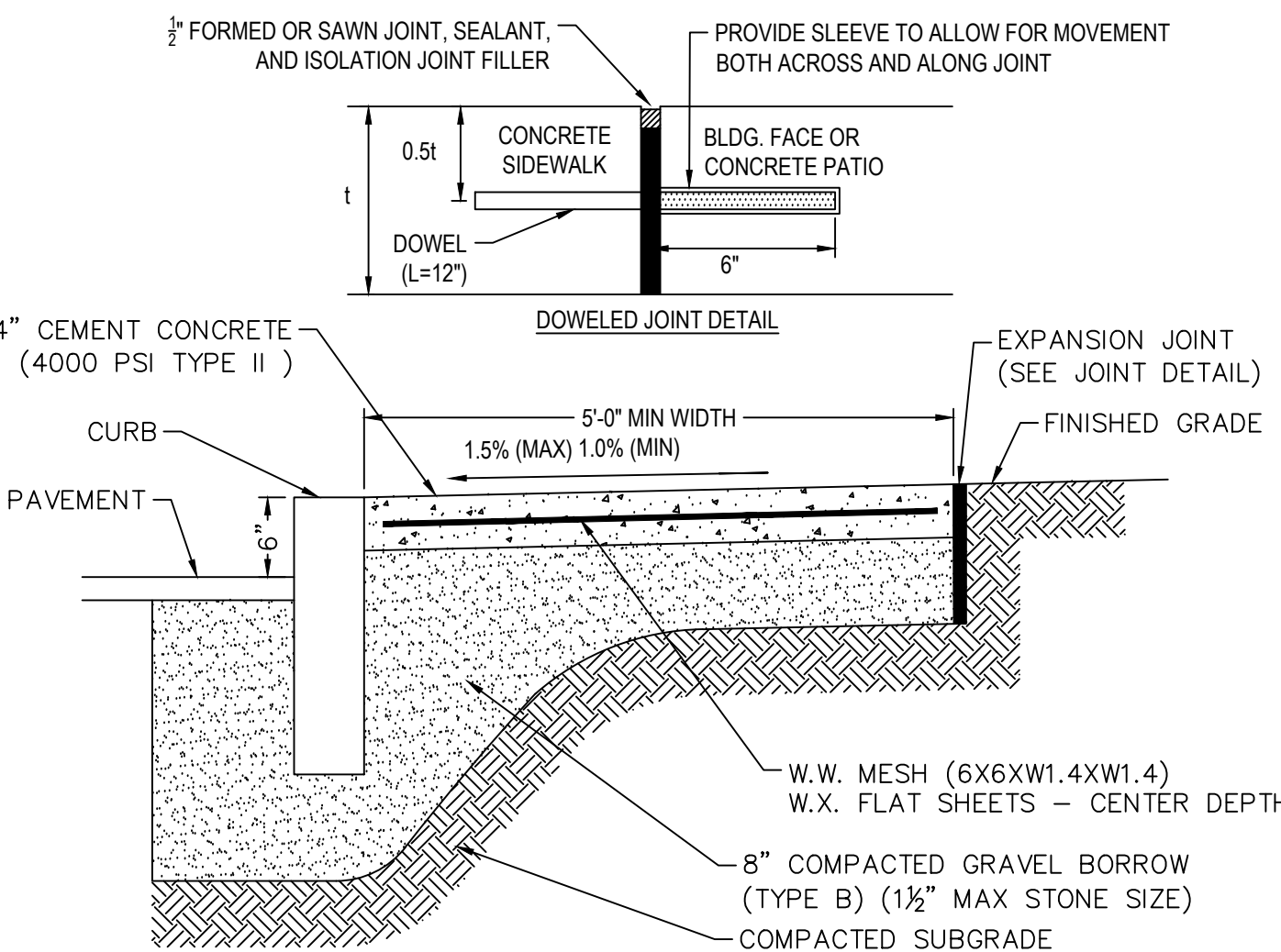
TEMPORARY FENCE
N.T.S.



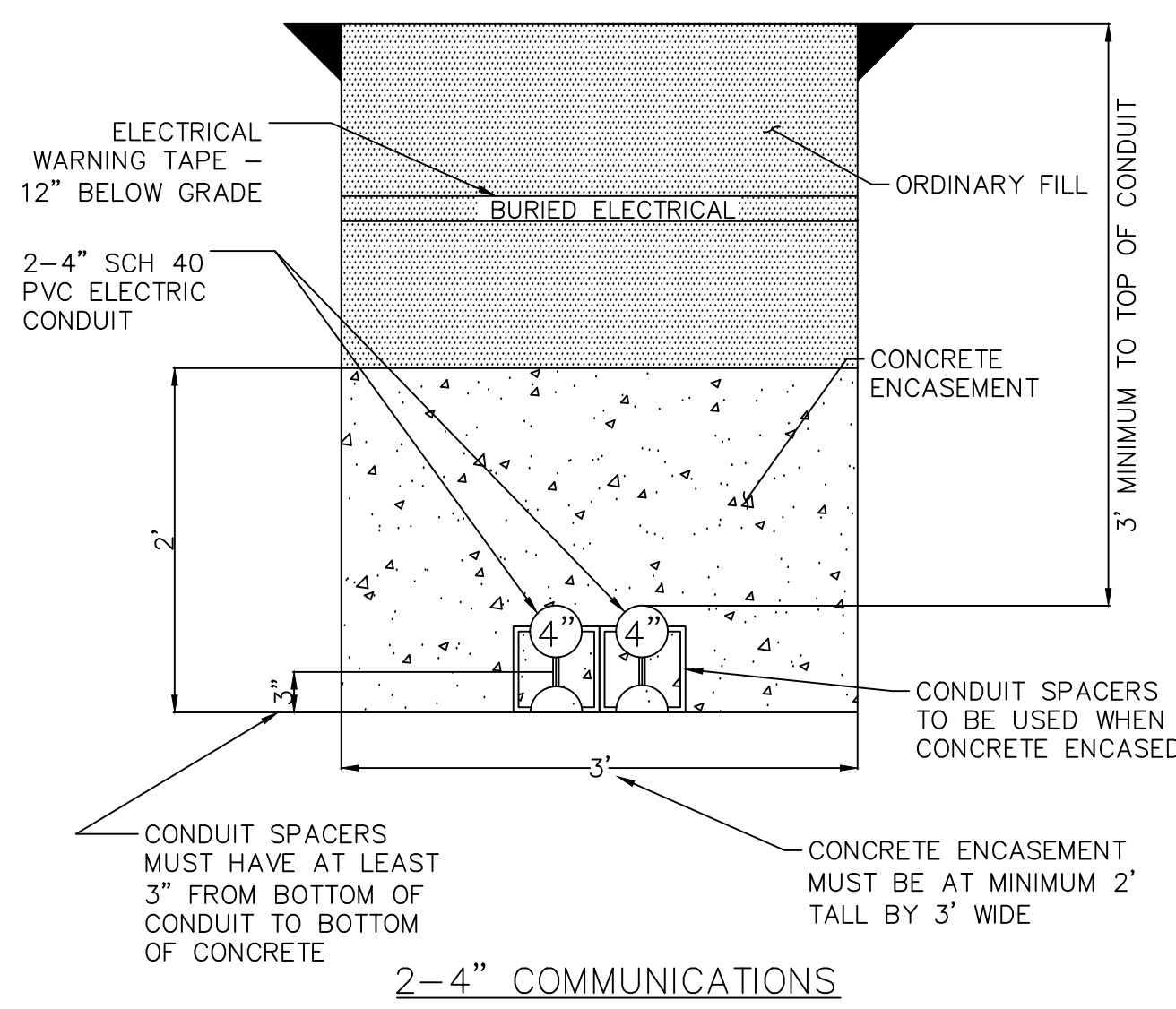
VERTICAL GRANITE CURB (VGC)
N.T.S.



HOT MIX ASPHALT CURB
N.T.S.

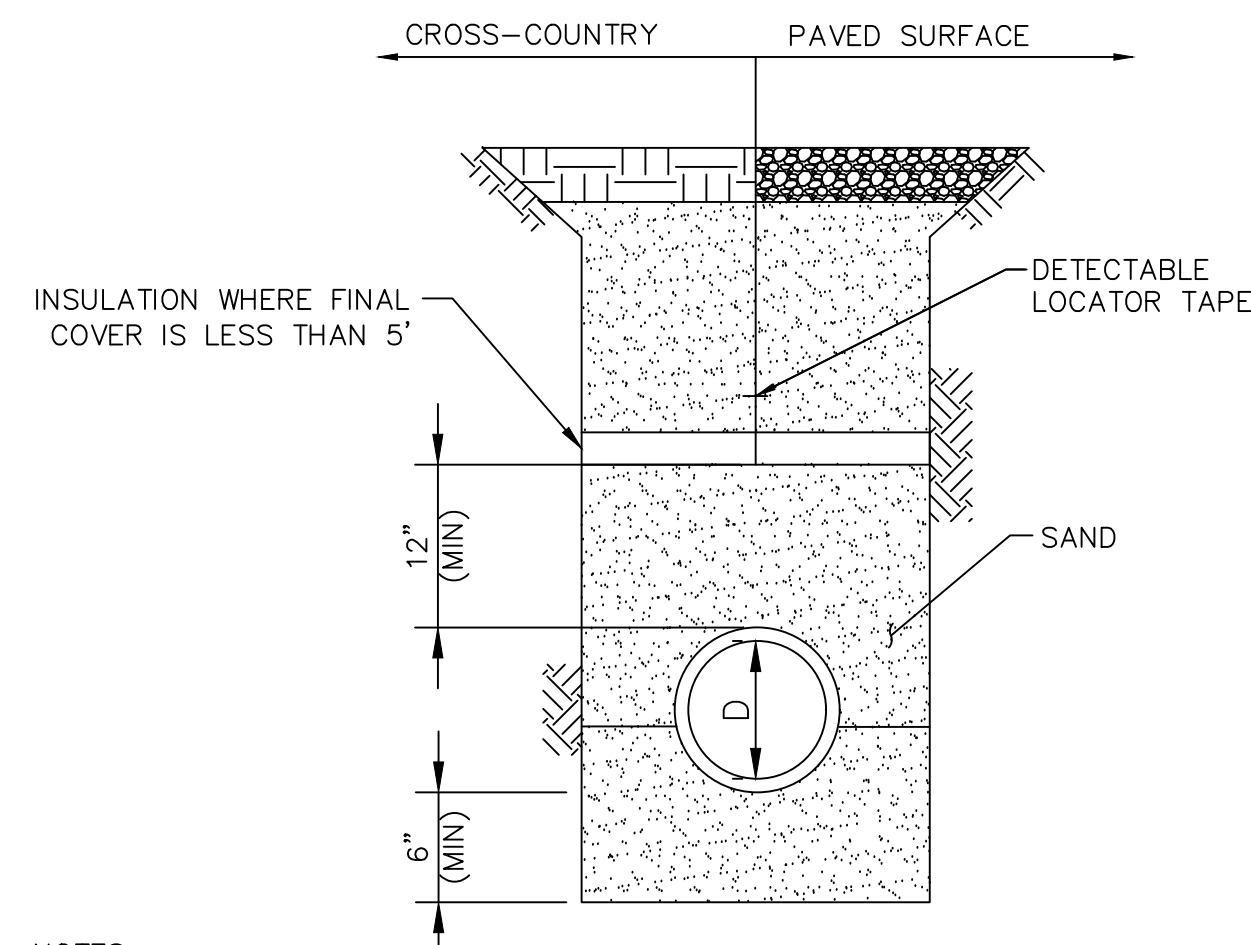


CEMENT CONCRETE SIDEWALK
N.T.S.



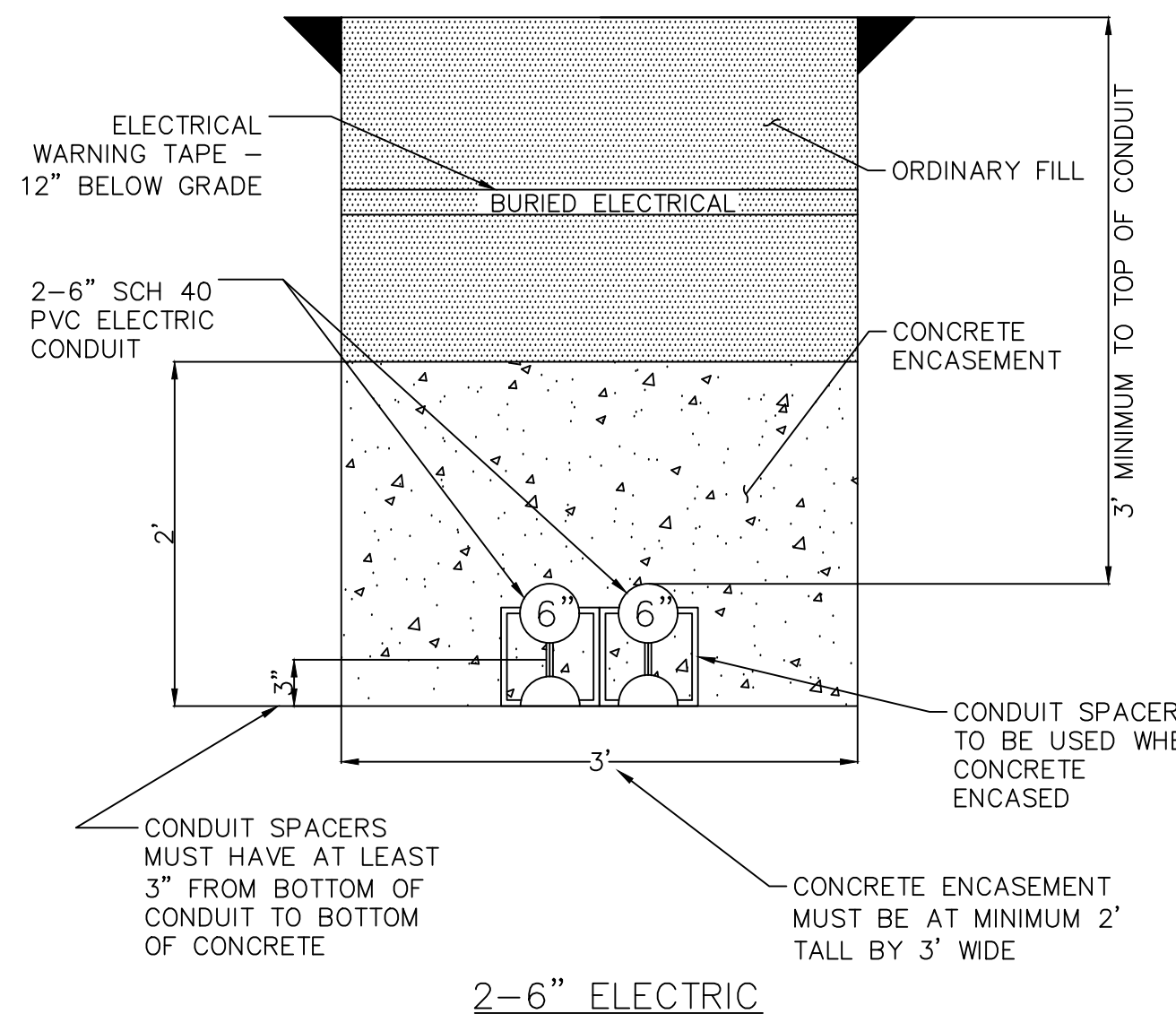
2-4" COMMUNICATIONS

NOTES:
1. PROVIDE A DOWELED CONSTRUCTION JOINT AT ALL DOORWAY LOCATIONS



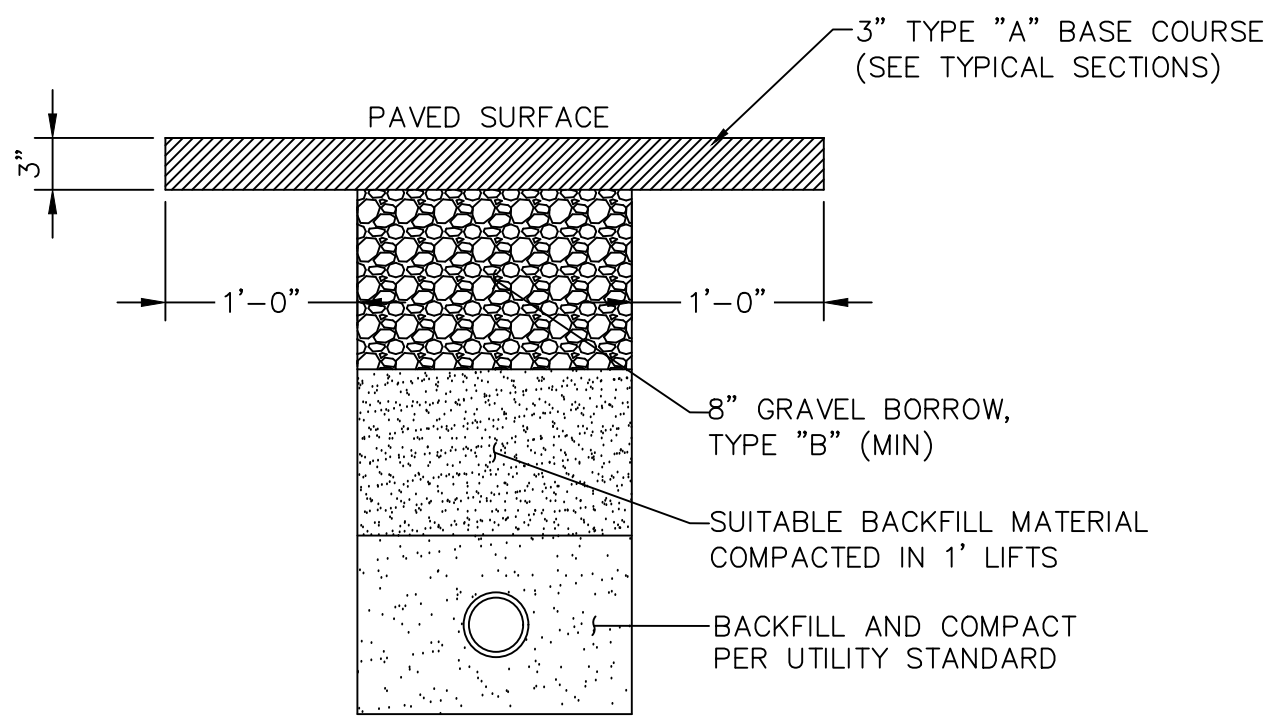
WATERLINE TRENCH
N.T.S.

NOTES:
1. ALL WATER LINES 4" OR GREATER SHALL BE DUCTILE IRON WITH AN 8 MIL POLYETHYLENE WRAP. CONTRACTOR MAY FORGO WRAPPING PIPE IF THE DUCTILE IRON PIPE IS ZINC-COATED, TEES AND OTHER CONNECTIONS WILL STILL NEED TO BE WRAPPED.

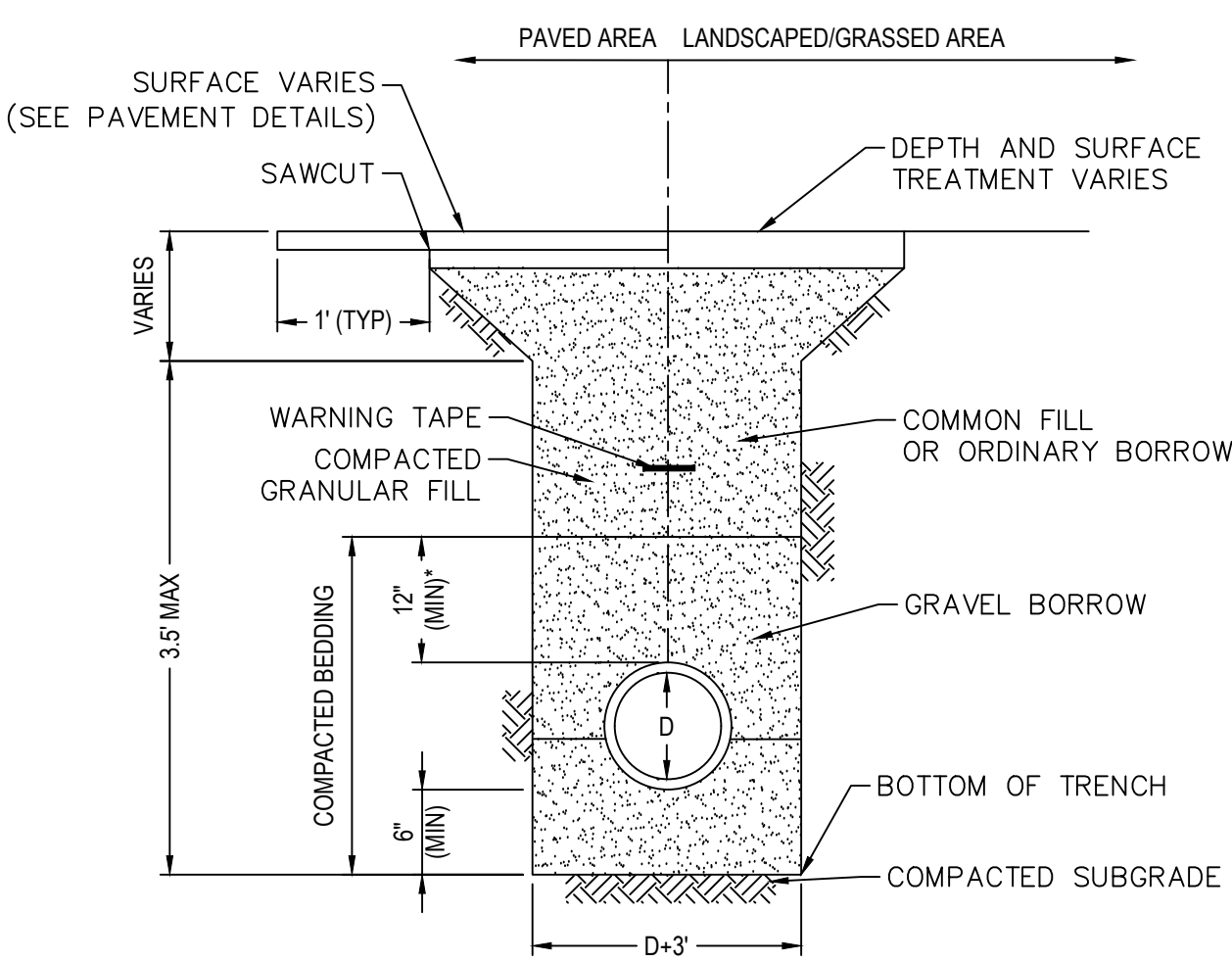


2-6" ELECTRIC

CONDUIT DUCT BANK
N.T.S.



PAVEMENT PATCHING STANDARDS
N.T.S.



UTILITY TRENCH
N.T.S.

*= FOR HDPE PIPE, DIMENSION IS 24" (MIN)

REVISIONS

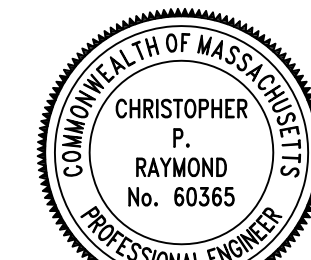
DRAWING TITLE
Construction Details
SUBDIVISION NAME & LOCATION
King Street Commons 550 King Street Littleton, MA 01460
OWNER / APPLICANT / SUBDIVIDER
Lupoli Companies 282 Merrimack Street Lawrence, MA 01843
DESIGNER / ENGINEER



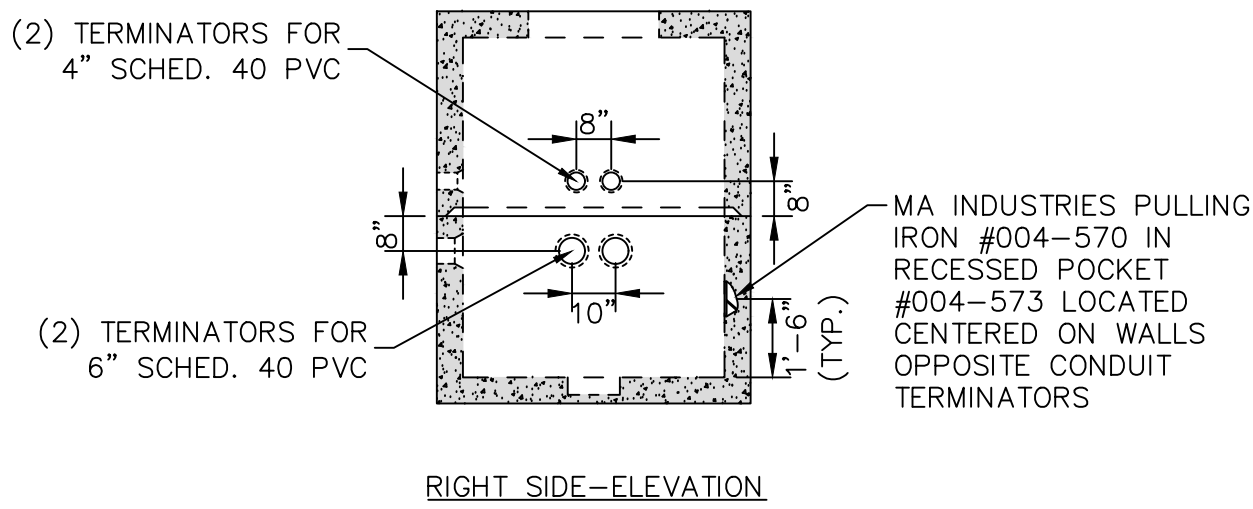
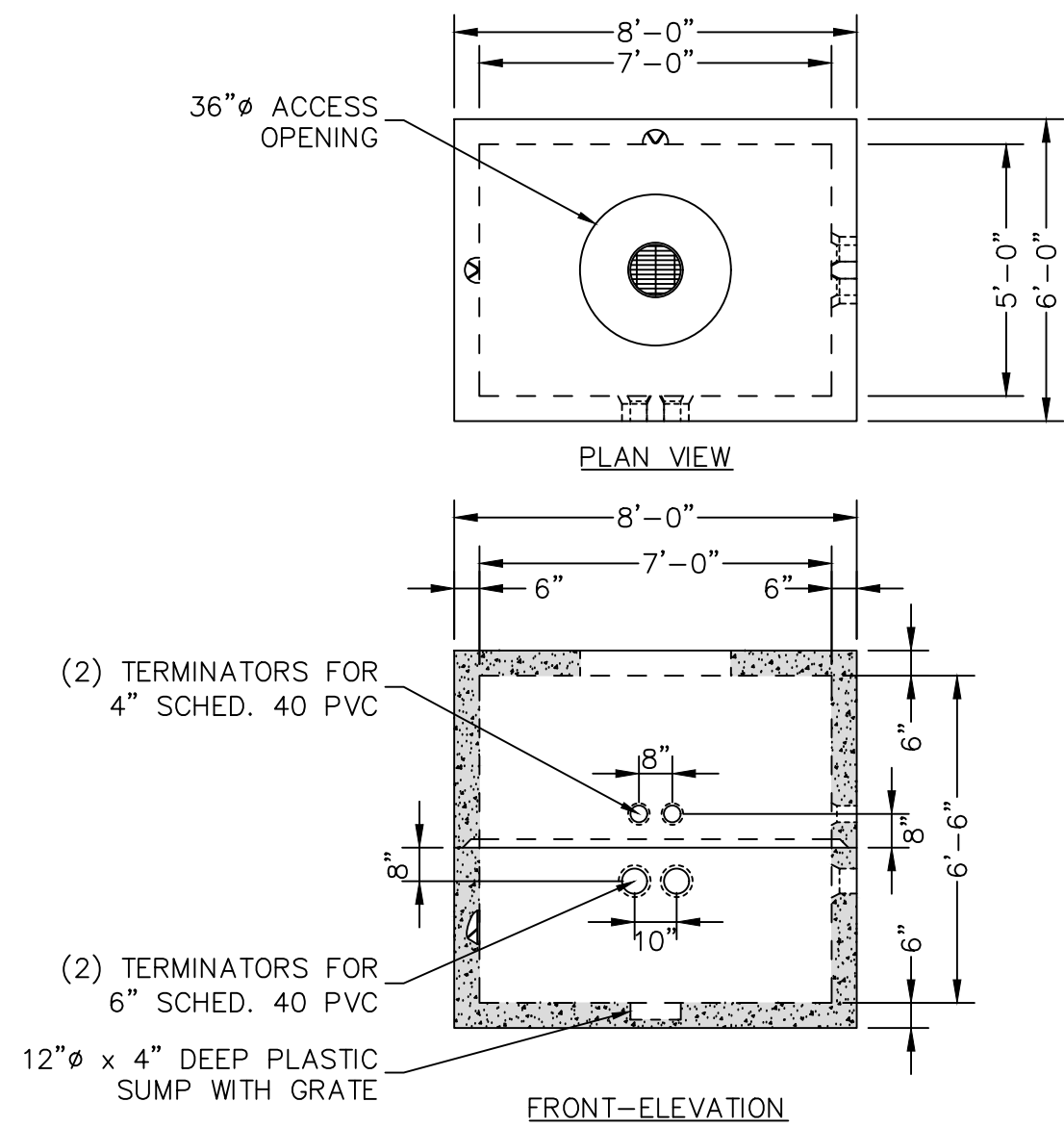
TEC, Inc.
282 Merrimack Street, 2nd Floor
Lawrence, Massachusetts 01843
978.794.1792

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DESIGNED BY	RJF	DATE	11-26-25
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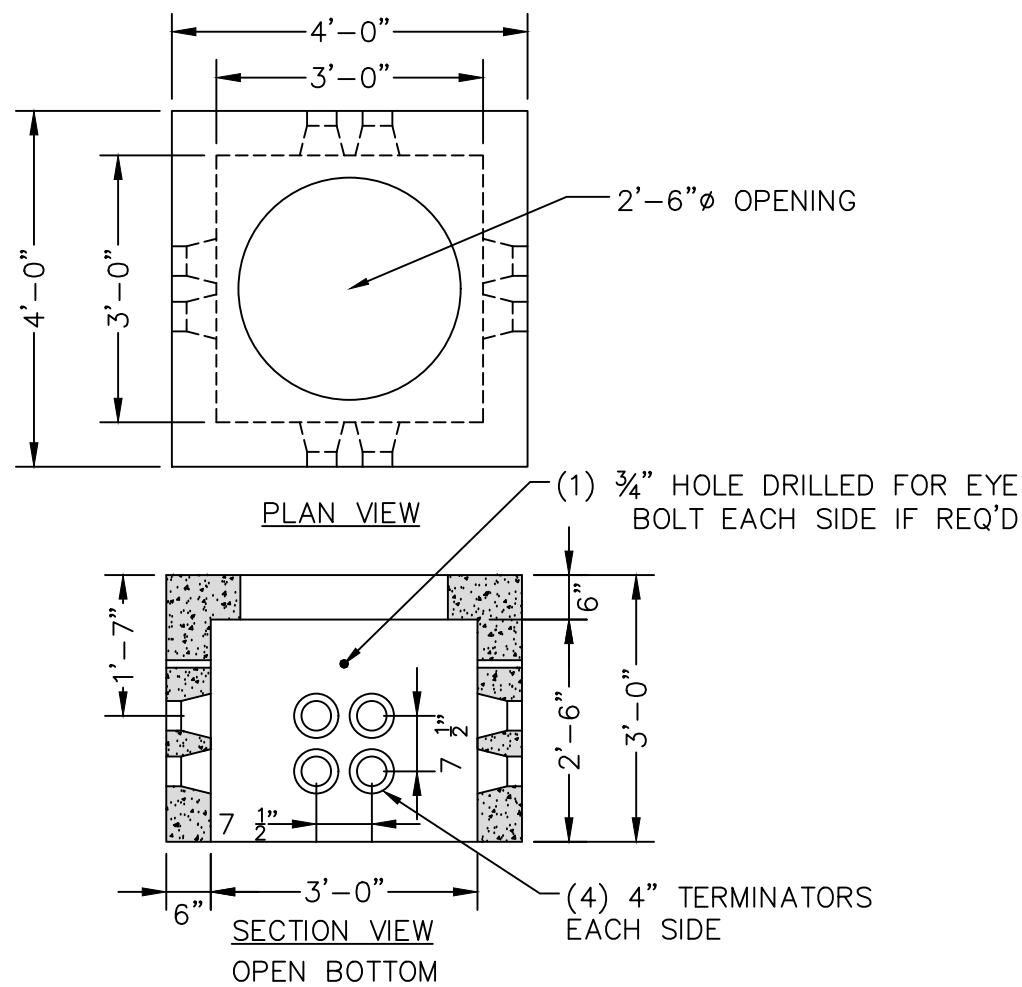
PROJECT NO.	T1180
TEC CAD FILE	T1180_DET
DRAWING NO.	C-34
SHEET	34 OF 63



NOTES:
1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
2. DESIGN LOADING: AASHTO HS20-44, 0 TO 5 FEET COVER.
3. STEEL REINFORCEMENT CONFORMS TO ASTM A615, GRADE 60. MINIMUM STEEL COVER 1"

6X6 DUCT BANK

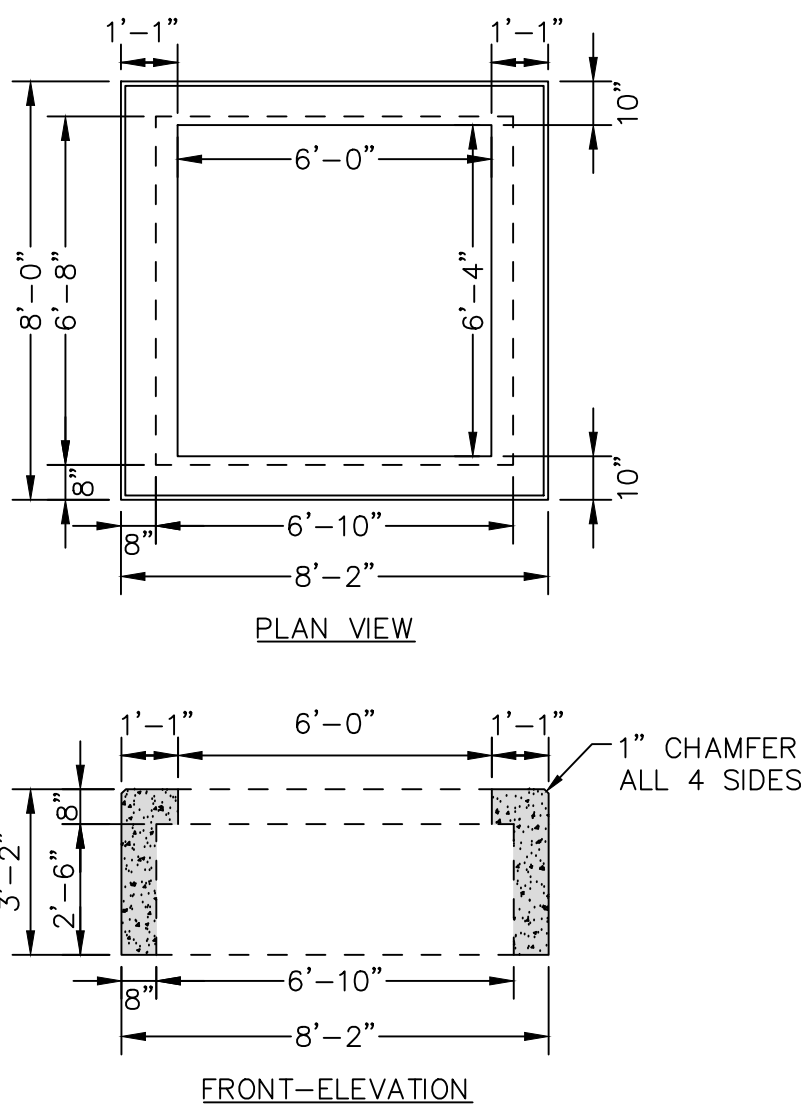
N.T.S.



NOTES:
1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
2. DESIGN LOADING: AASHTO HS20-44, 0 TO 5 FEET COVER.
3. STEEL REINFORCEMENT CONFORMS TO ASTM A615, GRADE 60.
4. MINIMUM STEEL COVER 1".
5. OPTIONAL OPENINGS AVAILABLE BY SPECIAL ORDER.
6. SWITCH VAULT SUBJECT TO APPROVAL BY LELWD.

SWITCH VAULT

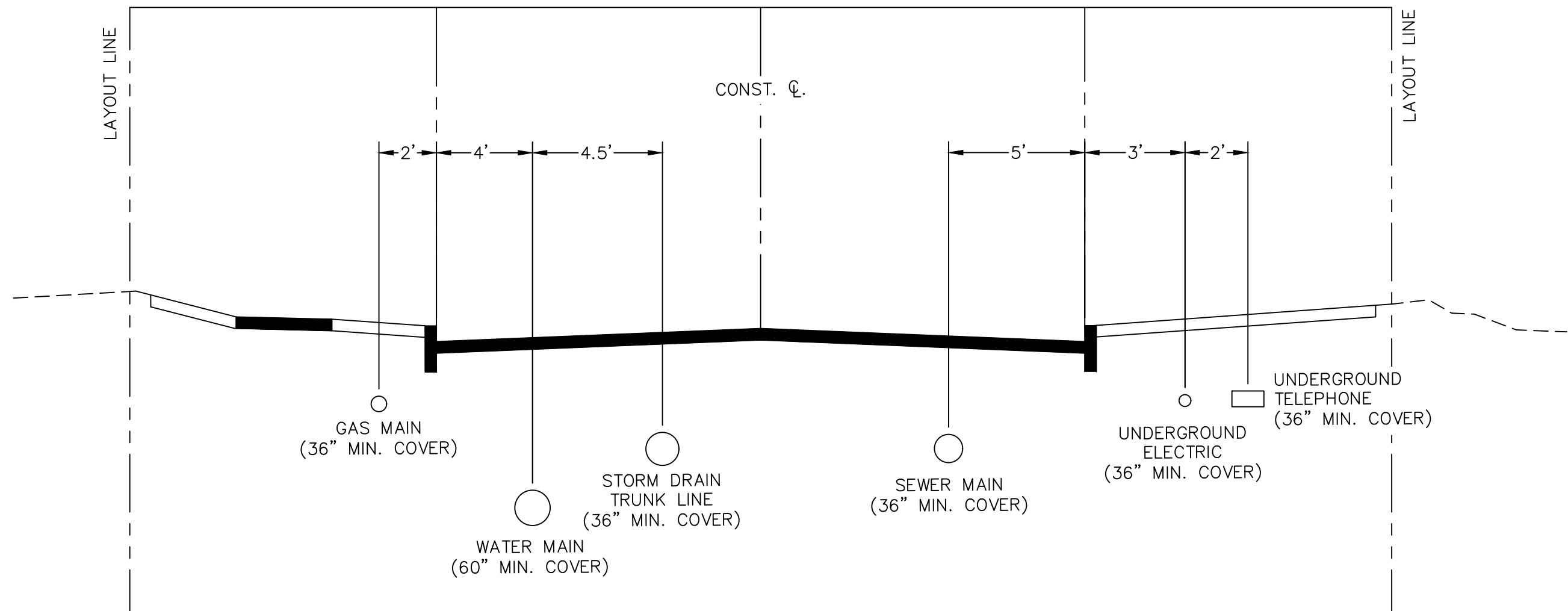
N.T.S.



NOTES:
1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
2. DESIGN LOADING: AASHTO HS20-44, 0 TO 5 FEET COVER.
3. STEEL REINFORCEMENT CONFORMS TO ASTM A615, GRADE 60. MINIMUM STEEL COVER 1 1/2".

SWITCH VAULT

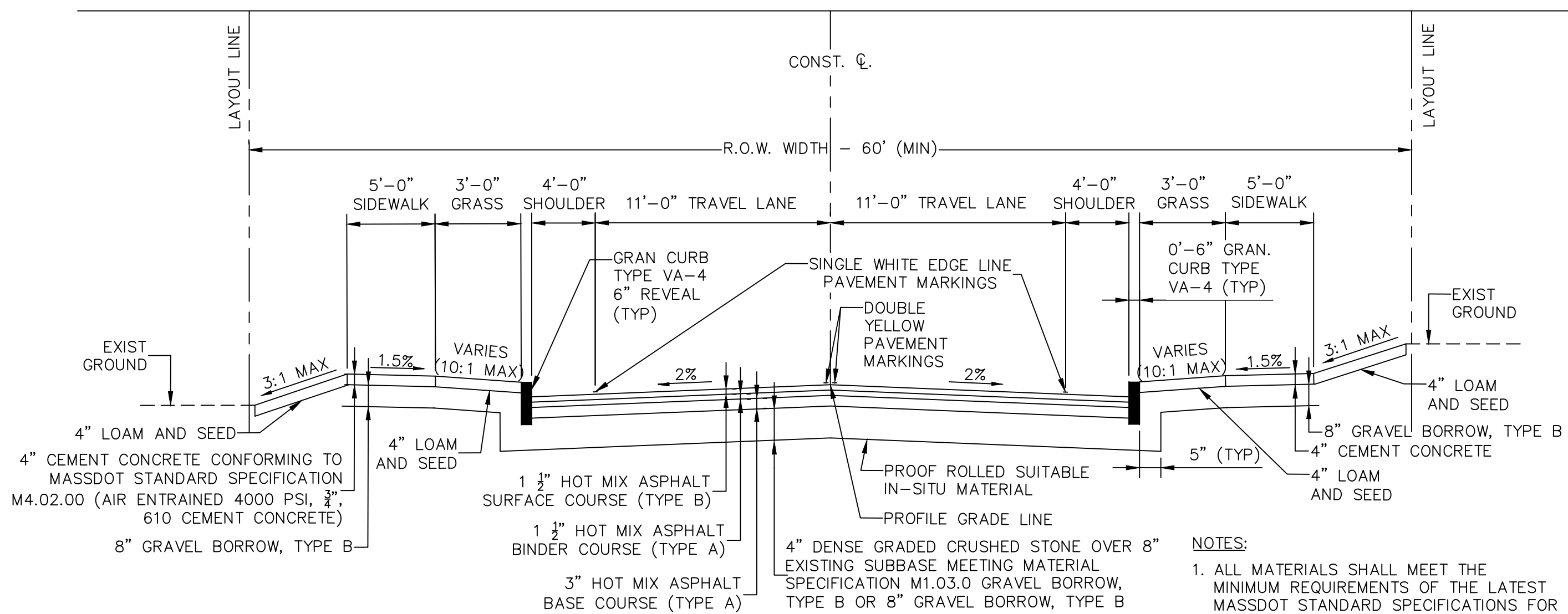
N.T.S.



NOTES:
1. ALL MATERIALS SHALL MEET THE MINIMUM REQUIREMENTS OF THE LATEST MASSDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES AMENDED.

ROADWAY UTILITIES - TYPICAL SECTION

N.T.S.

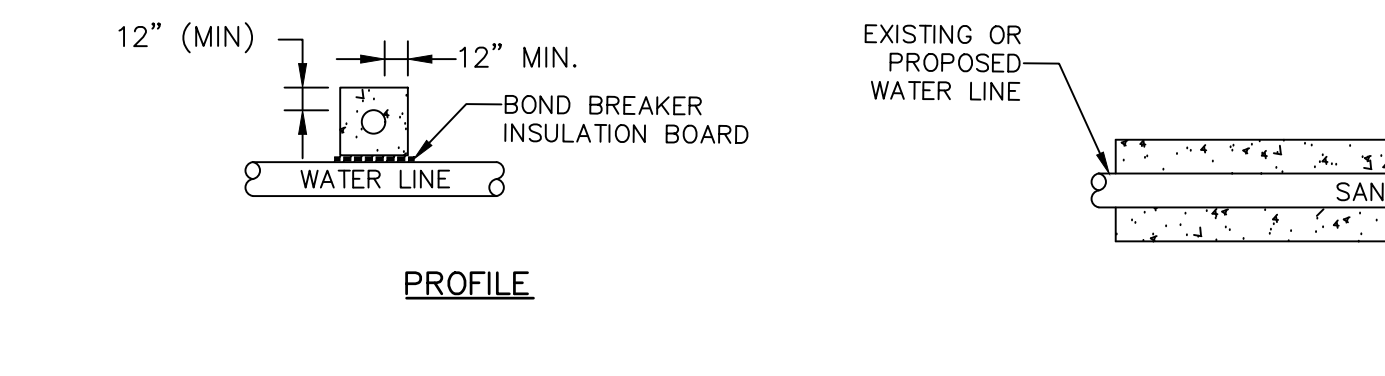
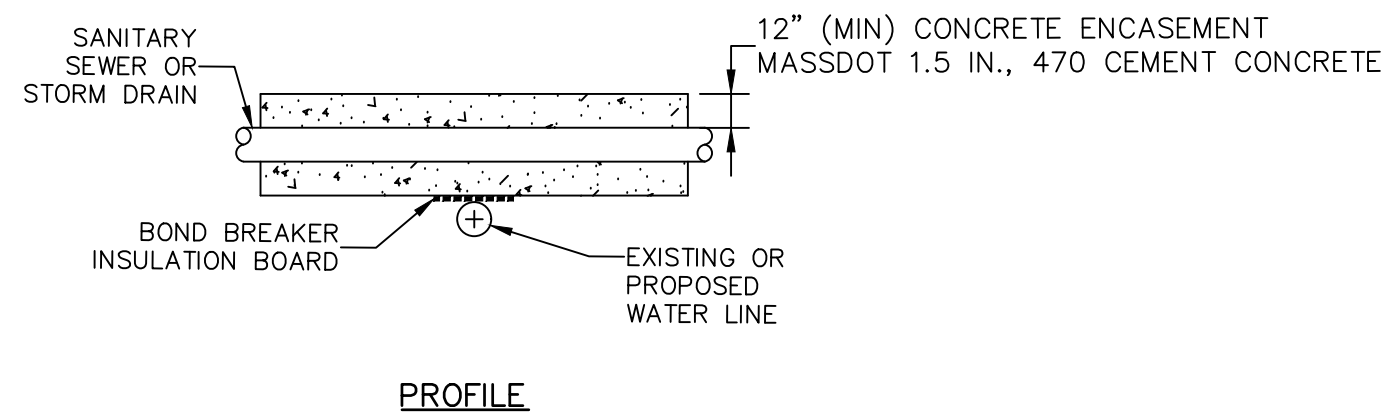


NOTES:
1. ALL MATERIALS SHALL MEET THE MINIMUM REQUIREMENTS OF THE LATEST MASSDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES AS AMENDED.
2. TOLERANCE FOR CONSTRUCTION = ±0.5%
3. MAXIMUM GRADE SHALL BE 8%.

COLLECTOR ROAD TYPICAL SECTION

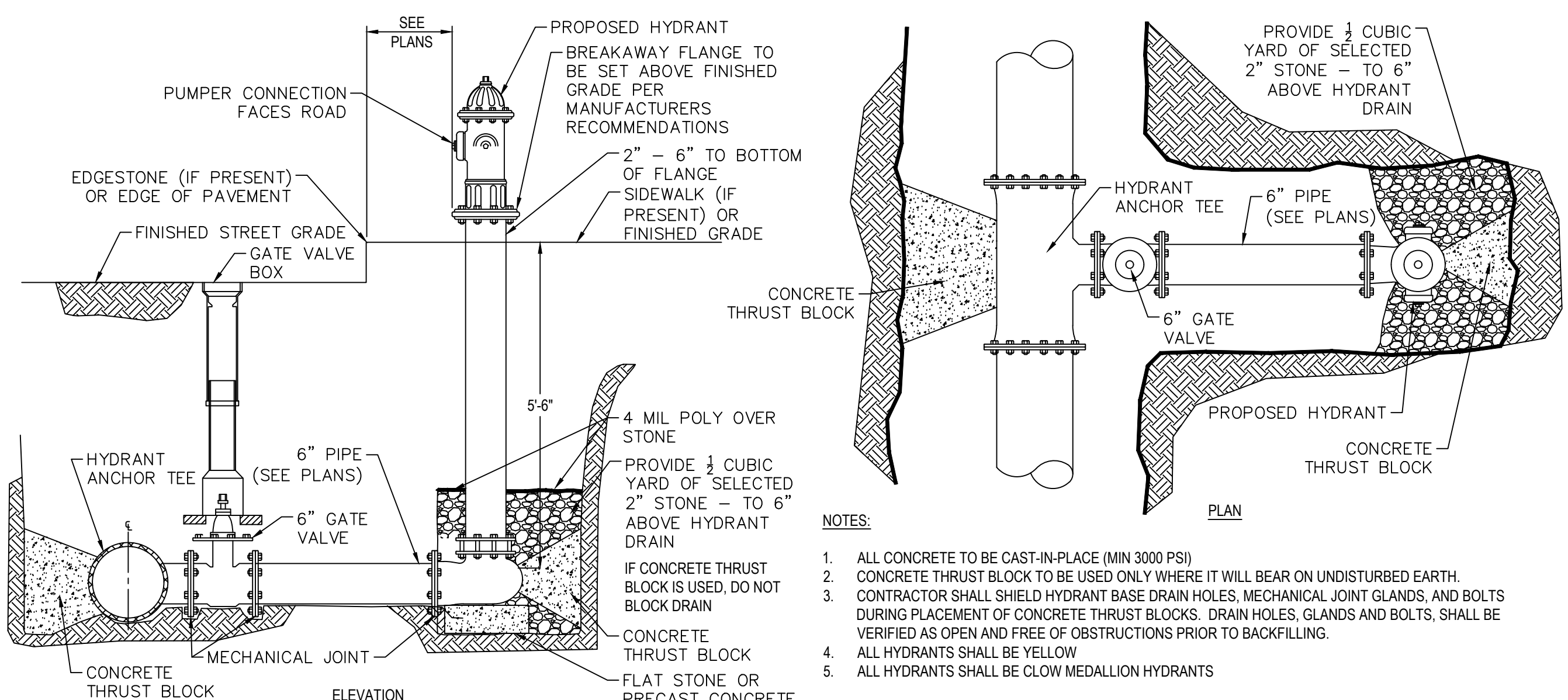
N.T.S.

NOTE: REFER TO TOWN OF LITTLETON SUBDIVISION OF LAND REGULATIONS ARTICLE IV SECTION 249-85.E FOR ADDITIONAL REQUIREMENTS.



TYPICAL CONCRETE ENCASEMENT OF SANITARY SEWERS OR STORM DRAINS

N.T.S.



HYDRANT ASSEMBLY

N.T.S.

REVISIONS

DRAWING TITLE

Construction Details

SUBDIVISION NAME & LOCATION

King Street Commons

550 King Street

Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

Lupoli Companies

282 Merrimack Street

Lawrence, MA 01843

DESIGNER / ENGINEER



TEC, Inc.

282 Merrimack Street, 2nd Floor

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DESIGNED BY RJF DATE 11-26-25

CHECKED BY CPR SCALE AS NOTED

PROJECT NO. T1180

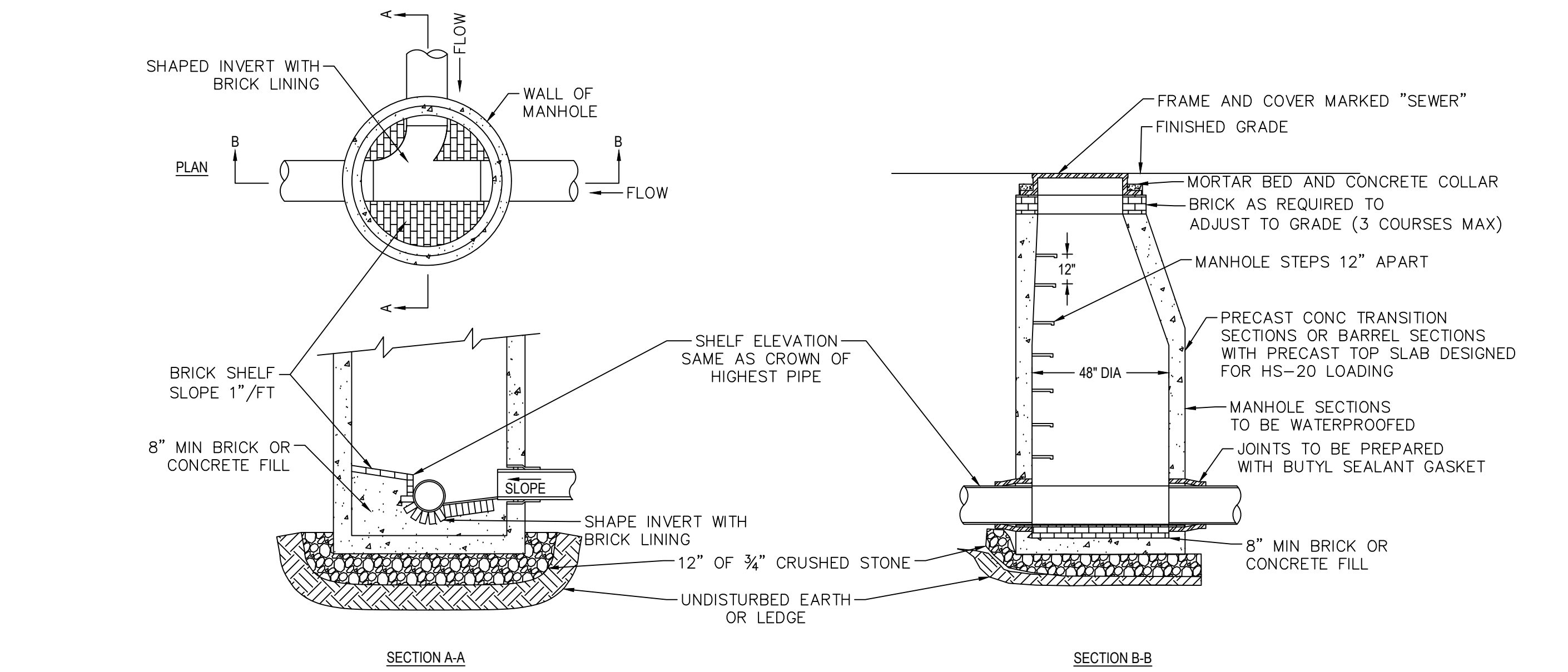
TEC CAD FILE

T1180_DET

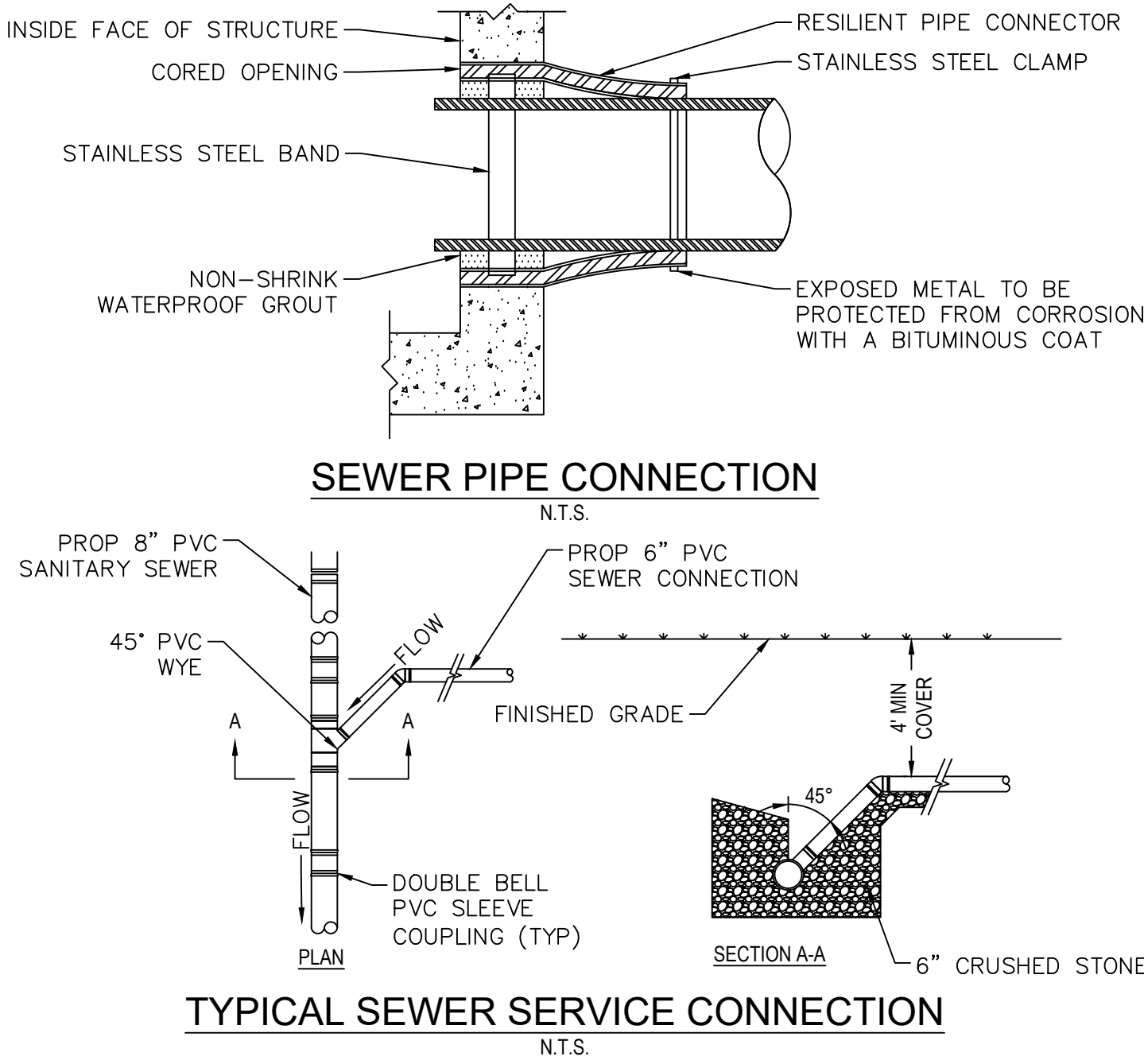
DRAWING NO. C-35

SHEET 35 OF 63

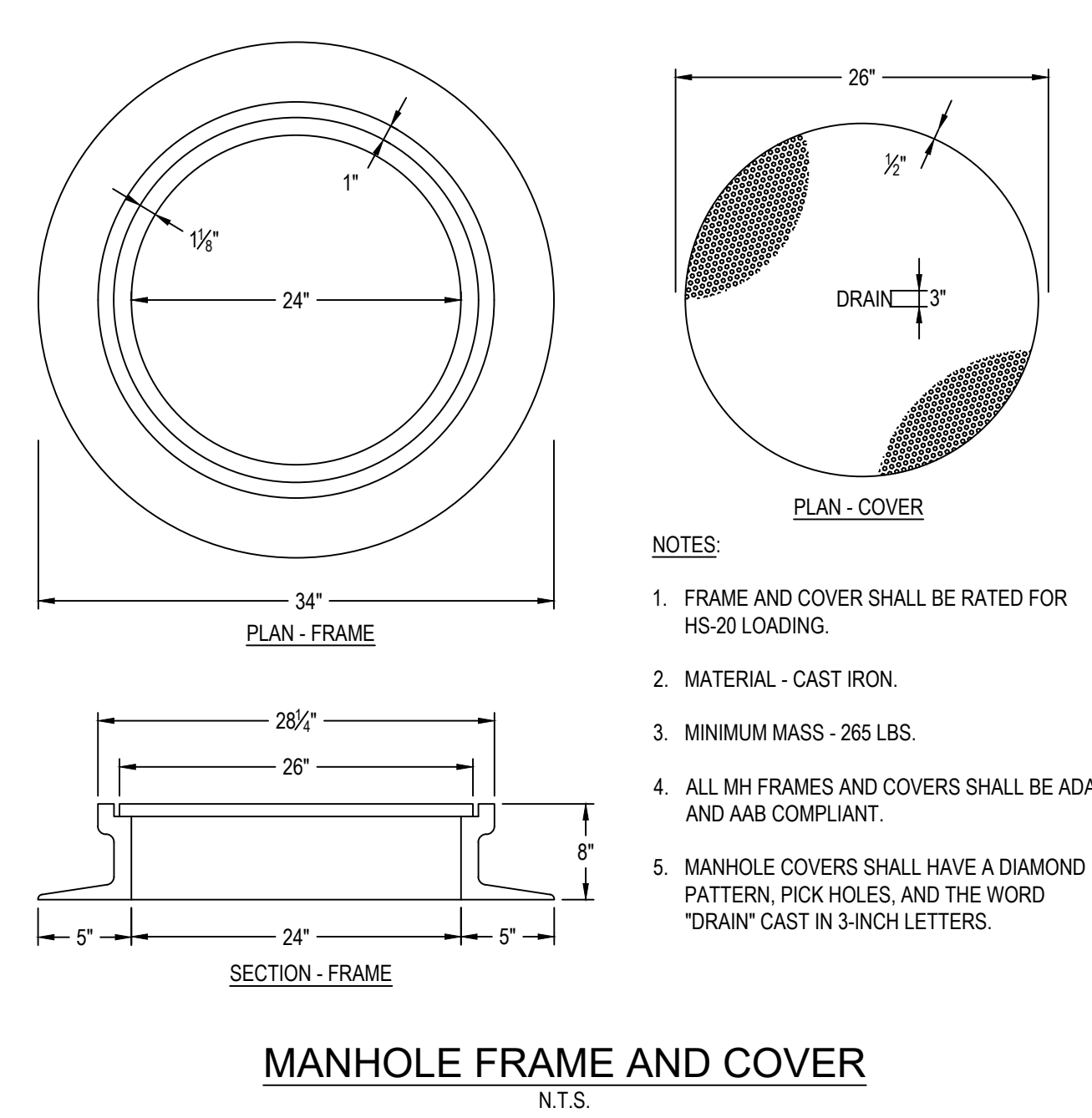
11/26/2025



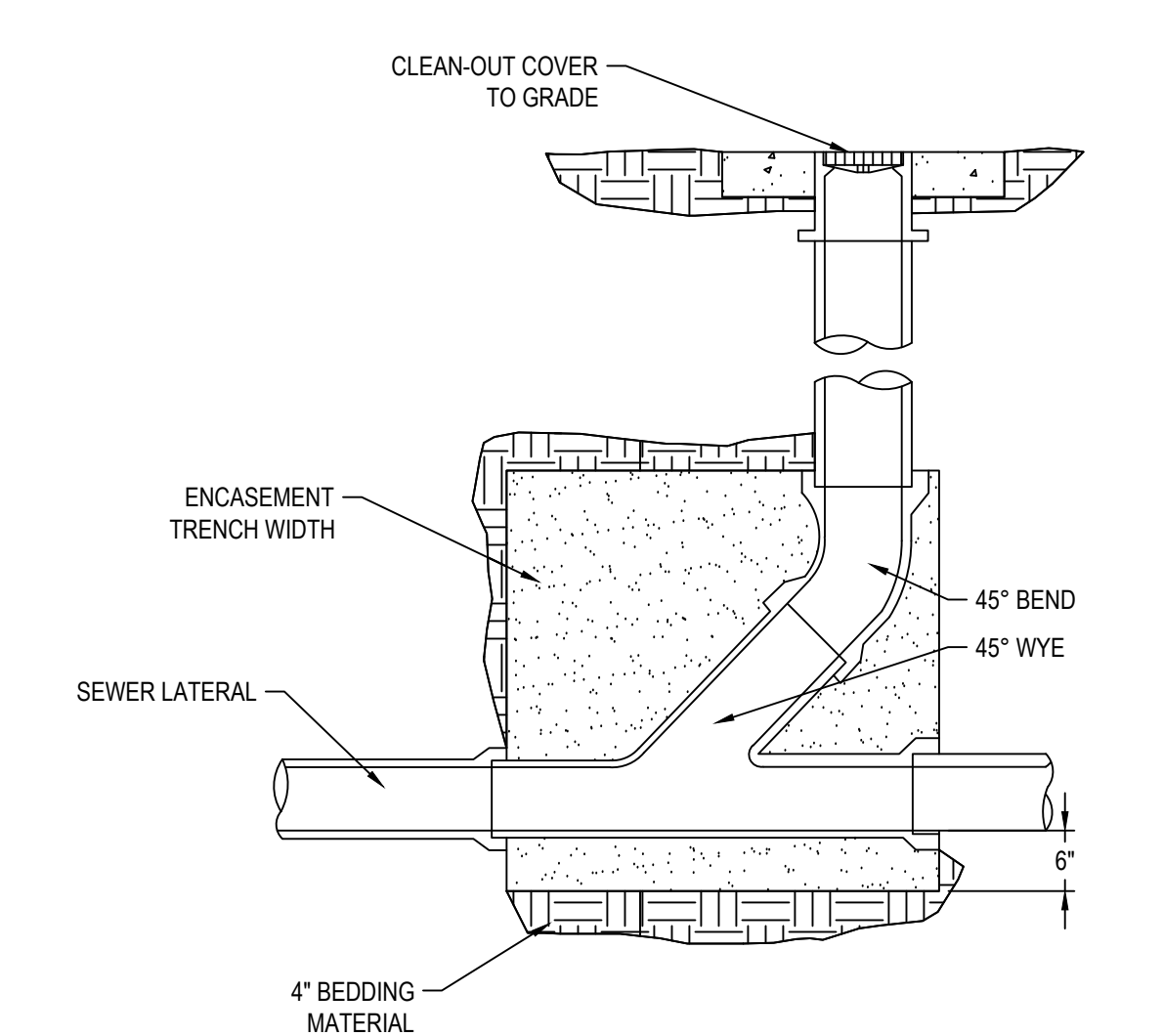
SEWER MANHOLE
N.T.S.



TYPICAL SEWER SERVICE CONNECTION
N.T.S.

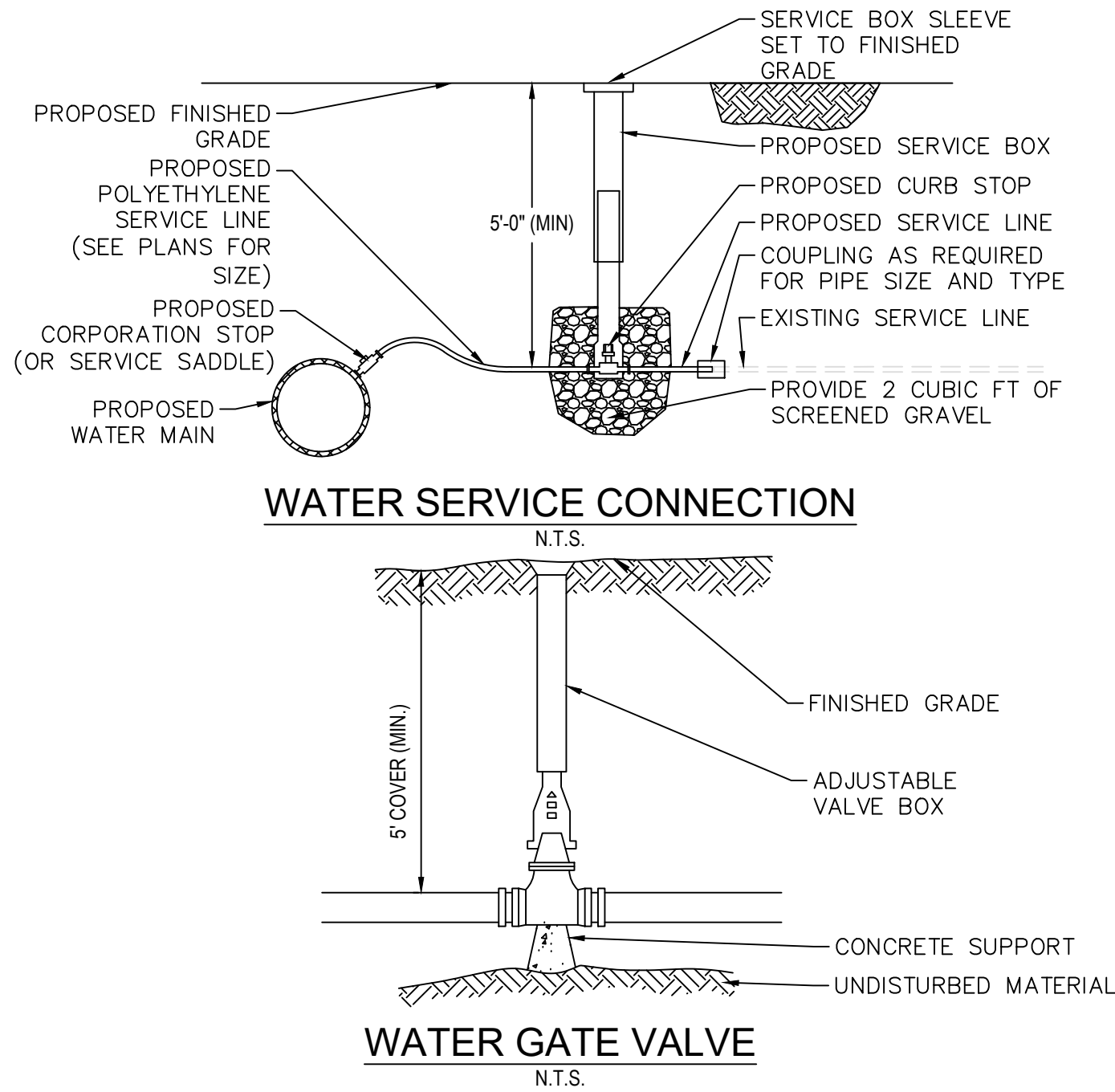


MANHOLE FRAME AND COVER
N.T.S.



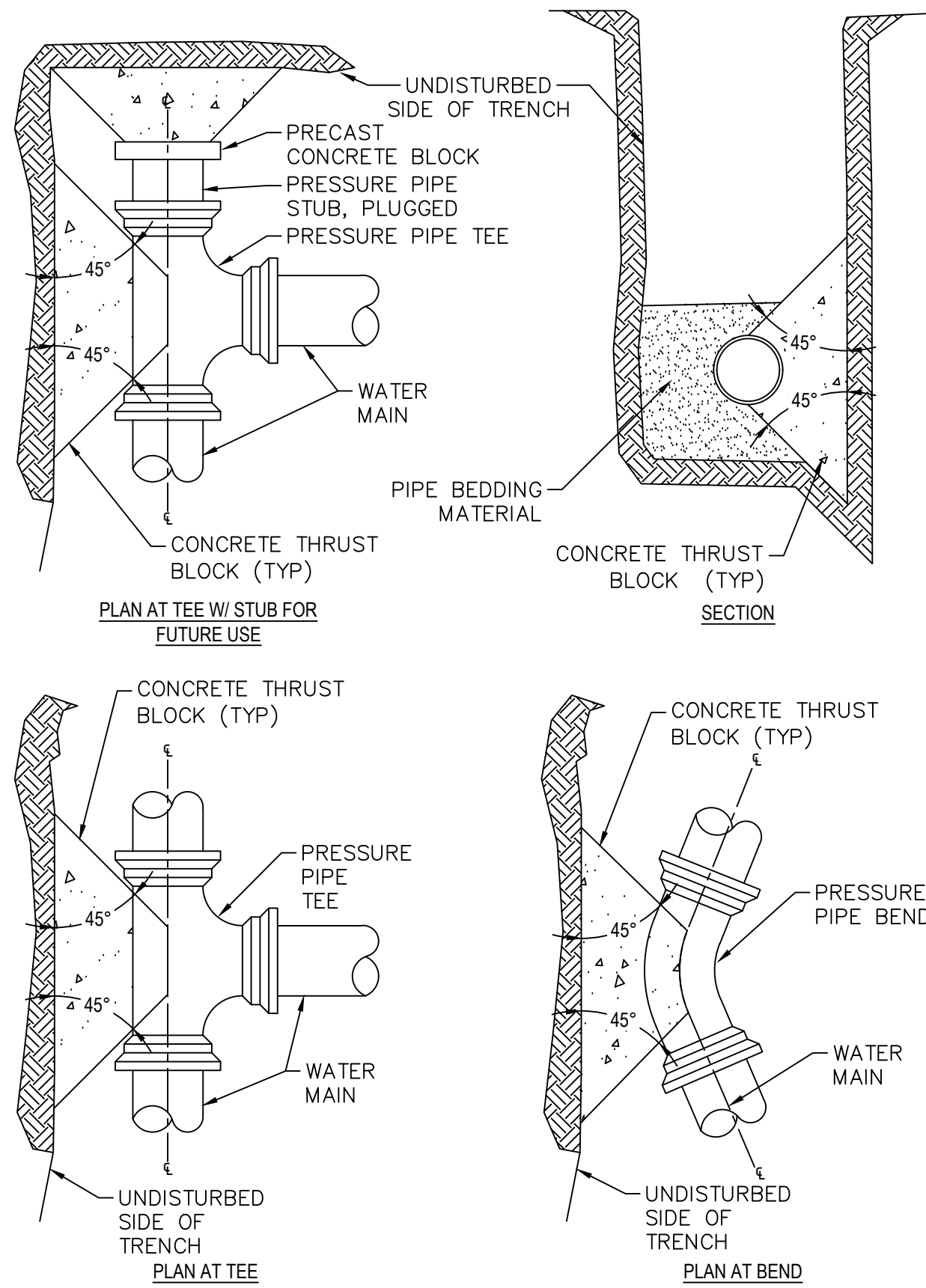
- NOTES:
- CLEAN-OUT PIPE SIZE SHALL MATCH EXISTING LATERAL.
 - ENTIRE WYE SECTION TO BE ENCASED IN CONTROLLED LOW STRENGTH MATERIAL OR GRANULAR FILL.

SEWER CLEANOUT
N.T.S.



WATER SERVICE CONNECTION
N.T.S.

WATER GATE VALVE
N.T.S.

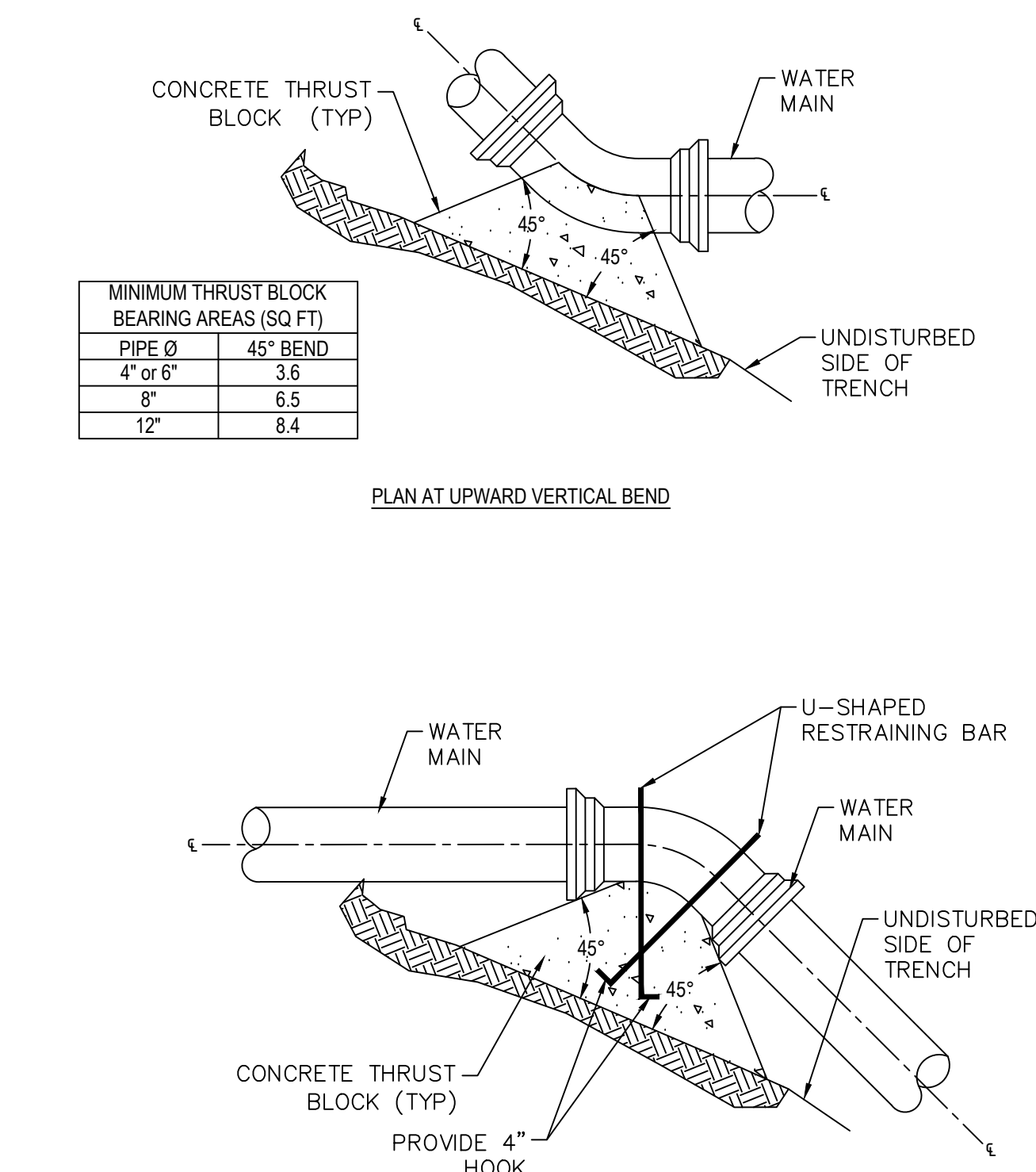


MINIMUM THRUST BLOCK BEARING AREAS (SQ FT)					
PIPE Ø	90° BEND	45° BEND	22.5° BEND	TEES	
4", 6", or 8"	6.0	2.9	2.3	4.5	
10"	9.6	5.2	2.3	6.7	
12"	133	6.7	3.7	9.6	

MINIMUM PIPE RESTRAINT LENGTH (IN FEET)*					
PIPE Ø	90° BEND	45° BEND	22.5° BEND	TEES	PLUG/CAP
8"	21.0	9.0	4.0	29.0	38.0
10"	26.0	11.0	5.0	38.0	46.0
12"	33.0	14.0	6.0	48.0	69.0

- NOTES:
- ALL WATER MAIN FITTINGS, BENDS, TEES, PLUGS ETC. SHALL BE RESTRAINED W/ THRUST BLOCKS EXCEPT WHERE NOTED.
 - ALL THRUST BLOCKS & COLLARS SHALL BE INSTALLED SO THAT THEY BEAR AGAINST UNDISTURBED EARTH.
 - MINIMUM COMPRESSIVE STRENGTH OF THRUST BLOCK CONCRETE SHALL BE 3,000 P.S.I.
 - KEEP CONCRETE CLEAR OF MECHANICAL JOINTS.
 - MINIMUM BEARING AREAS ARE BASED ON 250 P.S.I. INTERNAL PIPE PRESSURE & 1.5 TONS/F. ALLOWABLE SOIL BEARING CAPACITY.
 - MINIMUM PIPE RESTRAINT LENGTH IS BASED ON DUCTILE IRON PIPE WITH A 150 P.S.I. INTERNAL PIPE PRESSURE WITH 5.0' OF BURY IN UNIFIED SOIL CLASSIFICATION SM.

THRUST BLOCK - HORIZONTAL BENDS
N.T.S.

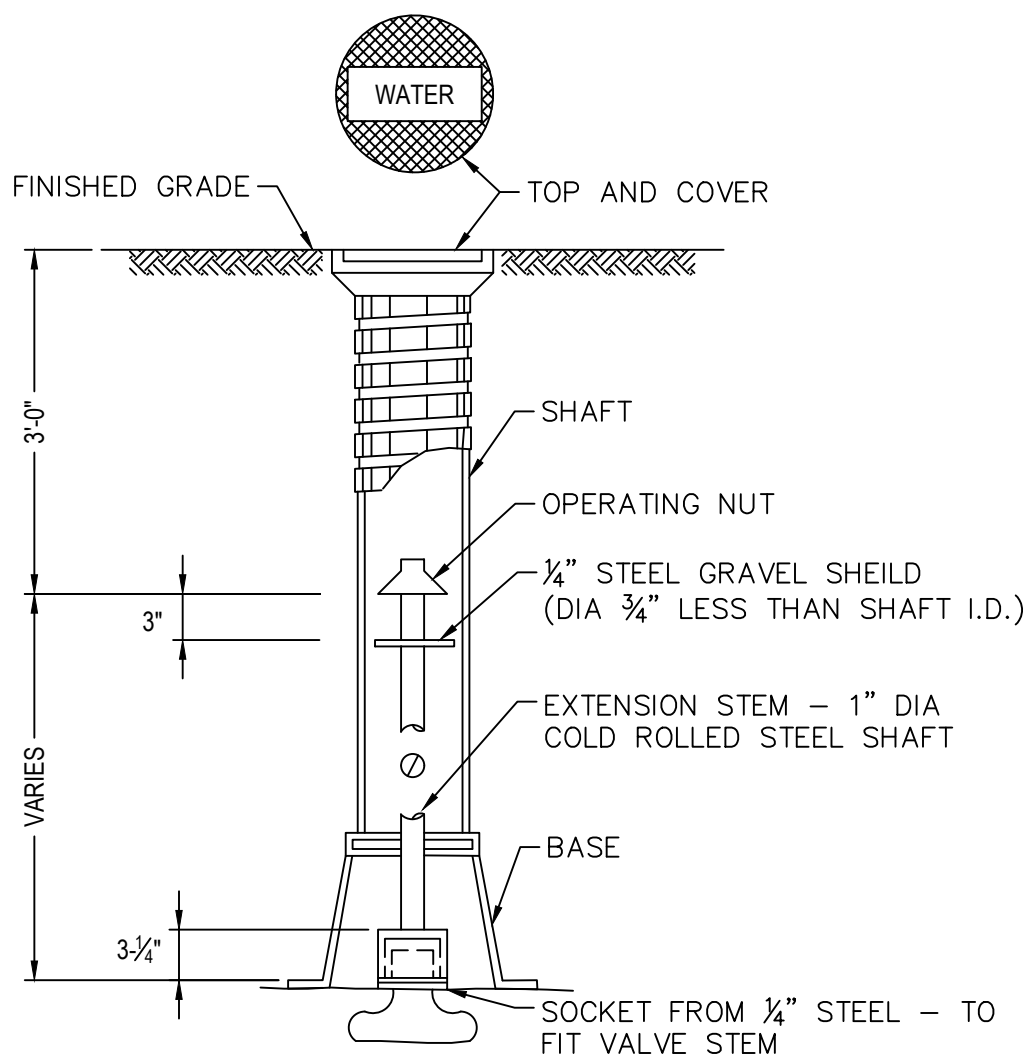


MINIMUM THRUST BLOCK BEARING AREAS (SQ FT)	
PIPE Ø	45° BEND
4" or 6"	3.6
8"	6.5
12"	8.4

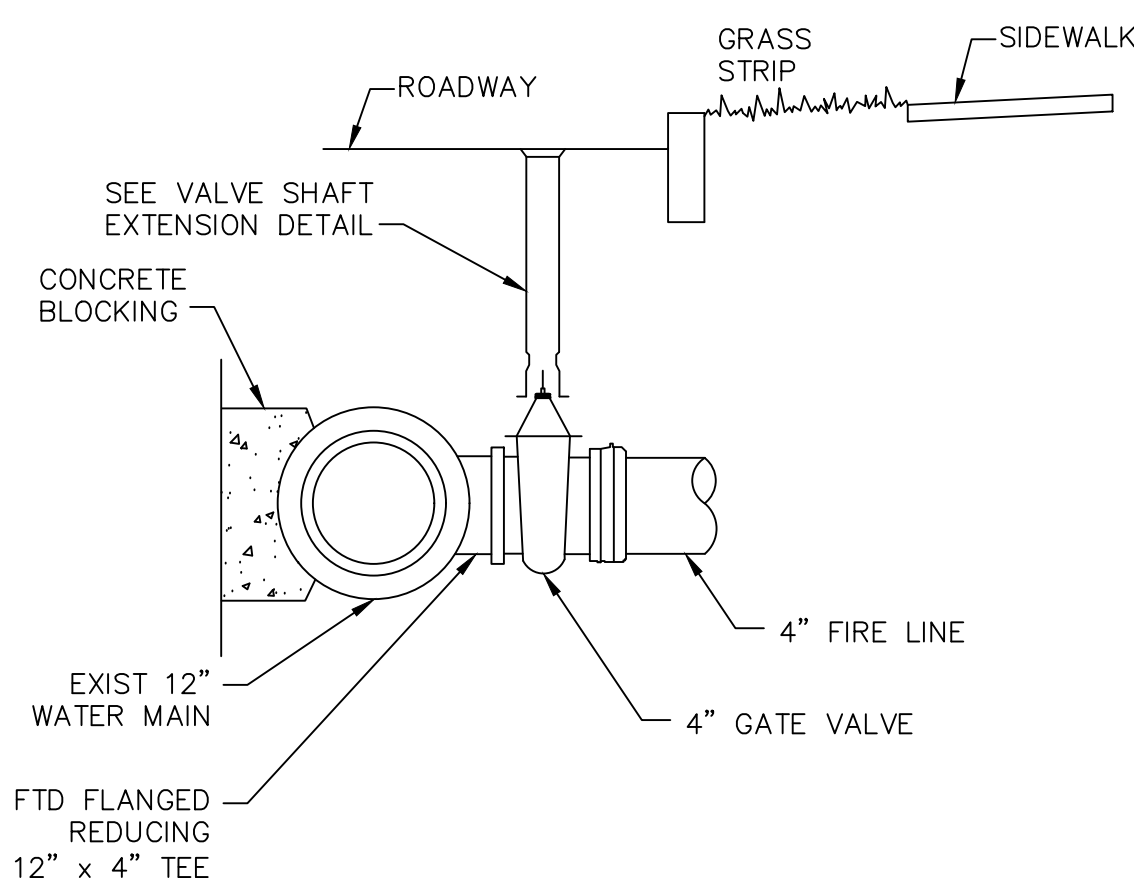
RESTRAINING BAR DIMENSIONS		
PIPE Ø	BAR SIZE	EMBEDMENT LENGTH
4", 6"	#4	15"
8"	#4	15"
12"	#6	2'-0"

- NOTES:
- ALL WATER MAIN BENDS SHALL BE RESTRAINED W/ THRUST BLOCKS EXCEPT WHERE NOTED.
 - ALL THRUST BLOCKS & COLLARS SHALL BE INSTALLED SO THAT THEY BEAR AGAINST UNDISTURBED EARTH.
 - MINIMUM COMPRESSIVE STRENGTH OF THRUST BLOCK CONCRETE SHALL BE 3,000 P.S.I.
 - KEEP CONCRETE CLEAR OF MECHANICAL JOINTS.
 - MINIMUM BEARING AREAS ARE BASED ON 250 P.S.I. INTERNAL PIPE PRESSURE & 1.5 TONS/F. ALLOWABLE SOIL BEARING CAPACITY.

THRUST BLOCK - VERTICAL BENDS
N.T.S.



VALVE SHAFT EXTENSION
N.T.S.



FIRE SERVICE CONNECTION
N.T.S.

REVISIONS	
DRAWING TITLE	
Construction Details	
SUBDIVISION NAME & LOCATION	
King Street Commons	
550 King Street	
Littleton, MA 01460	
OWNER / APPLICANT / SUBDIVIDER	
Lupoli Companies	
282 Merrimack Street	
Lawrence, MA 01843	
DESIGNER / ENGINEER	



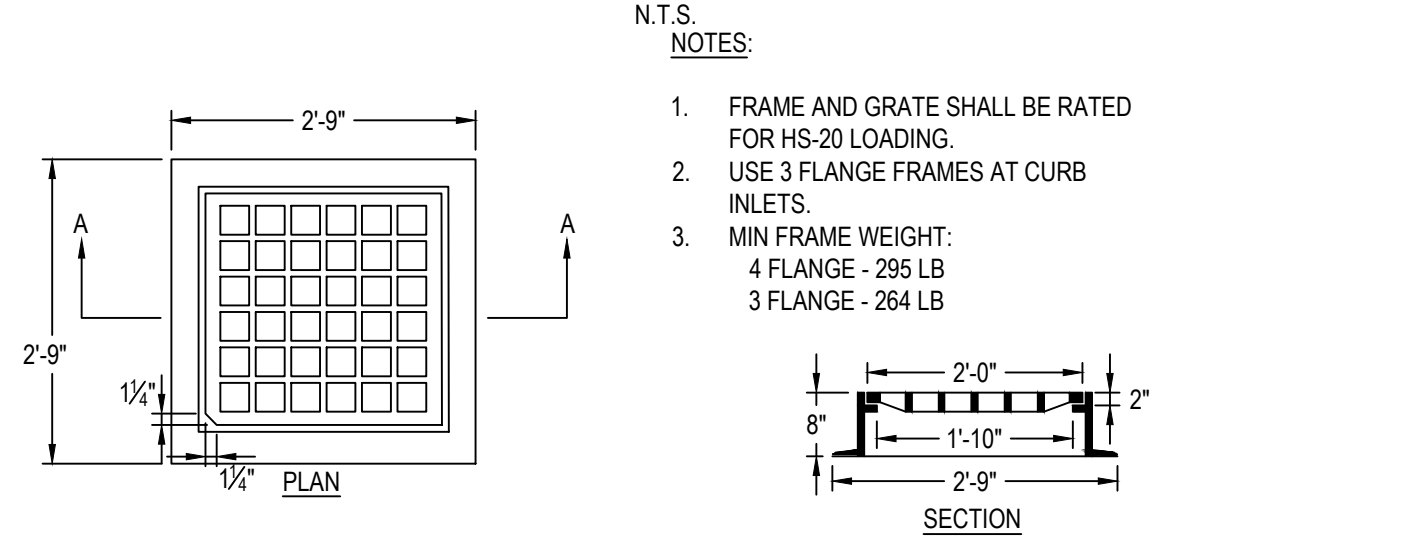
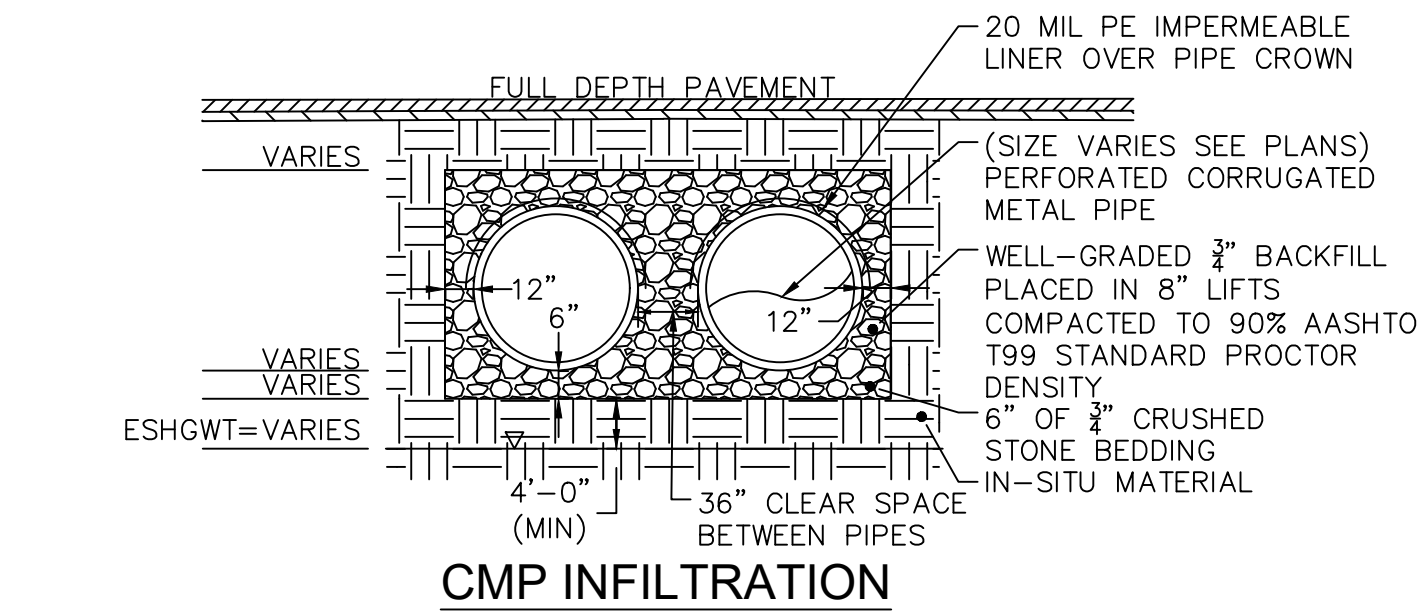
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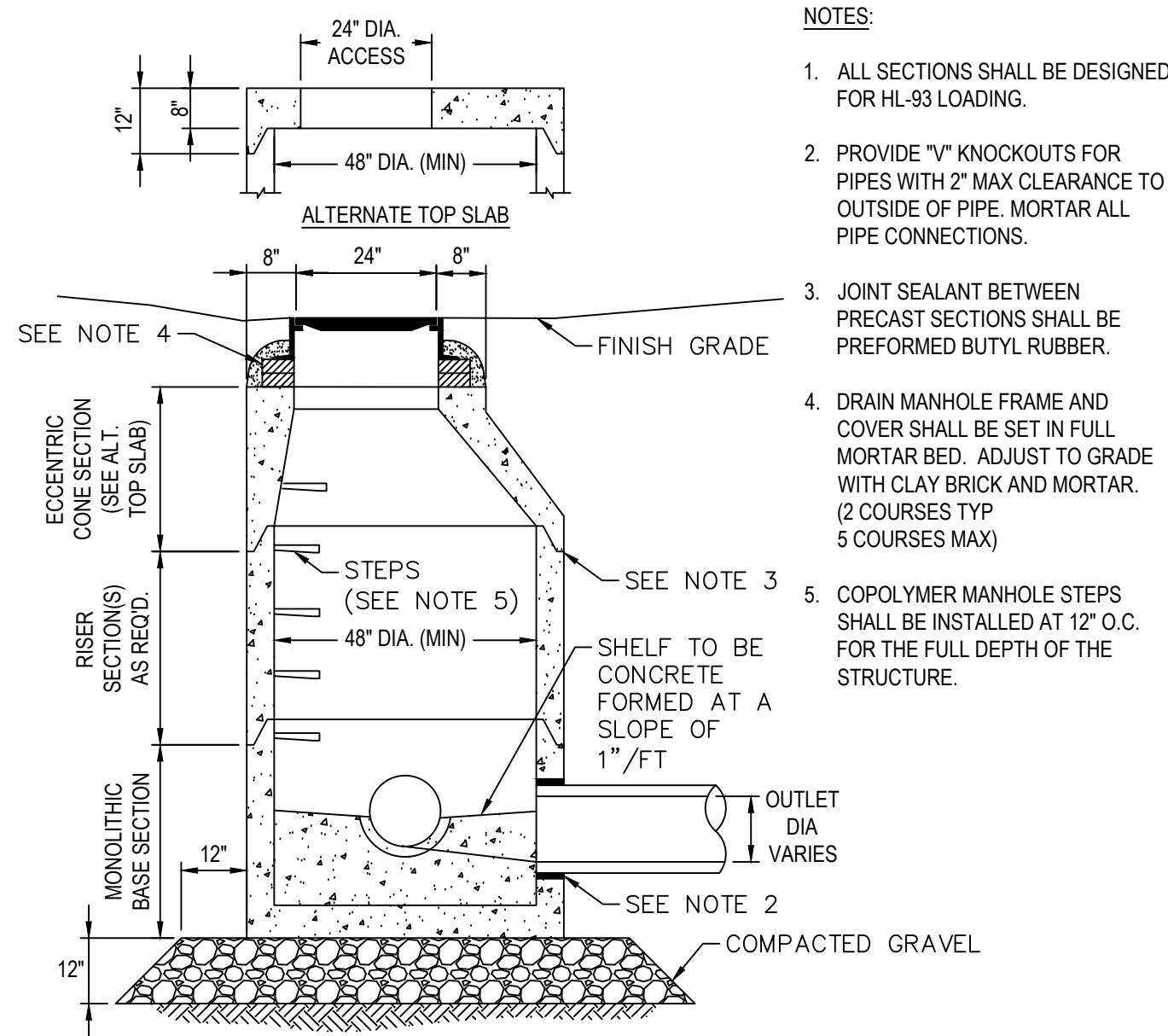
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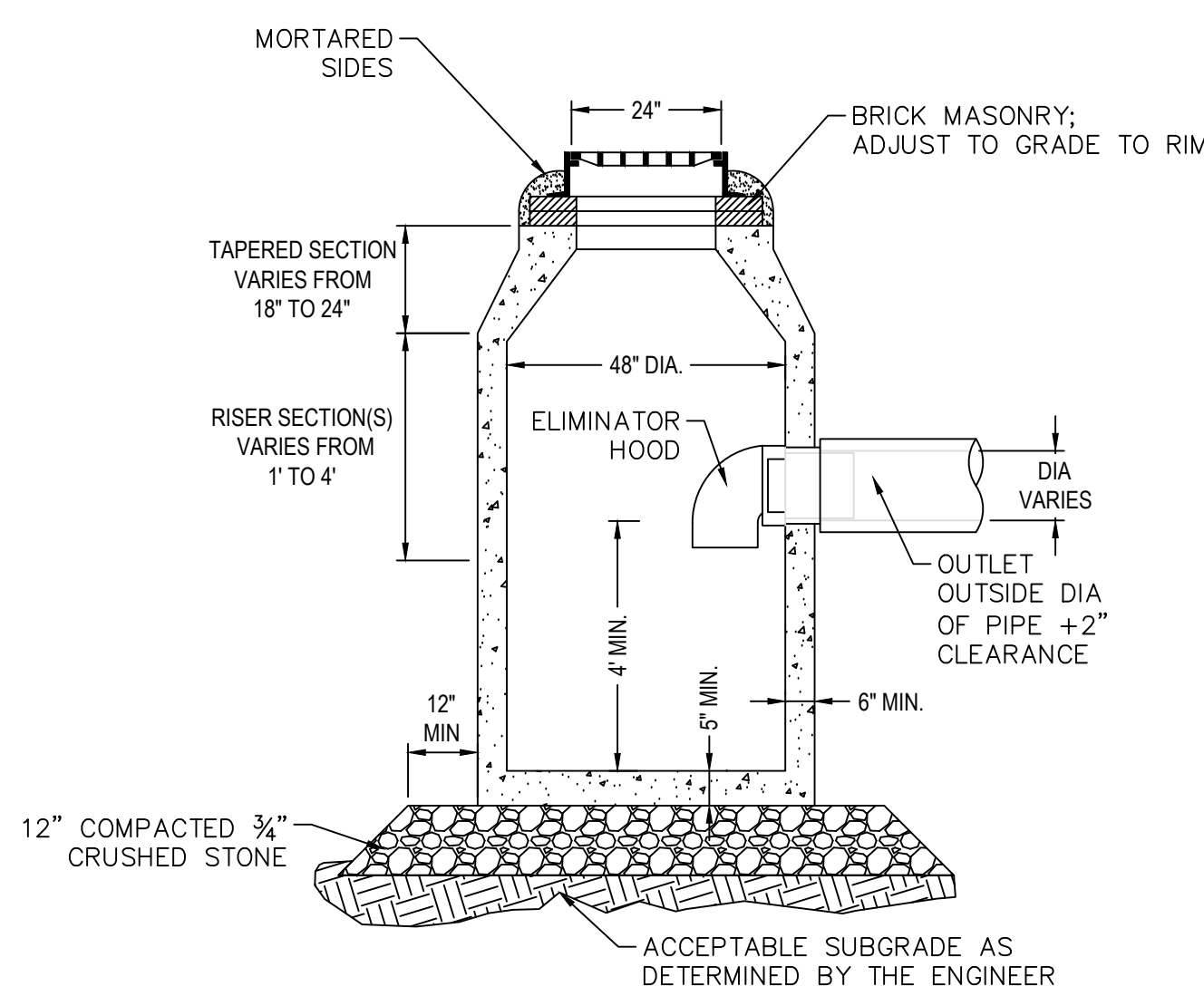
PROJECT NO. T1180
TEC CAD FILE
T1180_DET
DRAWING NO. **C-36**
SHEET 36 OF 63



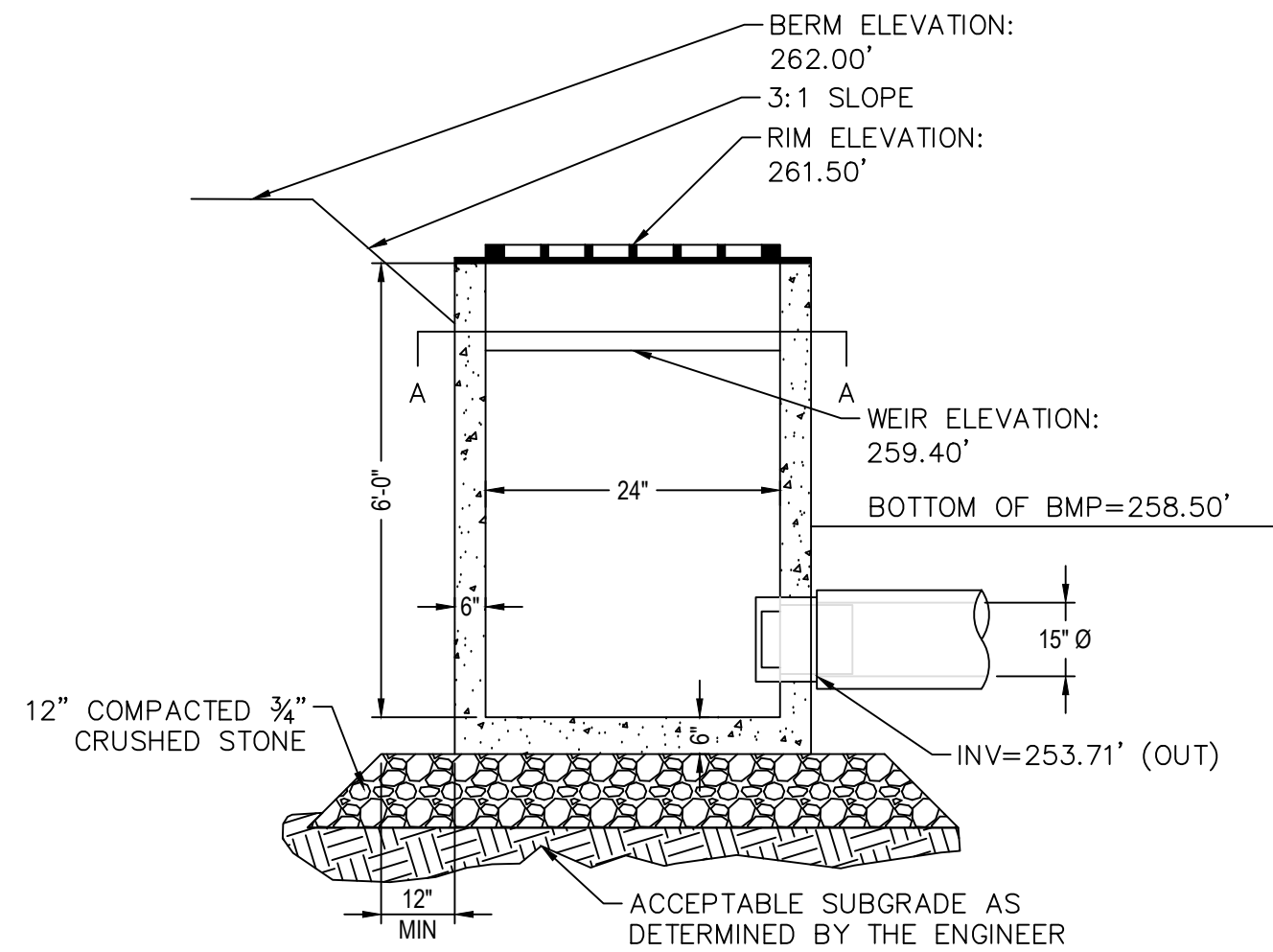
CATCH BASIN FRAME AND GRATE
N.T.S.



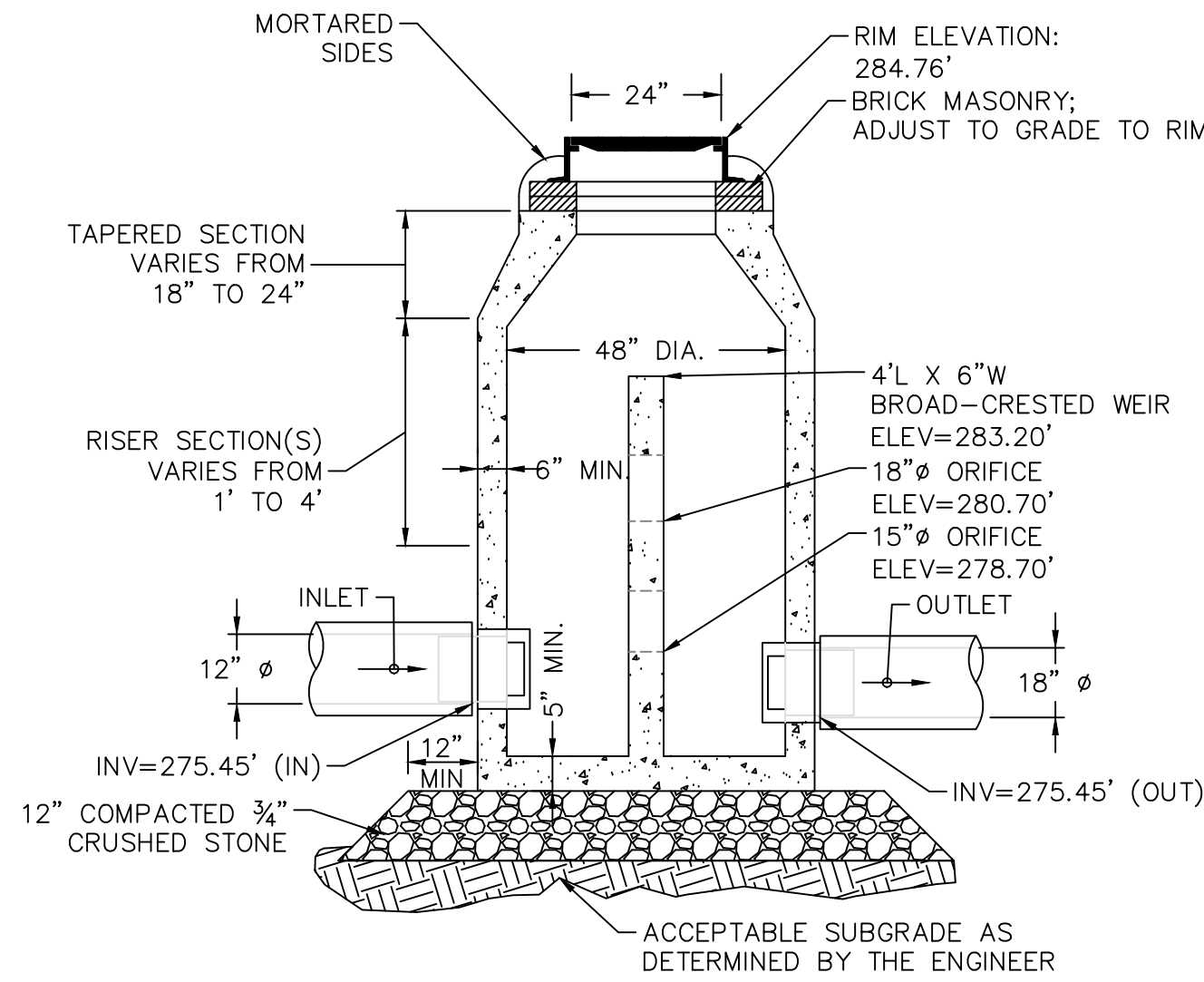
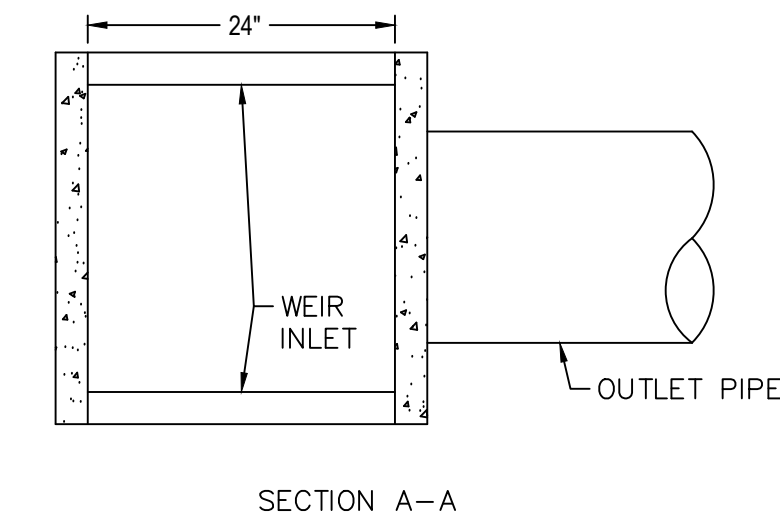
DRAINAGE MANHOLE
N.T.S.



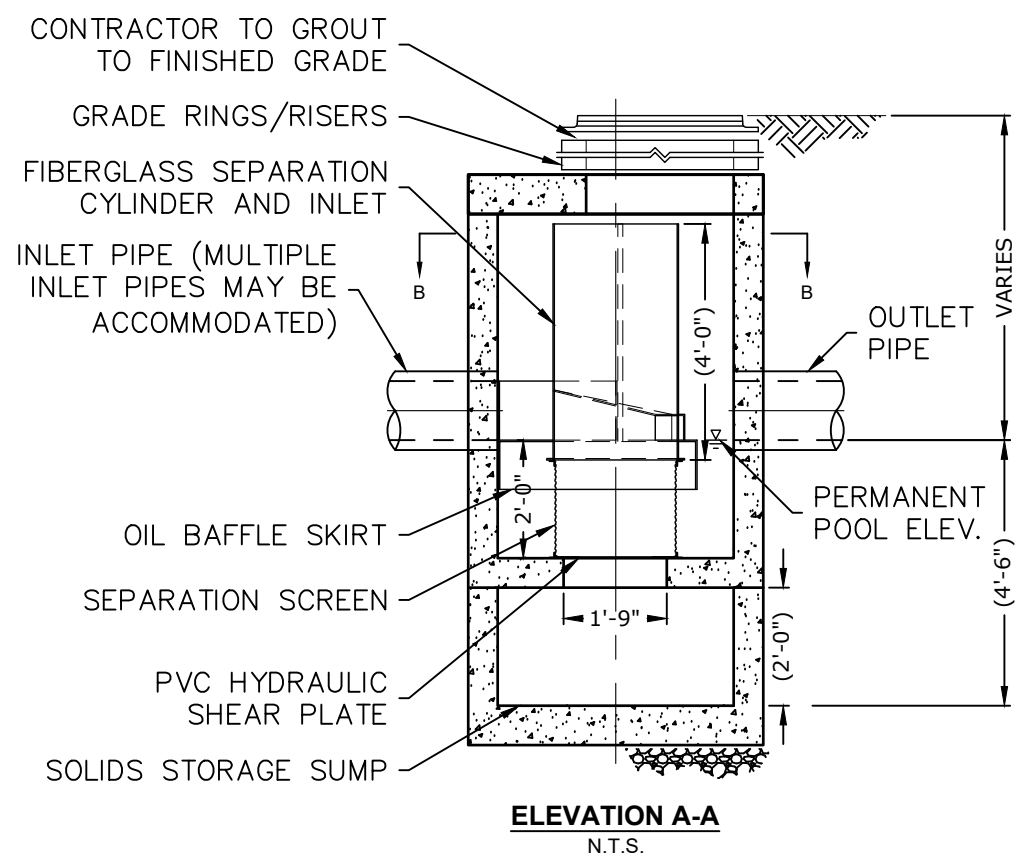
DEEP SUMP CATCH BASIN WITH HOOD
N.T.S.



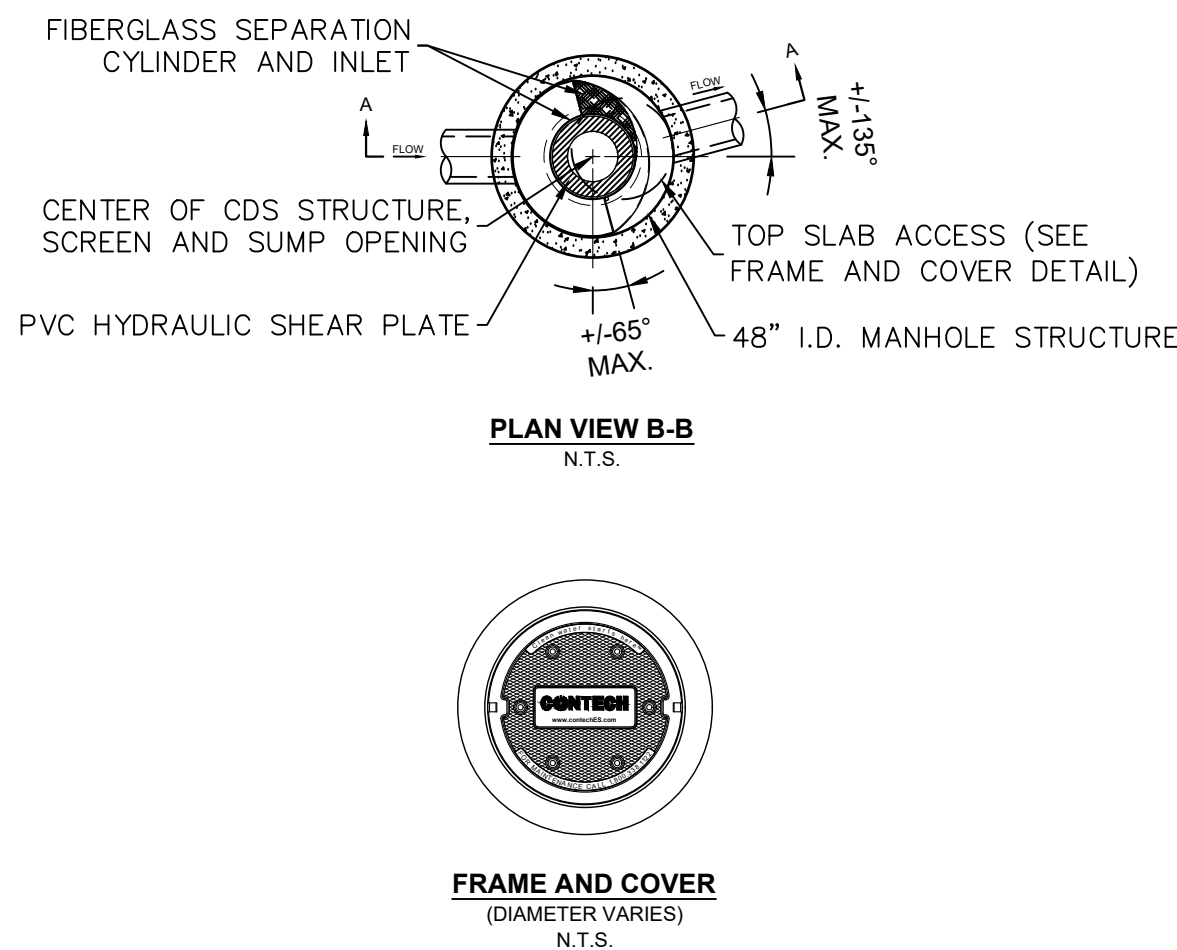
RAIN GARDEN OUTLET CONTROL STRUCTURE (OCS-1)
N.T.S.



OUTLET CONTROL STRUCTURE (OCS-4)
N.T.S.



WATER QUALITY UNIT
N.T.S.

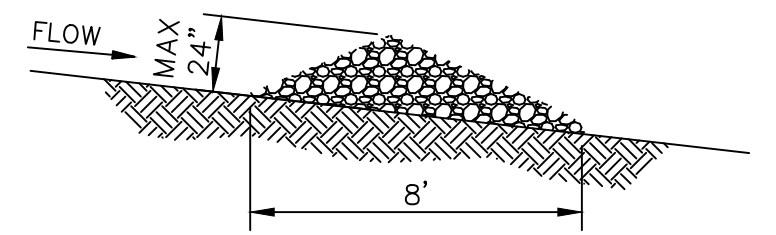
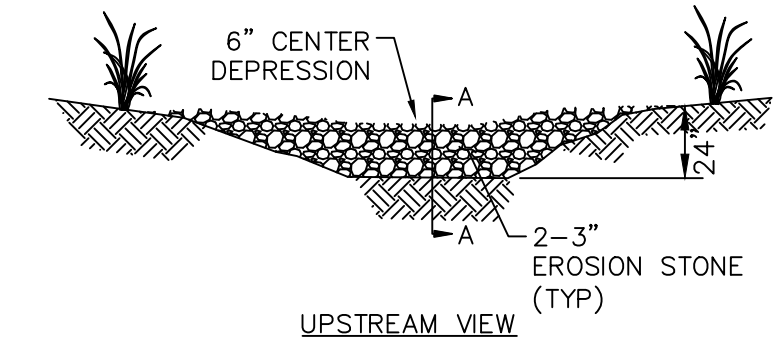


REVISIONS

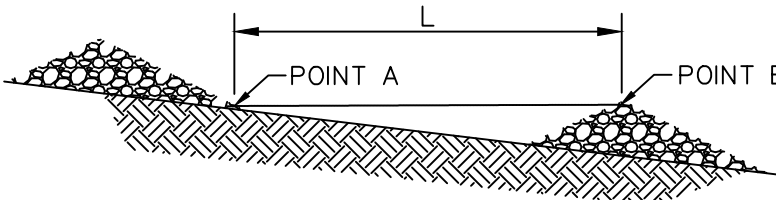
DRAWING TITLE
Construction Details
SUBDIVISION NAME & LOCATION
King Street Commons 550 King Street Littleton, MA 01460
OWNER / APPLICANT / SUBDIVIDER
Lupoli Companies 282 Merrimack Street Lawrence, MA 01843
DESIGNER / ENGINEER
TEC The Engineering Corp

TEC, Inc. 282 Merrimack Street, 2nd Floor Lawrence, Massachusetts 01843 978.794.1792 www.TheEngineeringCorp.com Lawrence Hampton Worcester	DESIGNED BY RJF DATE 11-26-25 CHECKED BY CPR SCALE AS NOTED	PROJECT NO. T1180 TEC CAD FILE T1180_DET DRAWING NO. C-37 SHEET 37 OF 63
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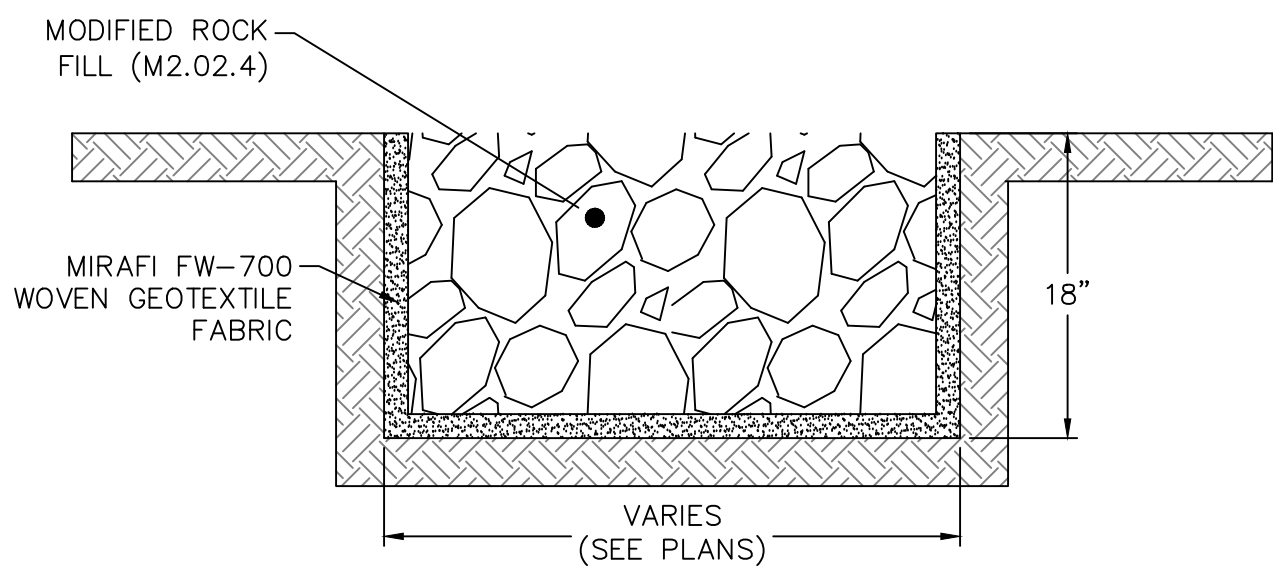
NOTE:
KEY STONE INTO CHANNEL BANKS AND EXTEND IT
BEYOND THE ABUTMENTS A MINIMUM OF 18" TO
PREVENT FLOW AROUND THE DAM.



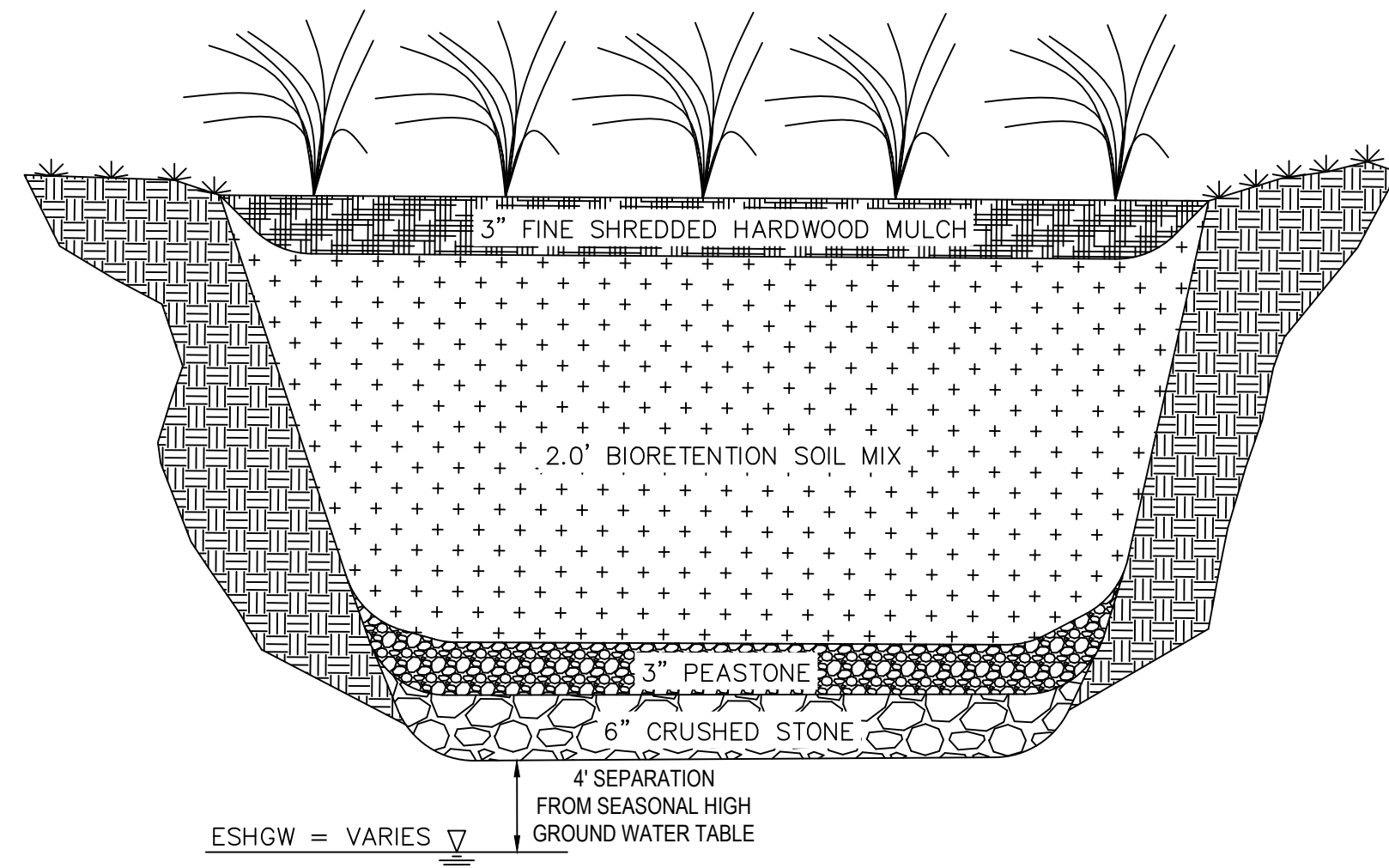
L = THE DISTANCE SUCH THAT POINTS
A AND B ARE OF EQUAL ELEVATION



STONE CHECK DAM
N.T.S.



STONE LINED SWALE SECTION
N.T.S.

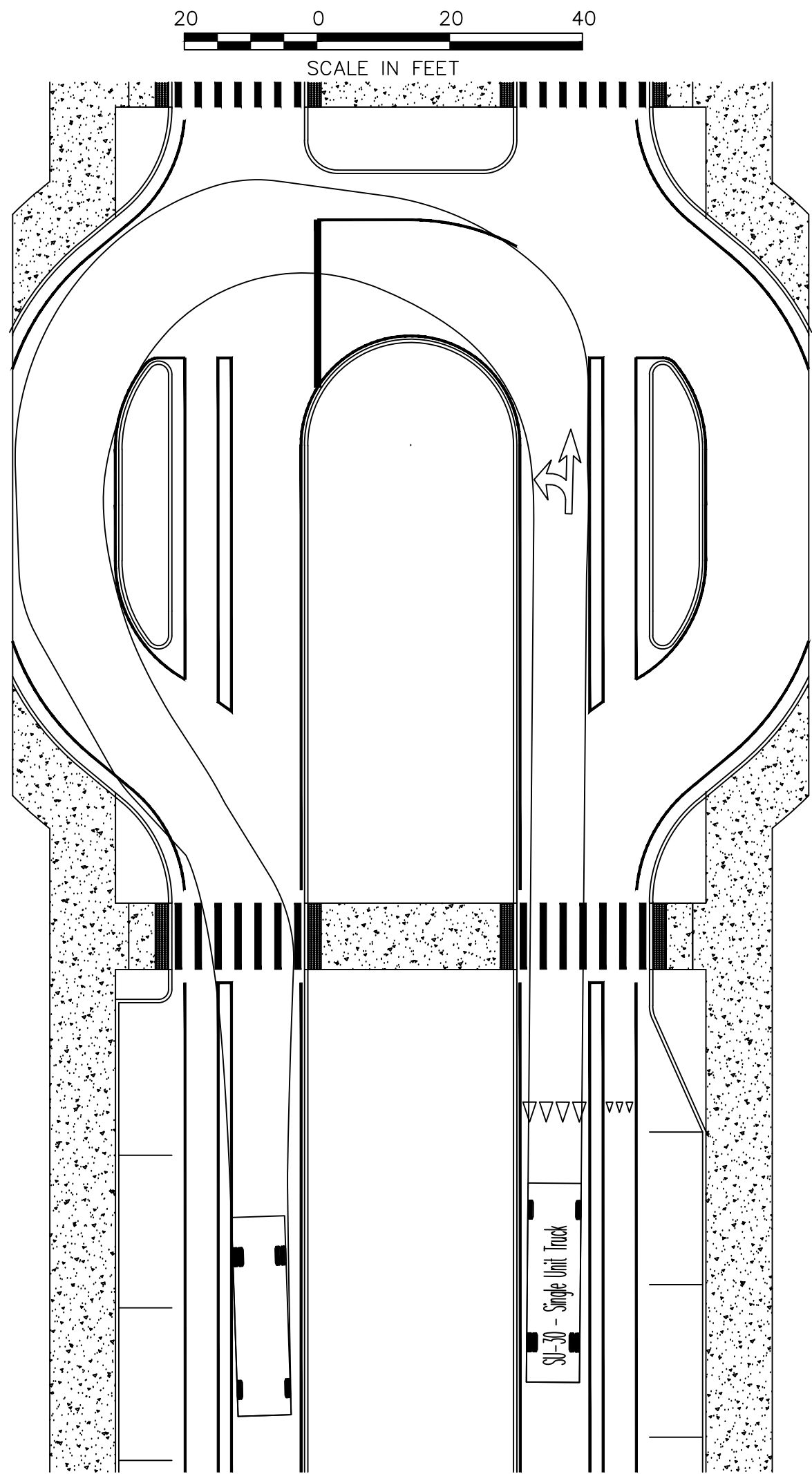


RAIN GARDEN
N.T.S.

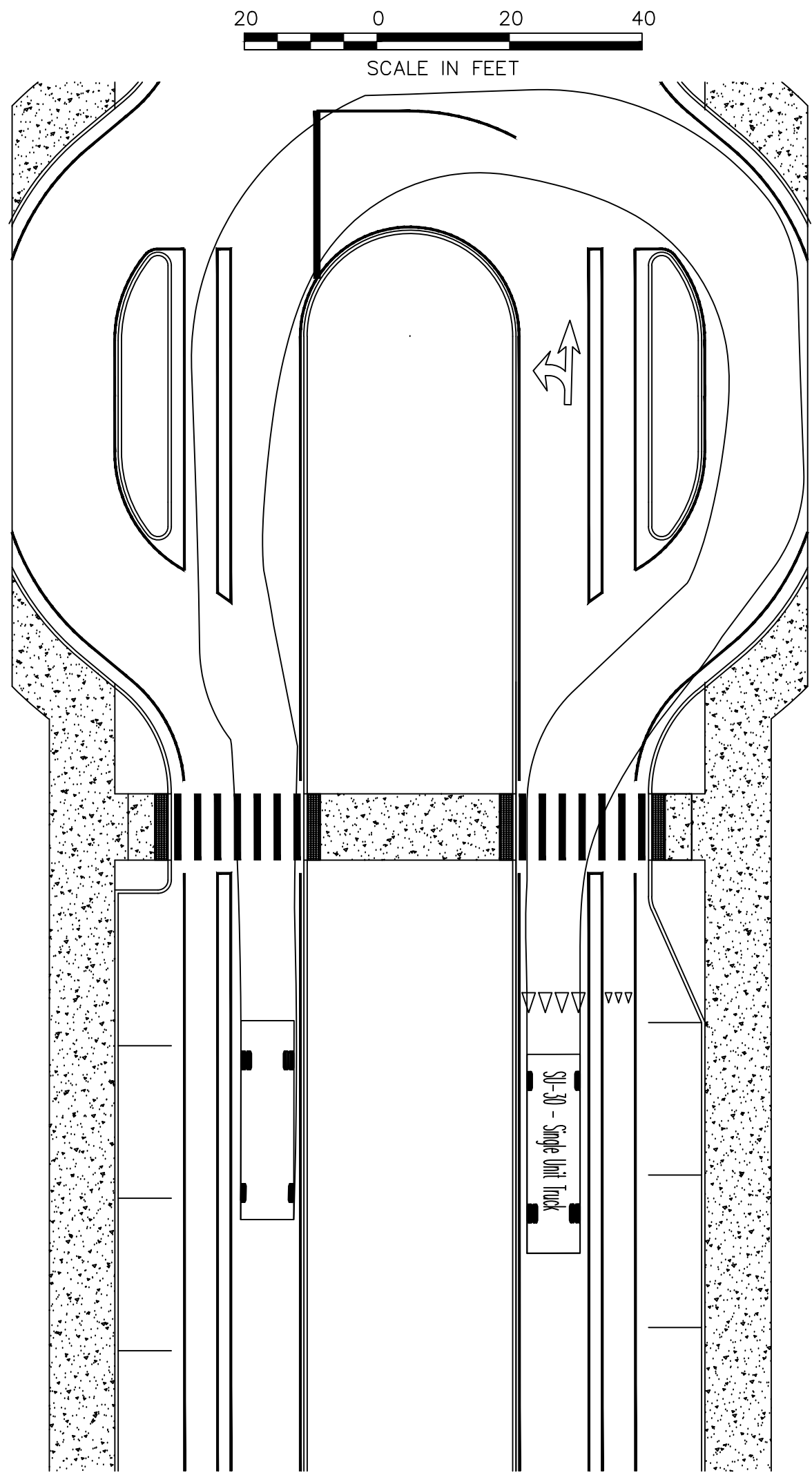
NOTES:

1. THE BIORETENTION SOIL MIX SHALL CONSIST OF A UNIFORM MIXTURE OF TWO PARTS (40% BY VOLUME) COURSE SAND (MASSDOT MATERIAL SPECIFICAITON M1.04.0 TYPE A), TWO PARTS (40% BY VOLUME) TOPSOIL (MASSDOT SPECIFICATION M1.05.0 OR M1.06.1) AND ONE PART (20% BY VOLUME HARDWORD CHIPS.
2. THE LARGEST STONE SIZE SHALL BE 2" DIAMETER IN THE TOPSOIL.
3. REMOVE ANY FILL BENEATH THE RAIN GARDEN. REPLACE WITH TITLE 5 SAND BACKFILL.
4. SOIL SURROUNDING TREES TO REMAIN SHALL NOT BE EXCAVATED TO PROTECT THE ROOTS.

REVISIONS	
DRAWING TITLE	
Construction Details	
SUBDIVISION NAME & LOCATION	
King Street Commons 550 King Street Littleton, MA 01460	
OWNER / APPLICANT / SUBDIVIDER	
Lupoli Companies 282 Merrimack Street Lawrence, MA 01843	
DESIGNER / ENGINEER	
TEC The Engineering Corp	
TEC, Inc. 282 Merrimack Street, 2nd Floor Lawrence, Massachusetts 01843 978.794.1792 www.TheEngineeringCorp.com Lawrence Hampton Worcester	
DESIGNED BY RJF	DATE 11-26-25
CHECKED BY CPR	SCALE AS NOTED
PROJECT NO. T1180	
TEC CAD FILE T1180_DET	
DRAWING NO. C-38	
SHEET 38 OF 63	



SU-30 TRUCK TURNING AROUND ON NORTH ROAD
1"=20'



SU-30 TRUCK TURNING AROUND ON NORTH ROAD
1"=20'

REVISIONS

DRAWING TITLE
Truck Turning Plan

SUBDIVISION NAME & LOCATION
King Street Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER
Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

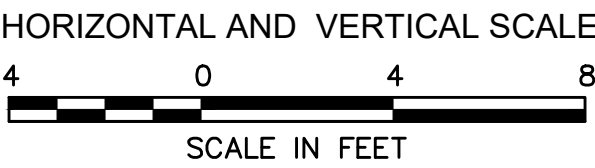
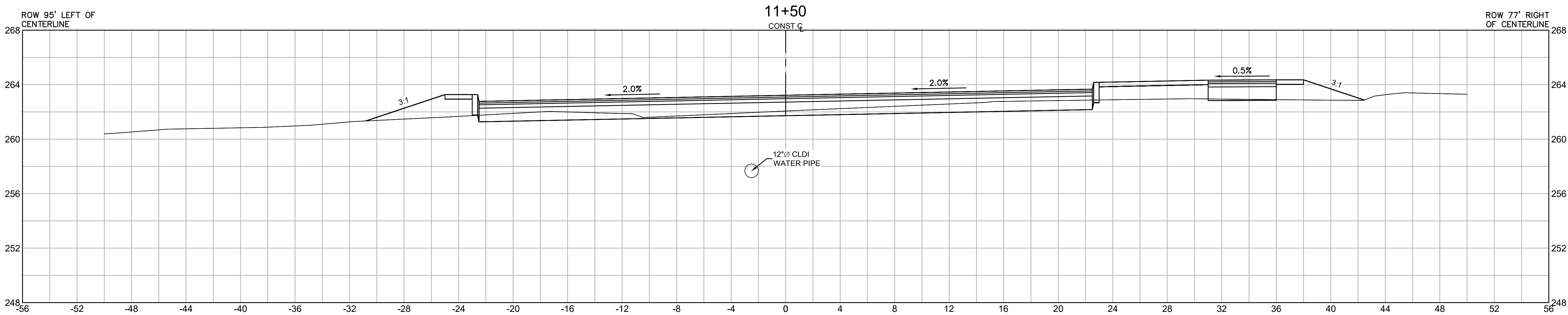
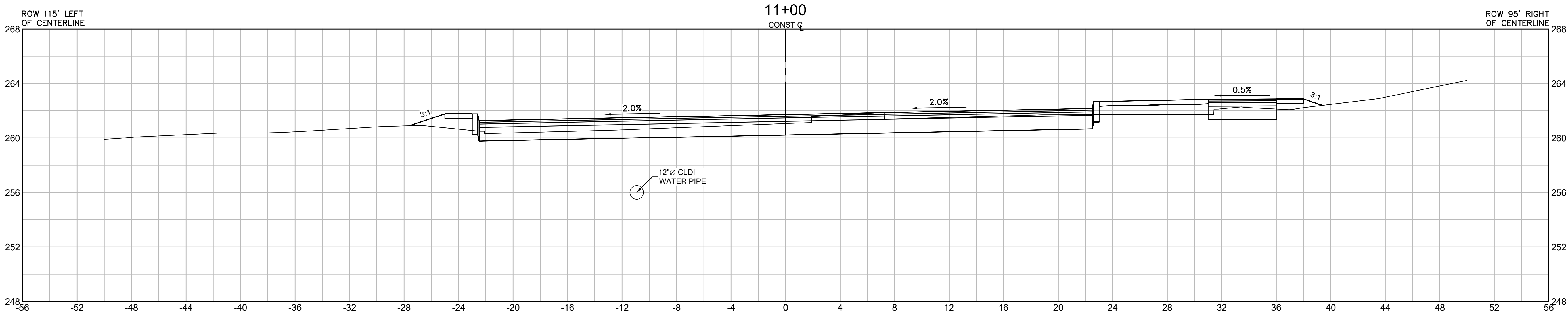
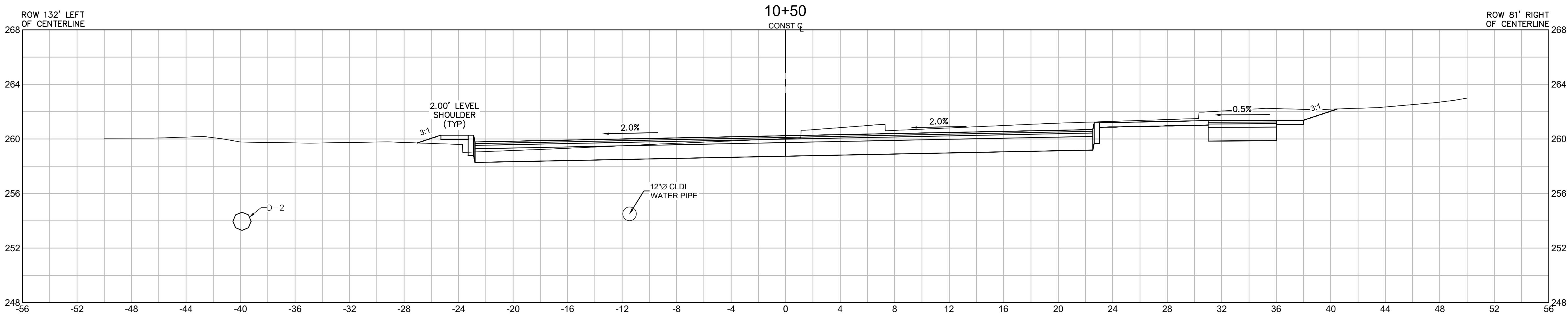
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The Engineering Corp
TEC, Inc.
282 Merrimack Street, 2nd Floor
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DESIGNED BY RJF DATE 11-26-25
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PROJECT NO. T1180
TEC CAD FILE
T1180_DET
DRAWING NO. **C-39**
SHEET 39 OF 63
11/26/2025

- NOTES:
- ALL LANDSCAPE BUFFERS TO BE A MAX OF 1:10 SLOPE.



REVISIONS

DRAWING TITLE

Roadway Cross Sections
10+50 to 11+50

SUBDIVISION NAME & LOCATION

King Street Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

DESIGNER / ENGINEER

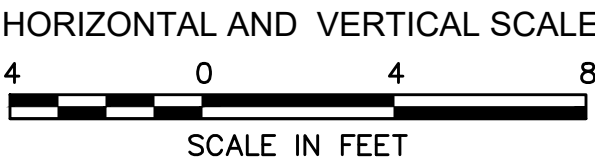
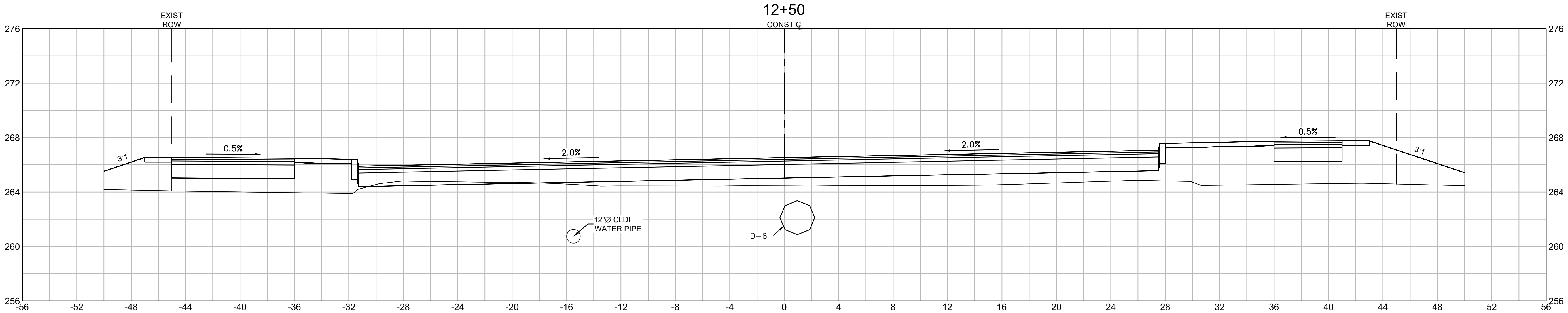
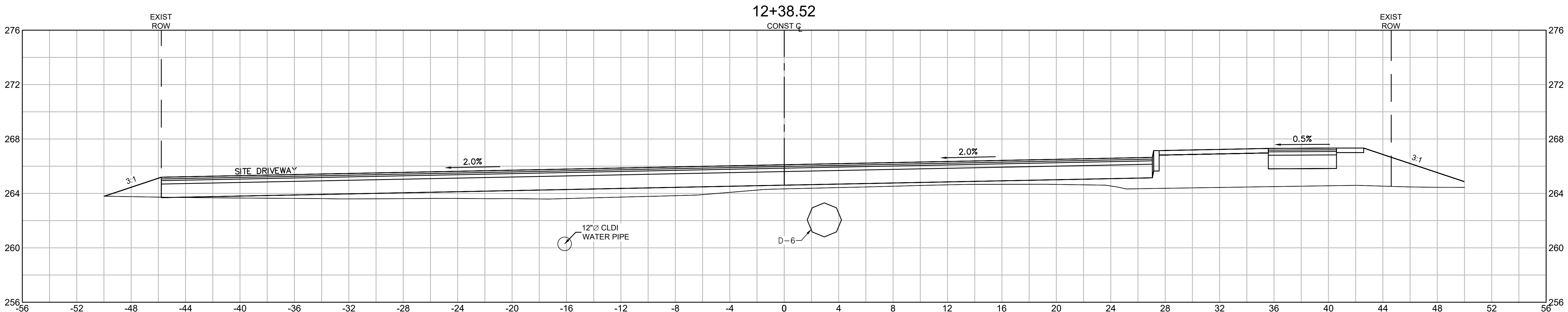
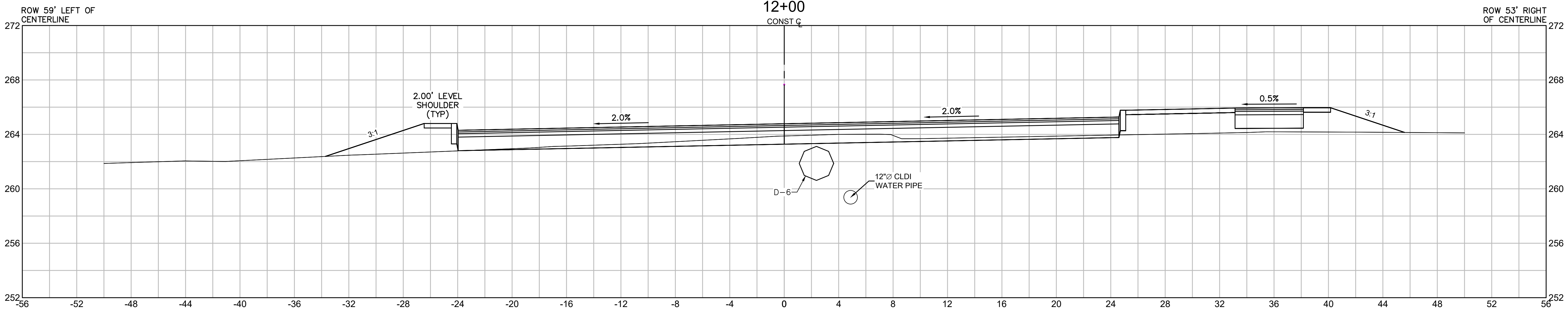
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DESIGNED BY RJF DATE 11-26-25
CHECKED BY CPR SCALE AS NOTED

PROJECT NO. T1180
TEC CAD FILE
T1180_SECTION
DRAWING NO. **C-40**
SHEET 40 OF 63

11/26/2025



REVISIONS

DRAWING TITLE

Roadway Cross Sections

12+00 to 12+50

SUBDIVISION NAME & LOCATION

King Street Commons

550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

Lupoli Companies

282 Merrimack Street
Lawrence, MA 01843

DESIGNER / ENGINEER



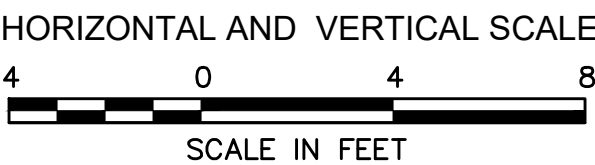
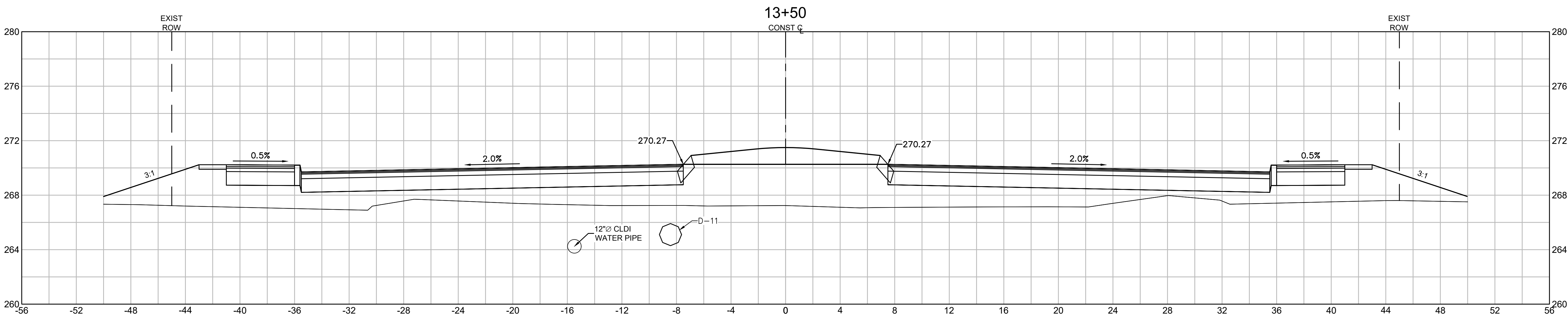
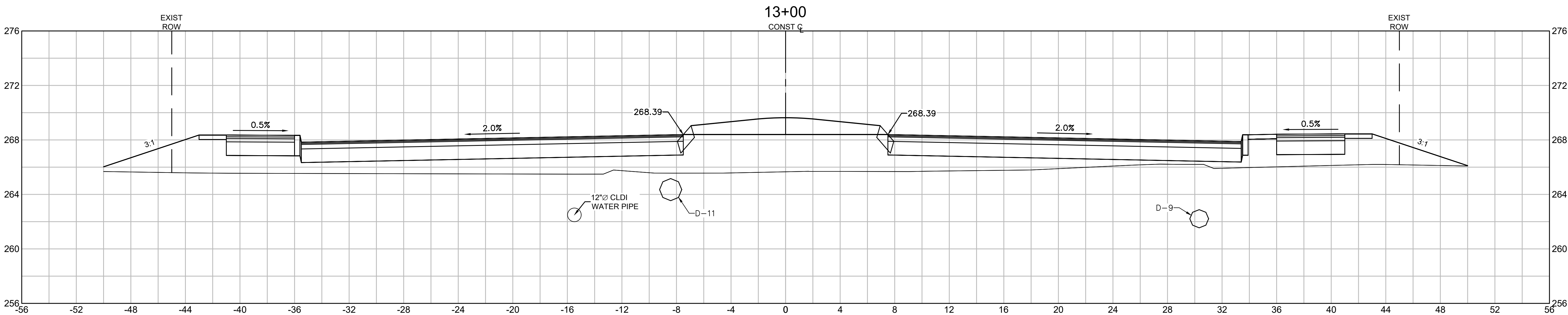
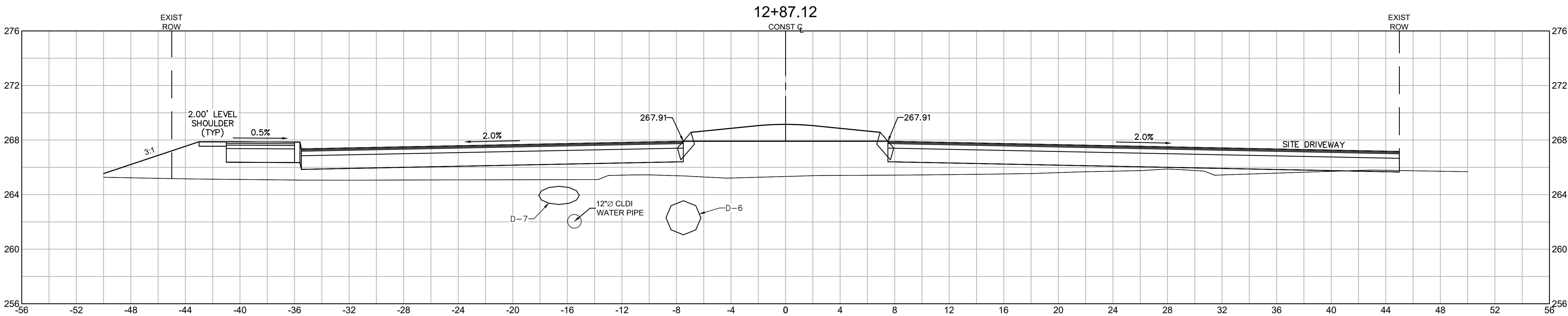
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978.794.1792

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DESIGNED BY RJF DATE 11-26-25
CHECKED BY CPR SCALE AS NOTED

PROJECT NO. T1180
TEC CAD FILE
T1180_SECTION
DRAWING NO. C-41
SHEET 41 OF 63

11/26/2025



REVISIONS

DRAWING TITLE

Roadway Cross Sections
12+87.12 to 13+50

SUBDIVISION NAME & LOCATION

King Street Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

DESIGNER / ENGINEER



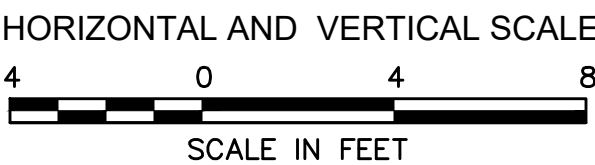
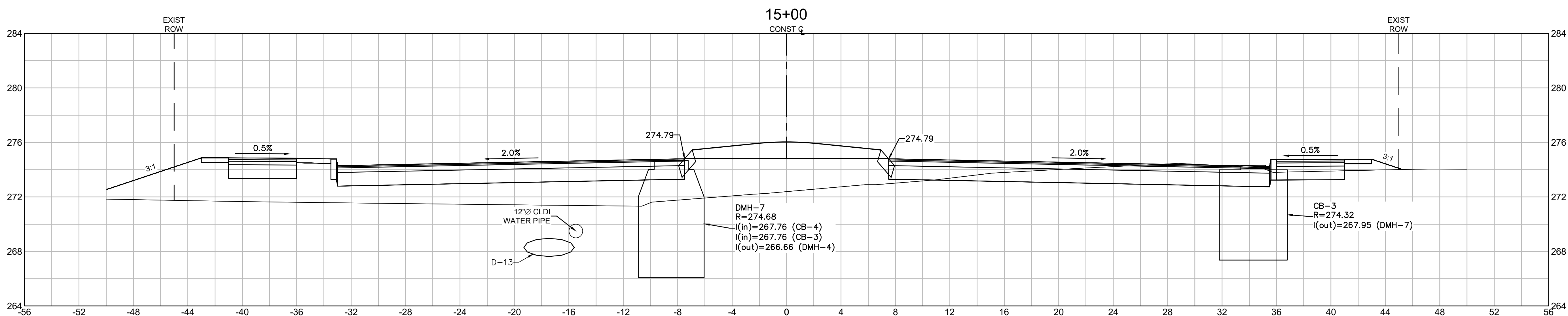
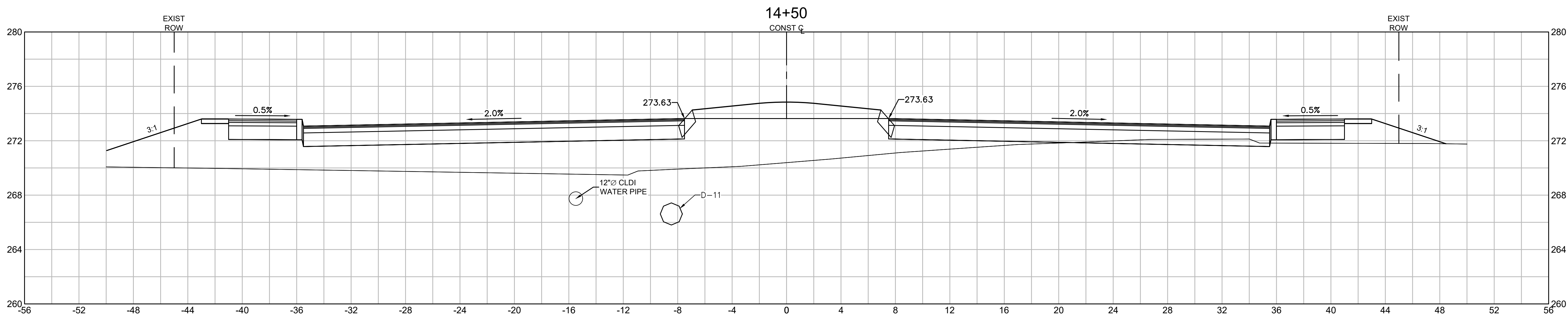
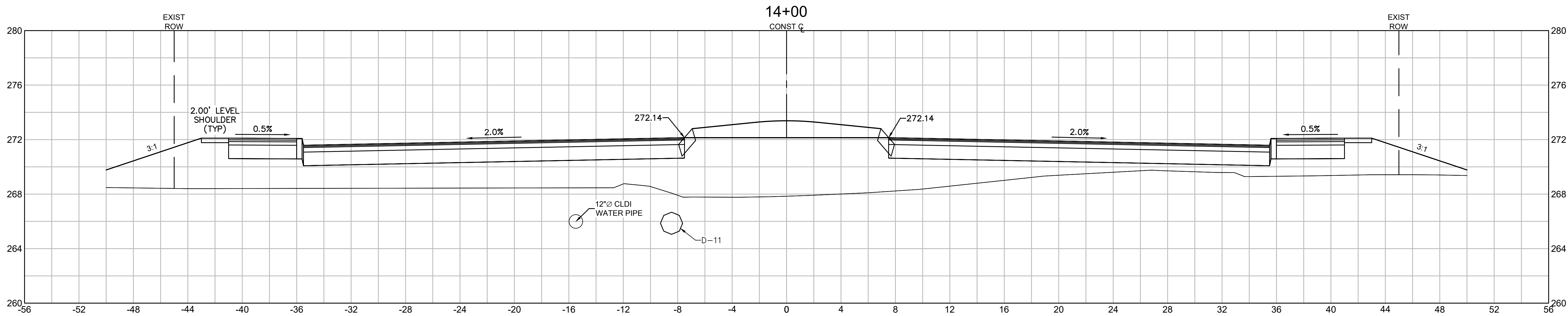
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DESIGNED BY RJF DATE 11-26-25
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PROJECT NO. T1180
TEC CAD FILE
T1180_SECTION
DRAWING NO. C-42
SHEET 42 OF 63

11/26/2025



REVISIONS

DRAWING TITLE

Roadway Cross Sections
14+00 to 15+00

SUBDIVISION NAME & LOCATION

King Street Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

DESIGNER / ENGINEER

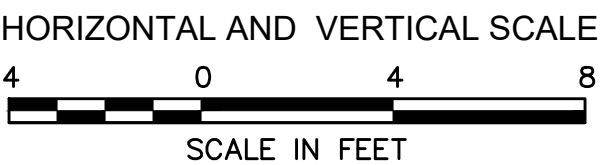
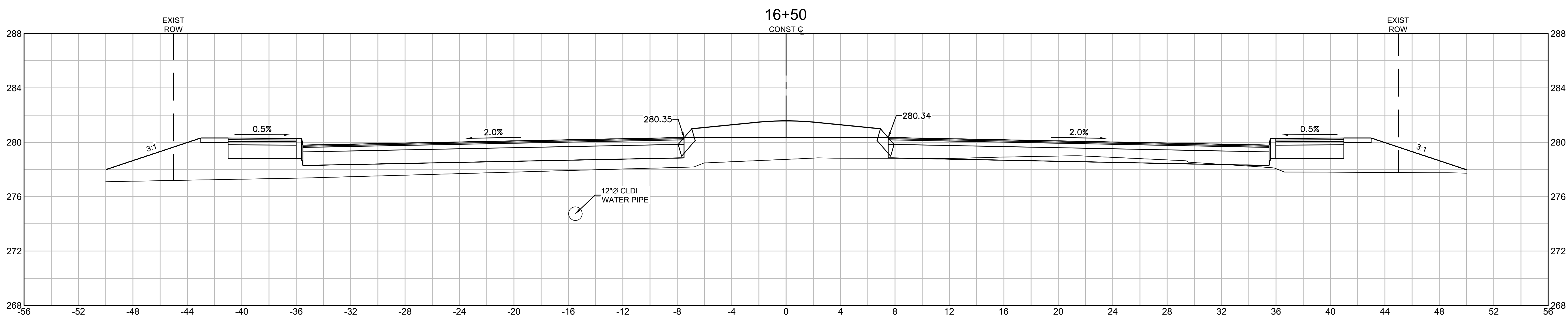
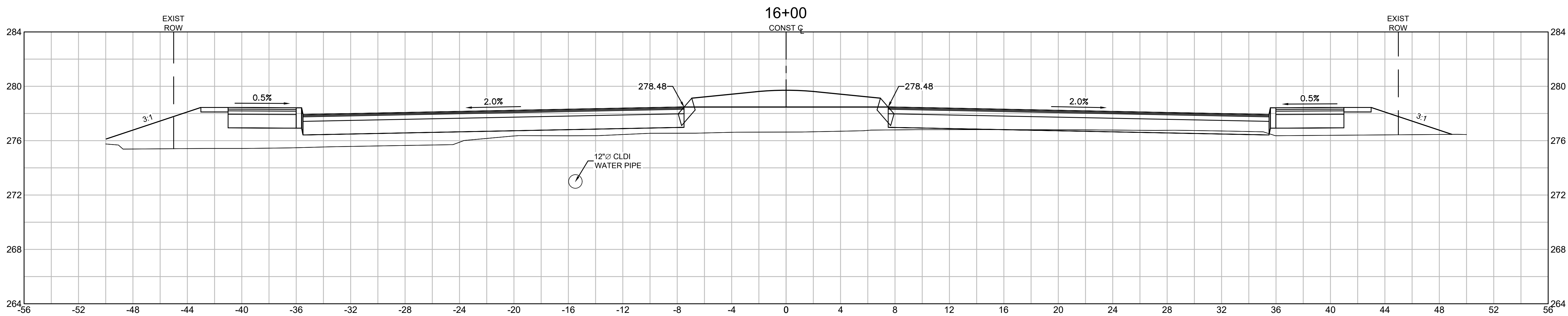
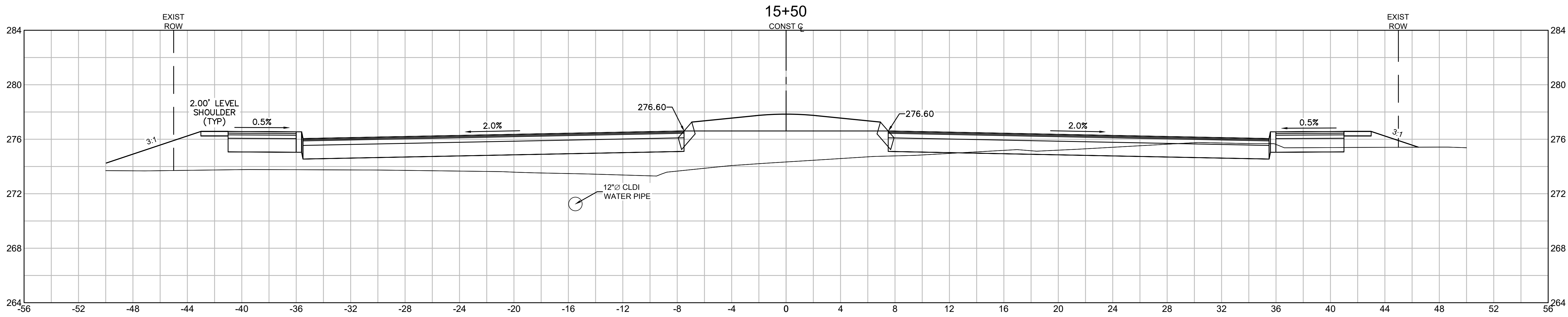


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CHECKED BY CPR SCALE AS NOTED

PROJECT NO. T1180
TEC CAD FILE
T1180_SECTION
DRAWING NO. **C-43**
SHEET 43 OF 63



REVISIONS

DRAWING TITLE
Roadway Cross Sections
15+50 to 16+50
SUBDIVISION NAME & LOCATION
King Street Commons
550 King Street
Littleton, MA 01460
OWNER / APPLICANT / SUBDIVIDER
Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843
DESIGNER / ENGINEER

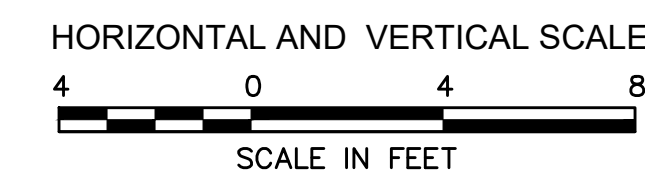
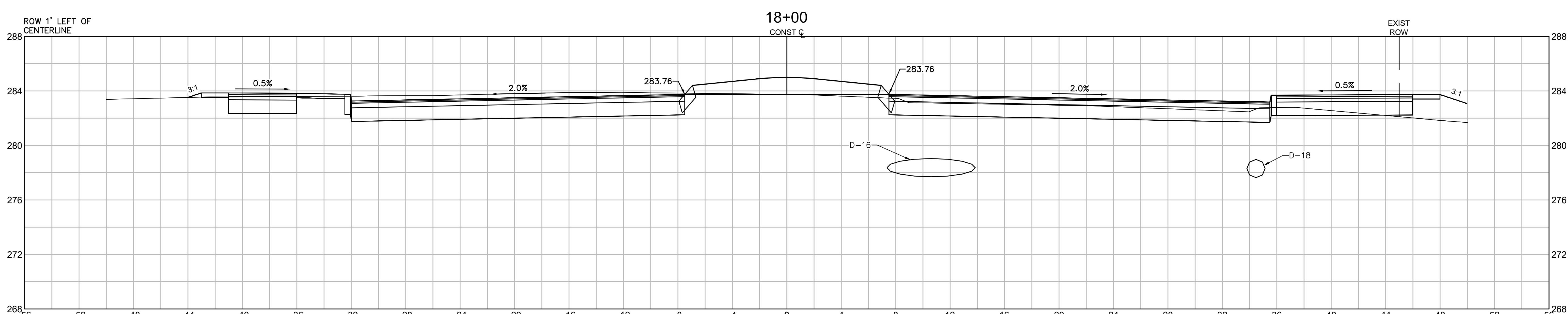
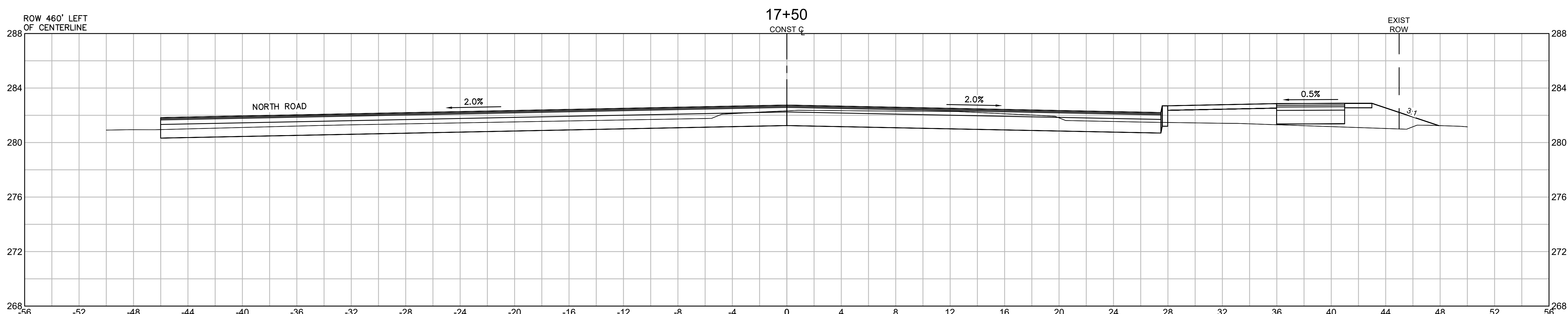
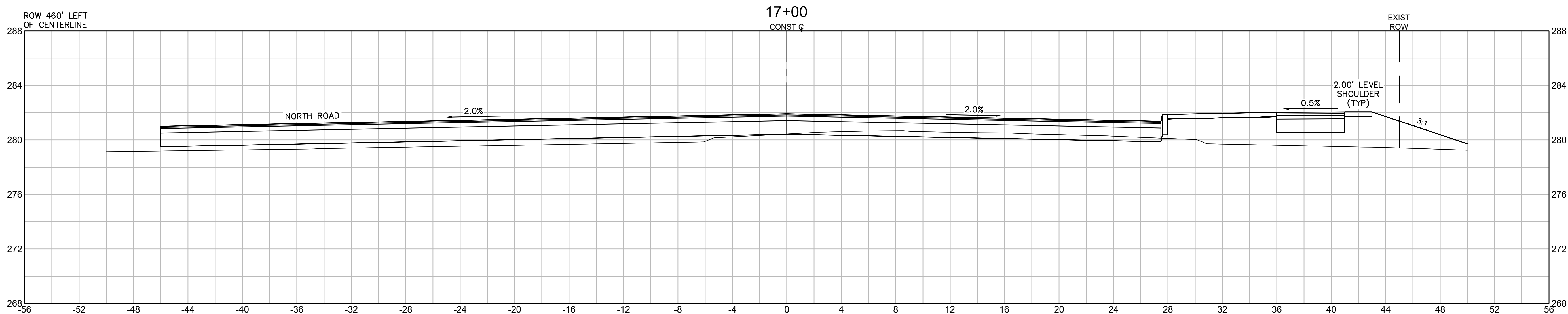
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DESIGNED BY RJF DATE 11-26-25
CHECKED BY CPR SCALE AS NOTED

PROJECT NO. T1180
TEC CAD FILE
T1180_SECTION
DRAWING NO. **C-44**
SHEET 44 OF 63

11/26/2025



REVISIONS

DRAWING TITLE

Roadway Cross Sections
17+00 to 18+00

SUBDIVISION NAME & LOCATION

King Street Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

DESIGNER / ENGINEER

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DESIGNED BY RJF DATE 11-26-25
CHECKED BY CPR SCALE AS NOTED

PROJECT NO.
T1180

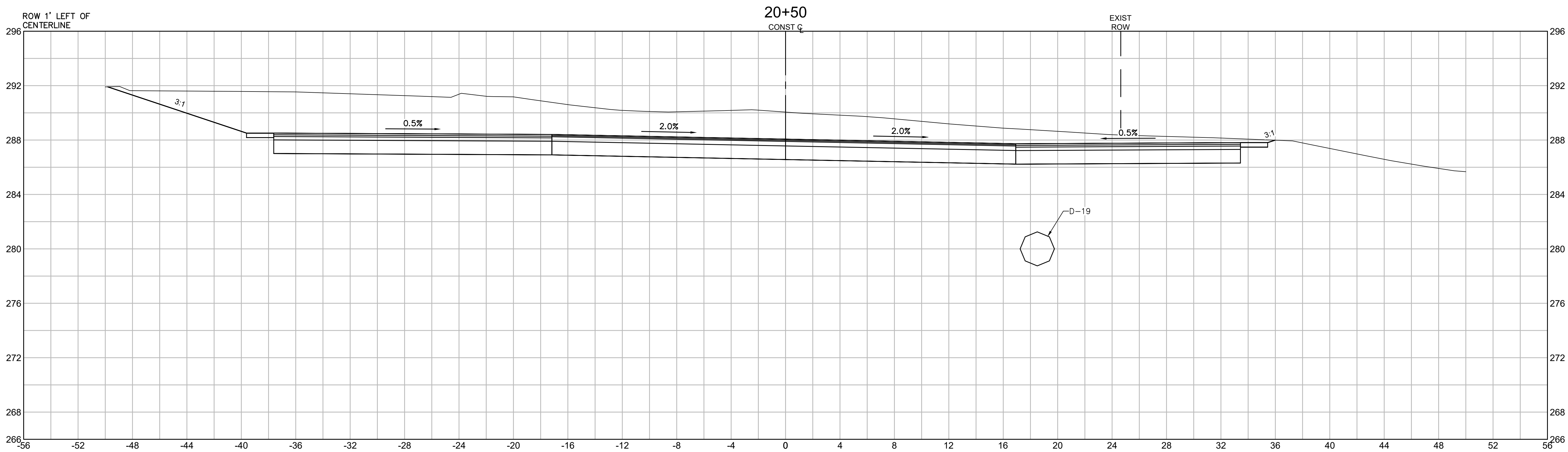
TEC CAD FILE

T1180_SECTION

DRAWING NO.
C-45

SHEET 45 OF 63

11/26/2025



HORIZONTAL AND VERTICAL SCALE



SCALE IN FEET

REVISIONS

DRAWING TITLE

Roadway Cross
Sections
20+50

SUBDIVISION NAME & LOCATION

King Street

Commons

550 King Street

Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

Lupoli Companies

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DATE 11-26-25

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SCALE AS NOTED



PROJECT NO.

T1180

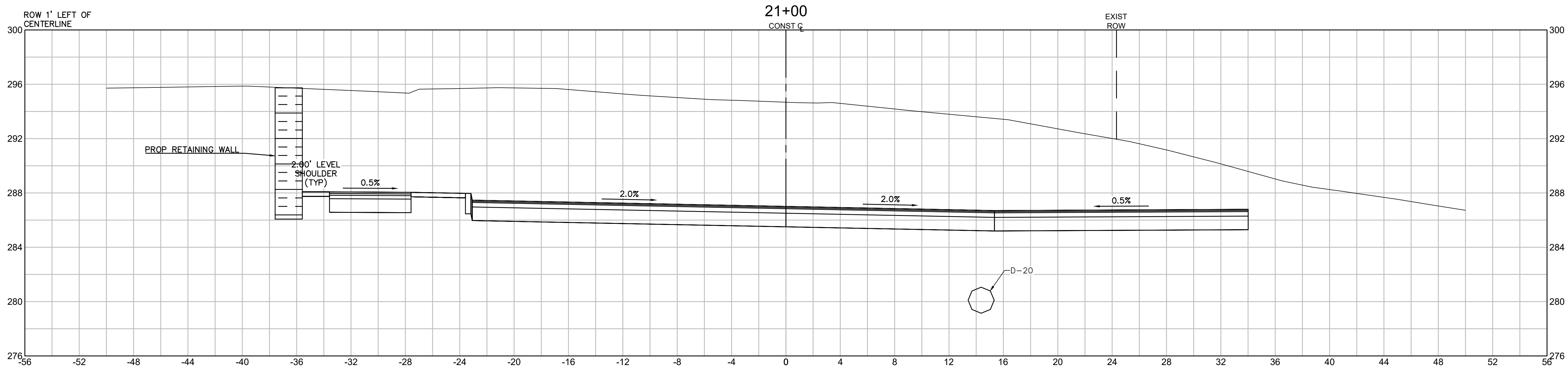
TEC CAD FILE

T1180_SECTION

DRAWING NO.

C-48

SHEET 48 OF 63



HORIZONTAL AND VERTICAL SCALE

4 0 4 8

SCALE IN FEET

REVISIONS

DRAWING TITLE

Roadway Cross
Sections
21+00 to 21+50

SUBDIVISION NAME & LOCATION

King Street
Commons

550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

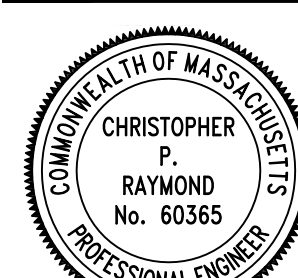
DESIGNER / ENGINEER

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PROJECT NO.

T1180

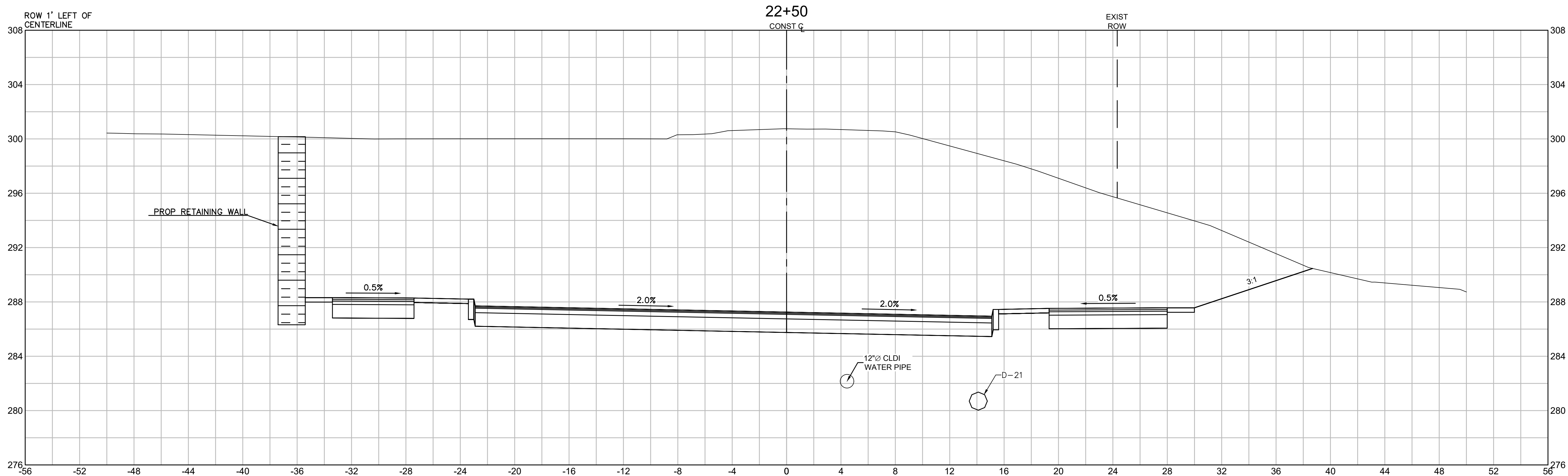
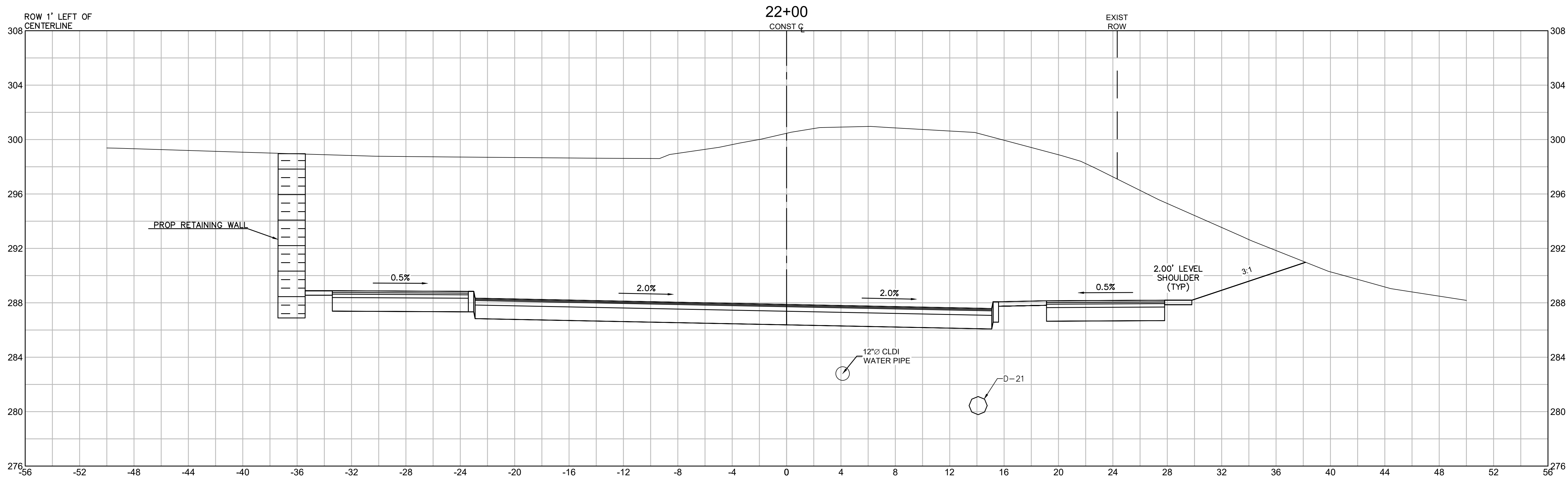
TEC CAD FILE

T1180_SECTION

DRAWING NO.

C-49

SHEET 49 OF 63



REVISIONS

DRAWING TITLE

Roadway Cross Sections
22+00 to 22+50

SUBDIVISION NAME & LOCATION

King Street Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

DESIGNER / ENGINEER

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DESIGNED BY RJF DATE 11-26-25
CHECKED BY CPR SCALE AS NOTED

PROJECT NO.
T1180

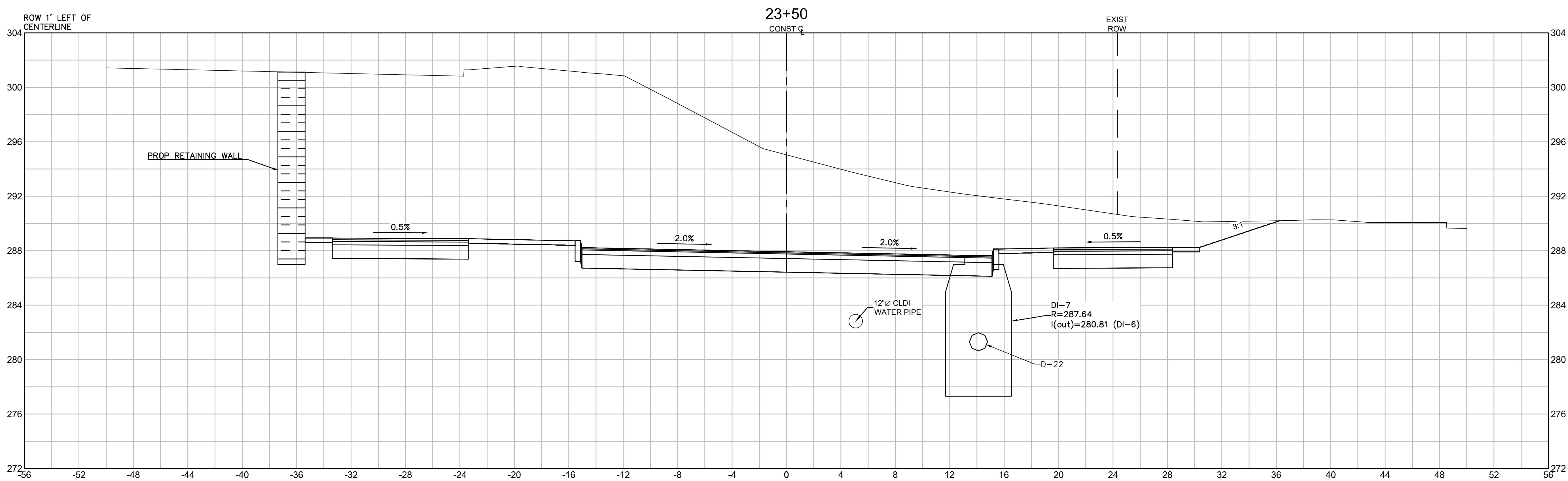
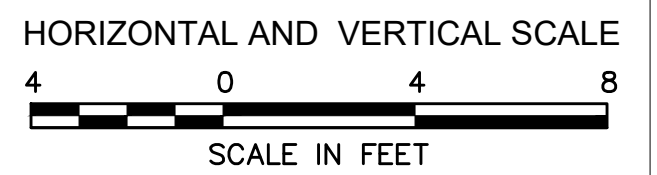
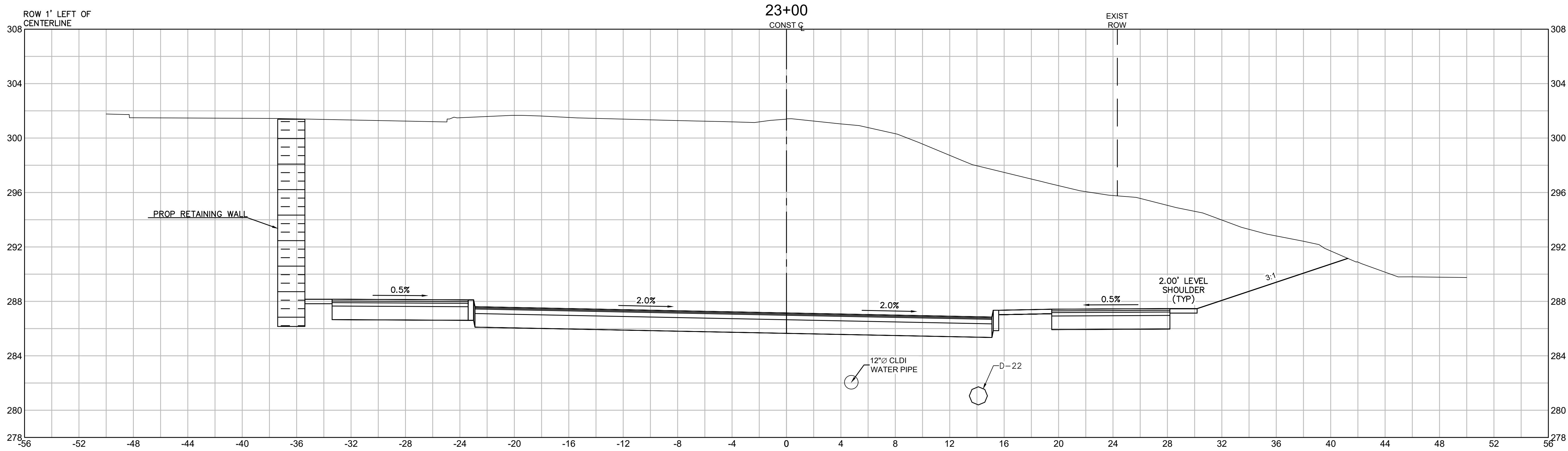
TEC CAD FILE

T1180_SECTION

DRAWING NO.
C-50

SHEET 50 OF 63

11/26/2025



REVISIONS

DRAWING TITLE

Roadway Cross Sections
23+00 to 23+50

SUBDIVISION NAME & LOCATION

King Street Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

DESIGNER / ENGINEER

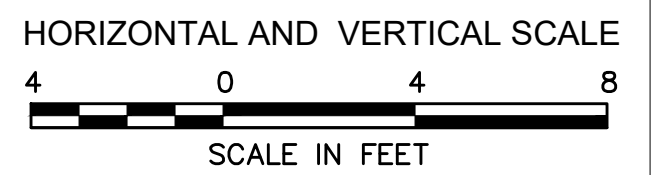
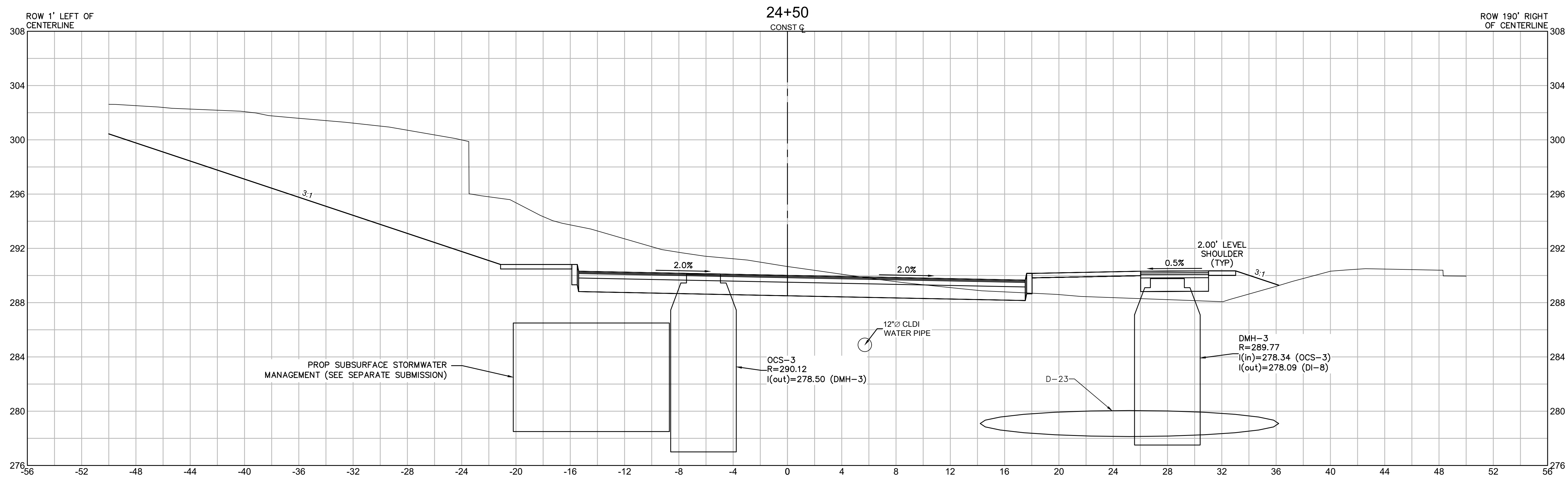
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DESIGNED BY RJF DATE 11-26-25
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PROJECT NO. T1180
TEC CAD FILE
T1180_SECTION
DRAWING NO. **C-51**
SHEET 51 OF 63

11/26/2025



REVISIONS

DRAWING TITLE

Roadway Cross Sections
24+50 to 24+79.22

SUBDIVISION NAME & LOCATION

King Street Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

DESIGNER / ENGINEER

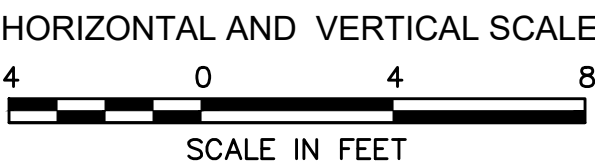
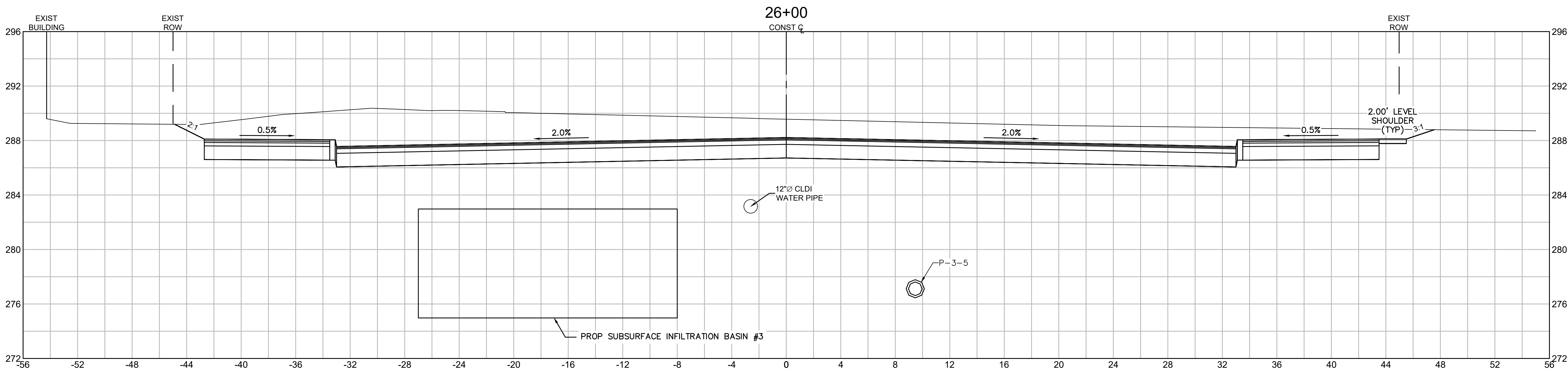
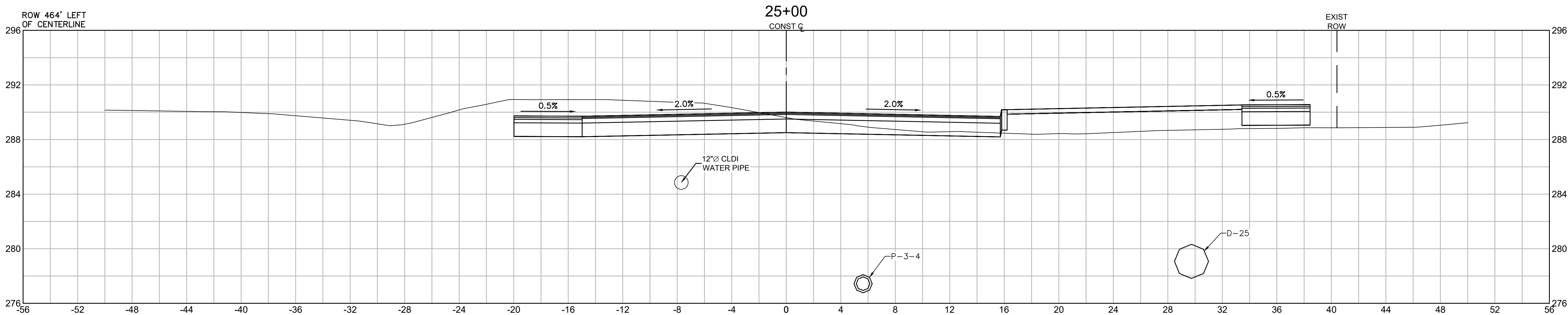


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	PROJECT NO.	T1180
	TEC CAD FILE	
	T1180_SECTION	
	DRAWING NO.	C-53
SHEET 53 OF 63		



REVISIONS

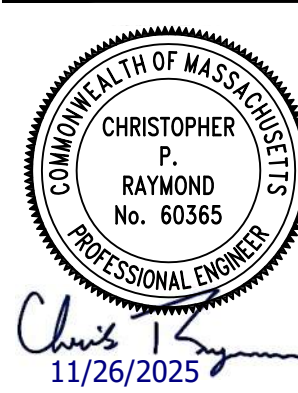
DRAWING TITLE
Roadway Cross Sections
25+00 to 26+00
SUBDIVISION NAME & LOCATION
King Street Commons
550 King Street
Littleton, MA 01460
OWNER / APPLICANT / SUBDIVIDER
Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843
DESIGNER / ENGINEER

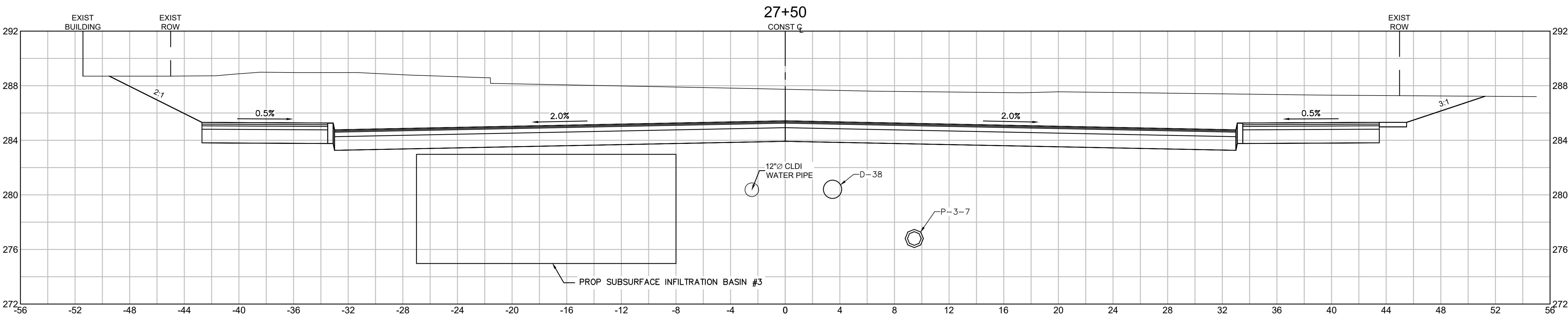
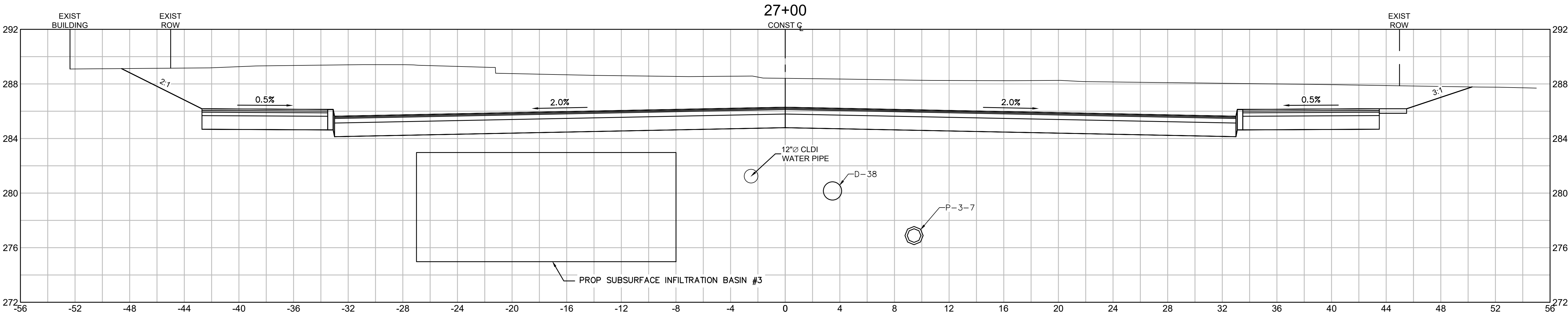
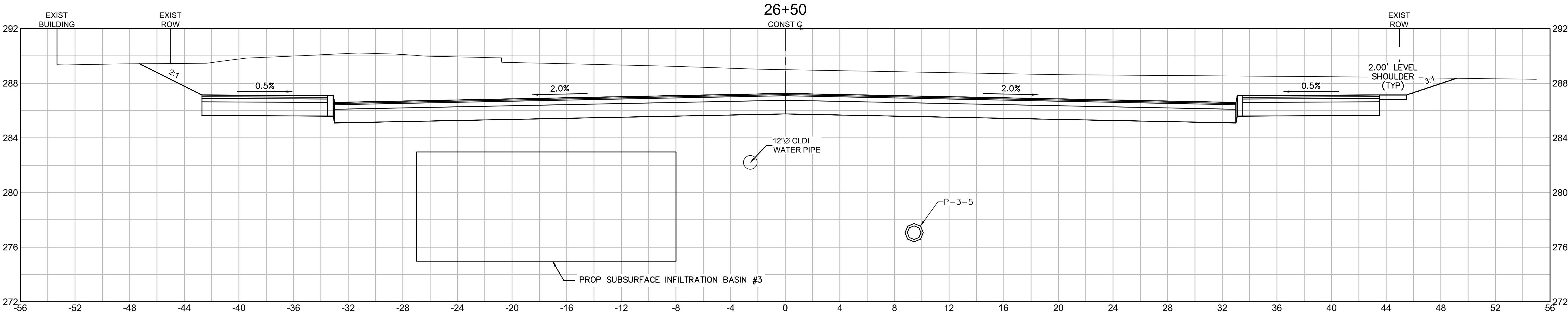


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DESIGNED BY RJF DATE 11-26-25
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PROJECT NO. T1180
TEC CAD FILE
T1180_SECTION
DRAWING NO. C-54
SHEET 54 OF 63





REVISIONS

DRAWING TITLE
Roadway Cross Sections
26+50 to 27+50
SUBDIVISION NAME & LOCATION

King Street Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

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282 Merrimack Street
Lawrence, MA 01843

DESIGNER / ENGINEER



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CHRISTOPHER P. RAYMOND
No. 60365
PROFESSIONAL ENGINEER

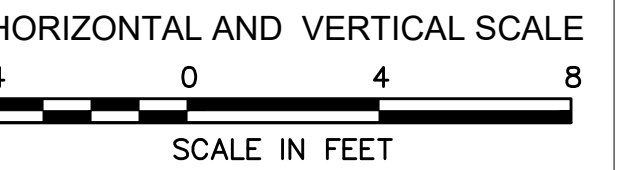
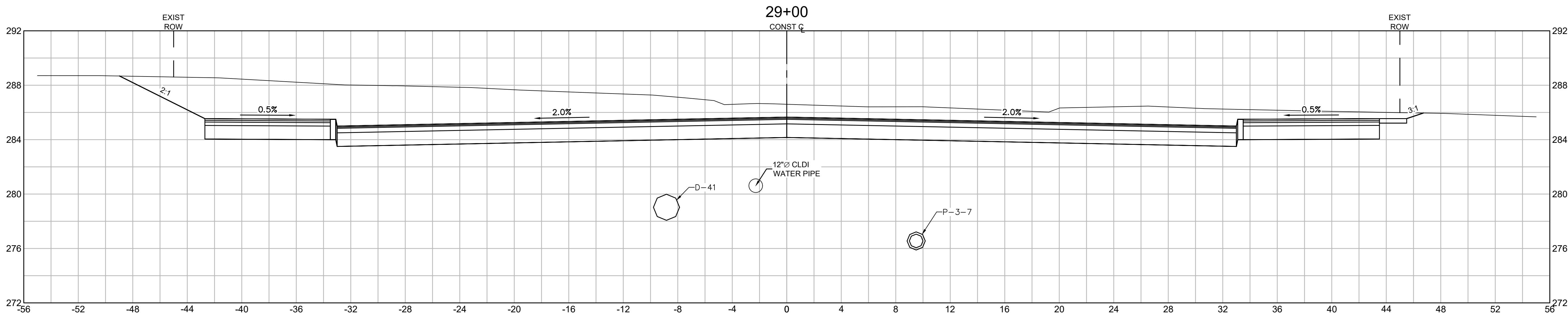
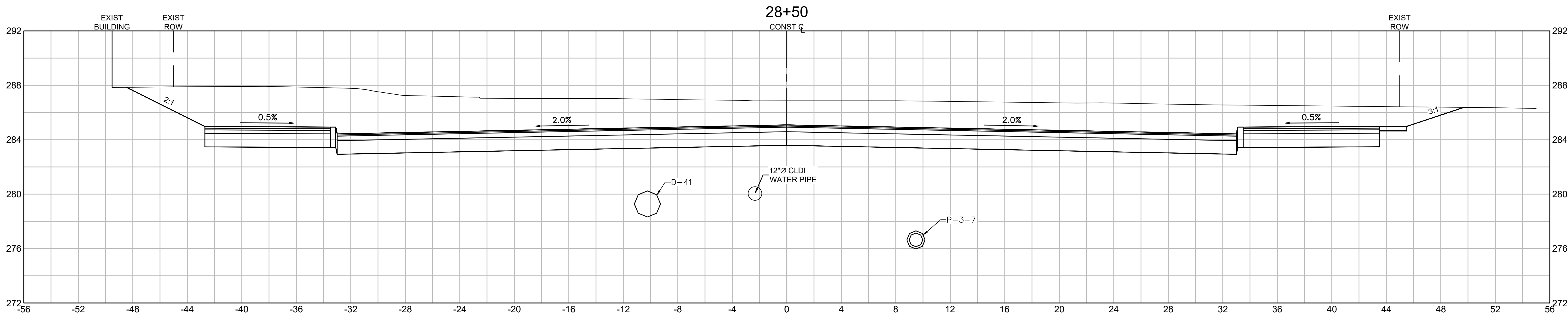
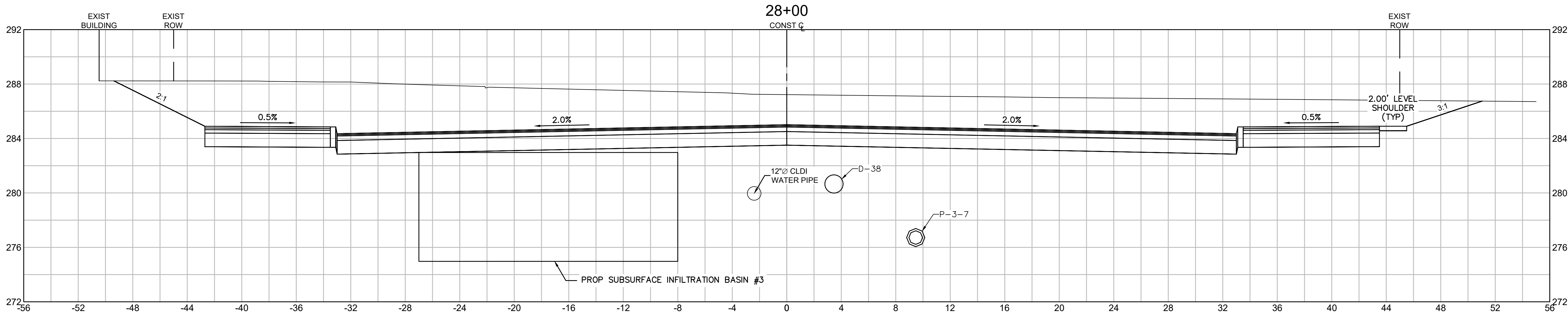
PROJECT NO.
T1180

TEC CAD FILE

T1180_SECTION

DRAWING NO.
C-55

SHEET 55 OF 63



REVISIONS

DRAWING TITLE

Roadway Cross Sections
28+00 to 29+00

SUBDIVISION NAME & LOCATION

King Street Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

DESIGNER / ENGINEER



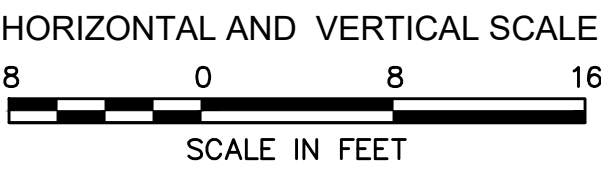
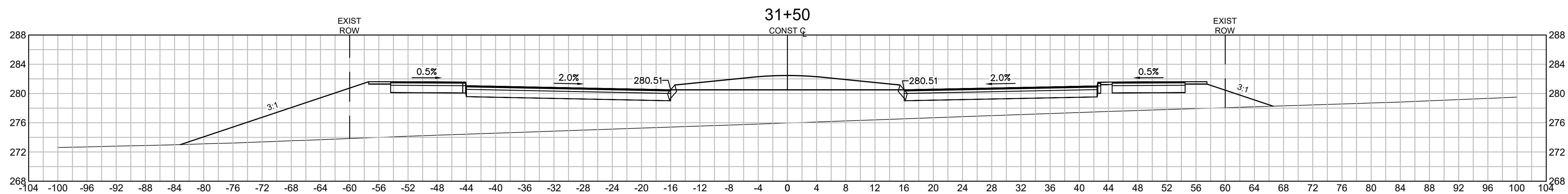
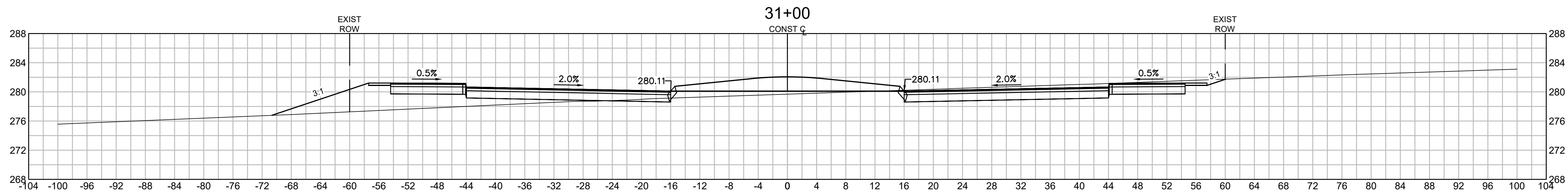
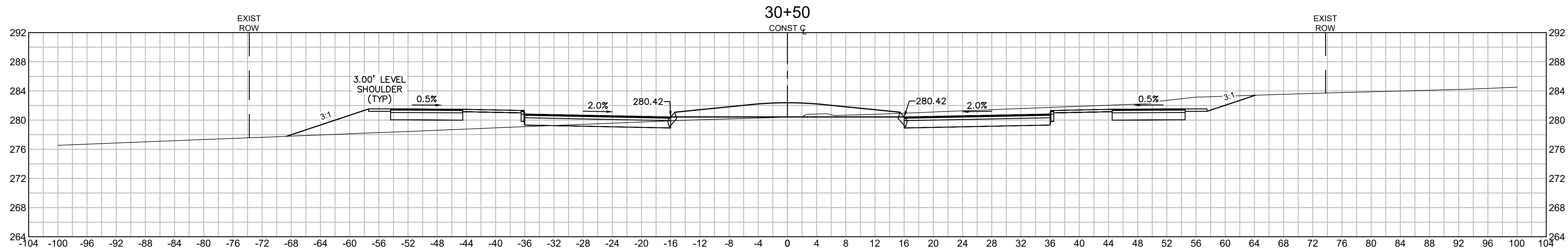
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DESIGNED BY RJF DATE 11-26-25
CHECKED BY CPR SCALE AS NOTED



PROJECT NO. T1180
TEC CAD FILE
T1180_SECTION
DRAWING NO. **C-56**
SHEET 56 OF 63



REVISIONS

DRAWING TITLE

Roadway Cross Sections
30+50 to 31+50

SUBDIVISION NAME & LOCATION

King Street Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

DESIGNER / ENGINEER



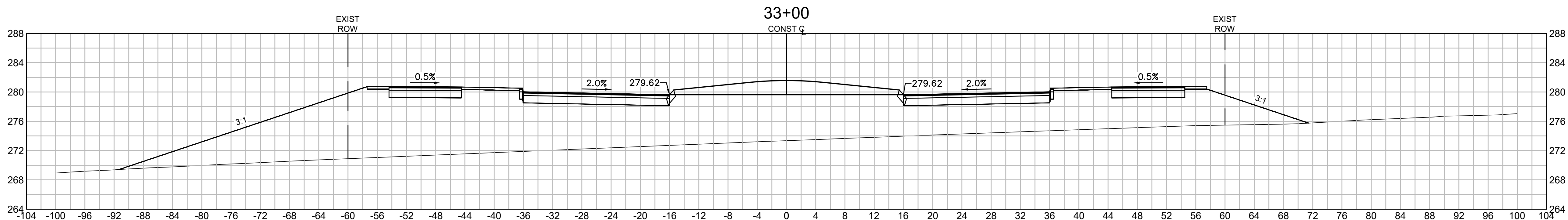
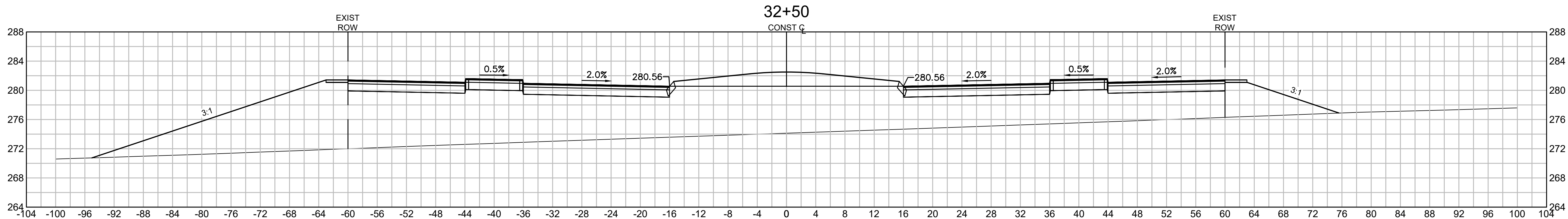
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PROJECT NO. T1180
TEC CAD FILE
T1180_SECTION
DRAWING NO. C-57
SHEET 57 OF 63





HORIZONTAL AND VERTICAL SCALE

8 0 8 16

SCALE IN FEET

REVISIONS

DRAWING TITLE

Roadway Cross
Sections
32+00 to 33+00

SUBDIVISION NAME & LOCATION

King Street
Commons

550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

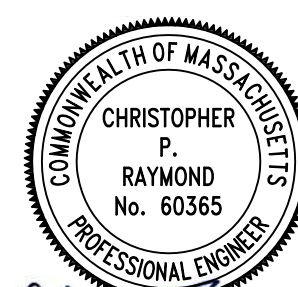
DESIGNER / ENGINEER



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DESIGNED BY RJF DATE 11-26-25
CHECKED BY CPR SCALE AS NOTED



11/26/2025

PROJECT NO.

T1180

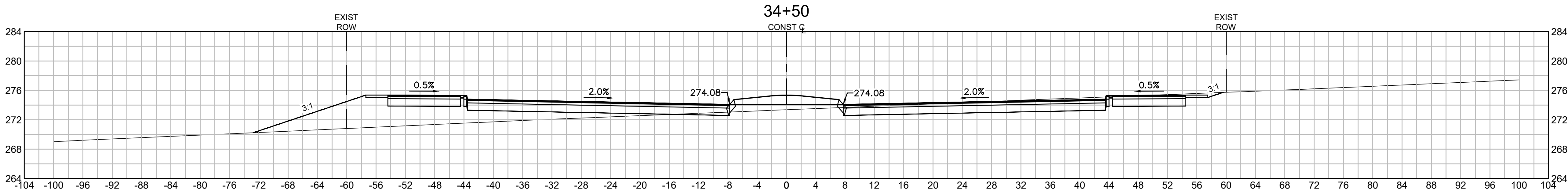
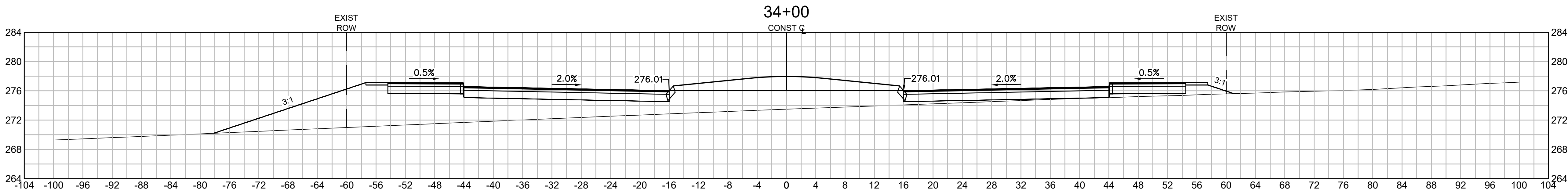
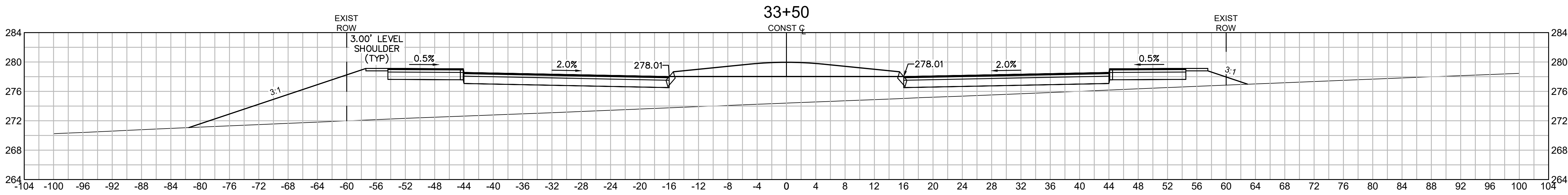
TEC CAD FILE

T1180_SECTION

DRAWING NO.

C-58

SHEET 58 OF 63



HORIZONTAL AND VERTICAL SCALE

8 0 8 16

SCALE IN FEET

REVISIONS

DRAWING TITLE

Roadway Cross
Sections
33+50 to 34+50

SUBDIVISION NAME & LOCATION

King Street
Commons

550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

DESIGNER / ENGINEER

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DATE 11-26-25

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SCALE AS NOTED



PROJECT NO.

T1180

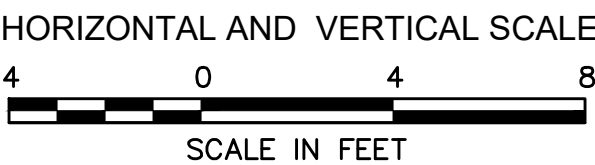
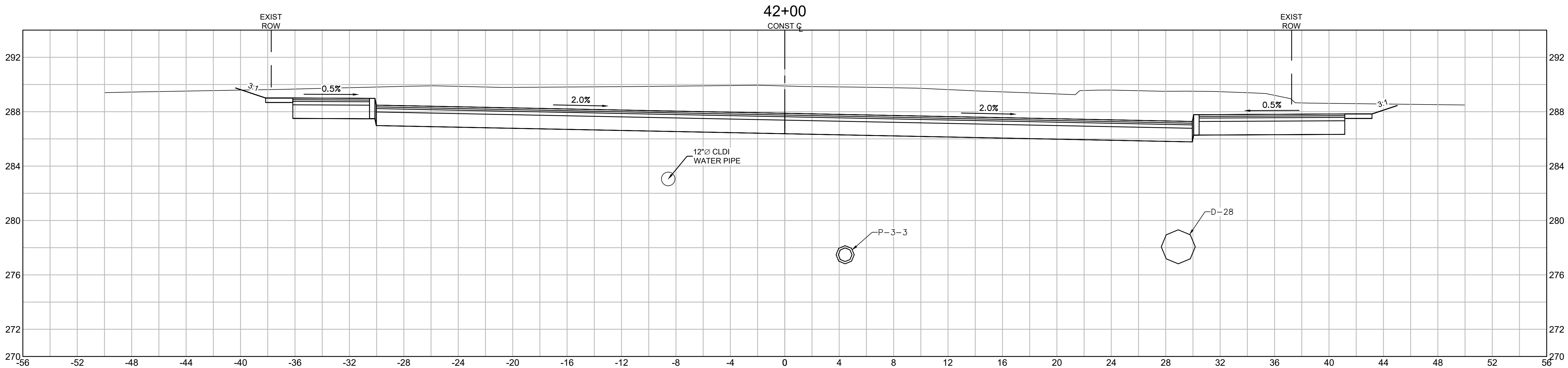
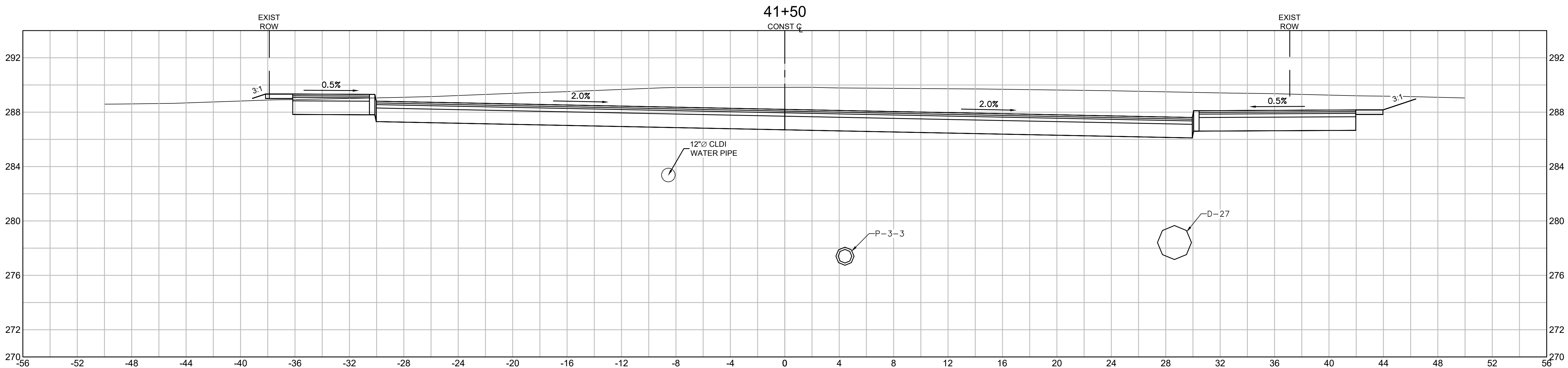
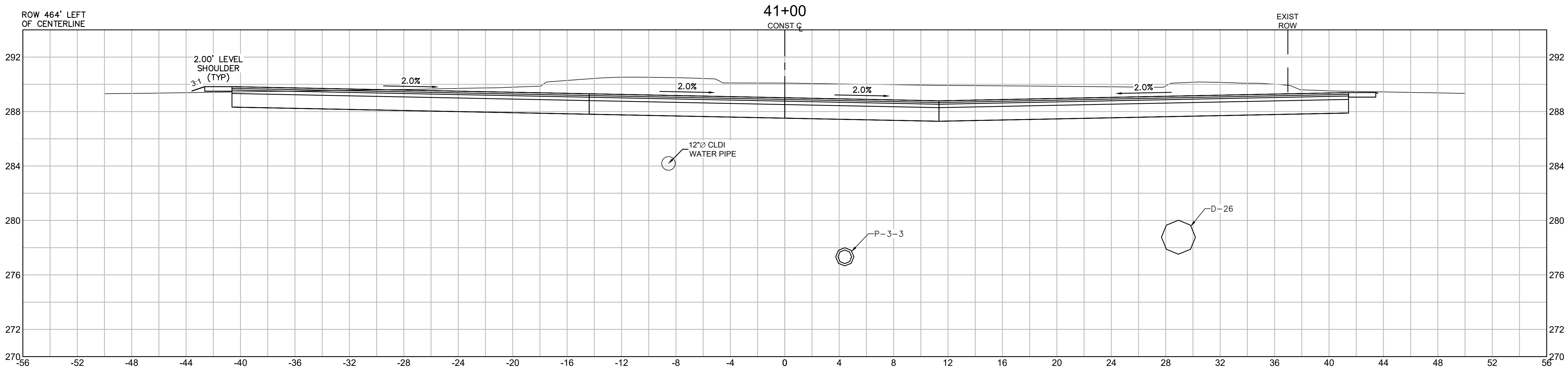
TEC CAD FILE

T1180_SECTION

DRAWING NO.

C-59

SHEET 59 OF 63



REVISIONS

DRAWING TITLE

Roadway Cross Sections

41+00 to 42+00

SUBDIVISION NAME & LOCATION

King Street Commons

550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

Lupoli Companies

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Lawrence, MA 01843

DESIGNER / ENGINEER

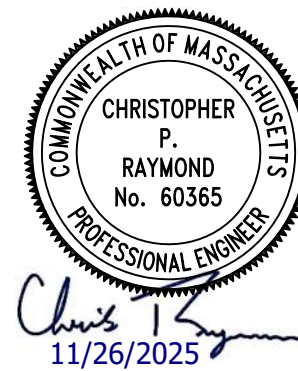


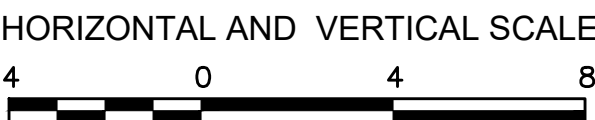
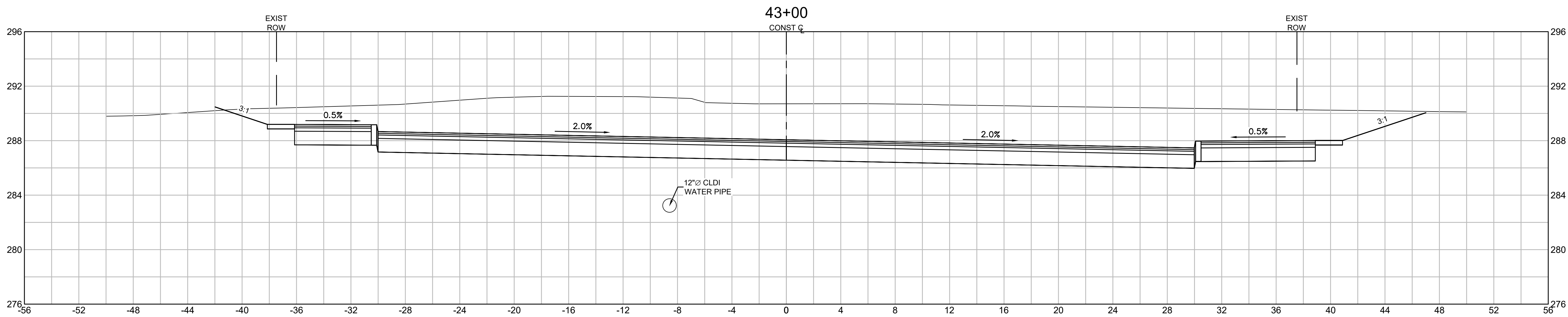
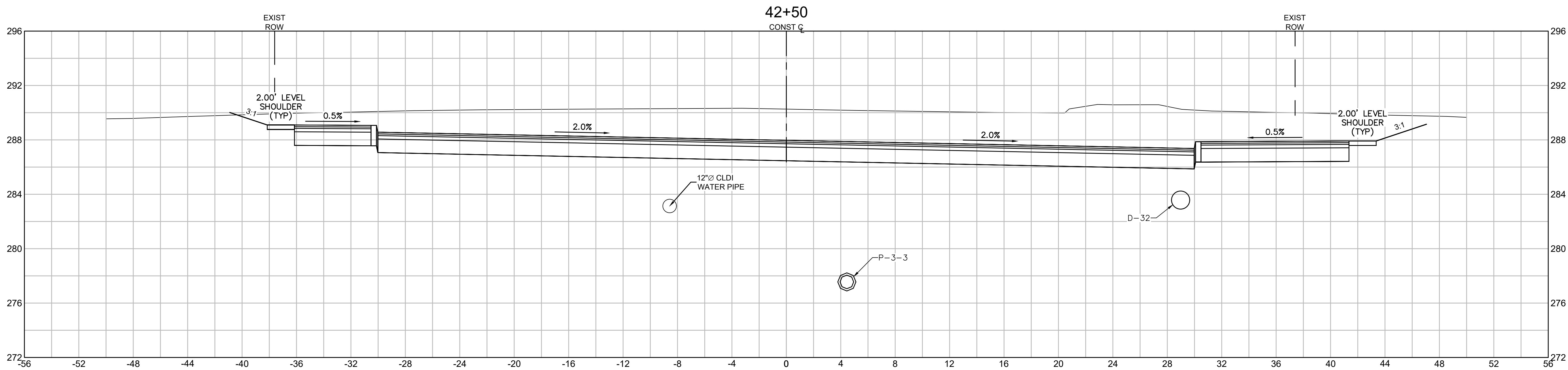
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DESIGNED BY RJF DATE 11-26-25
CHECKED BY CPR SCALE AS NOTED

PROJECT NO. T1180
TEC CAD FILE
T1180_SECTION
DRAWING NO. **C-60**
SHEET 60 OF 63





SCALE IN FEET

REVISIONS

DRAWING TITLE
**Roadway Cross
Sections
42+50 to 43+00**

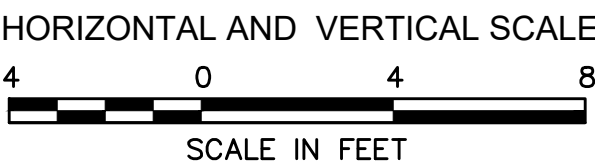
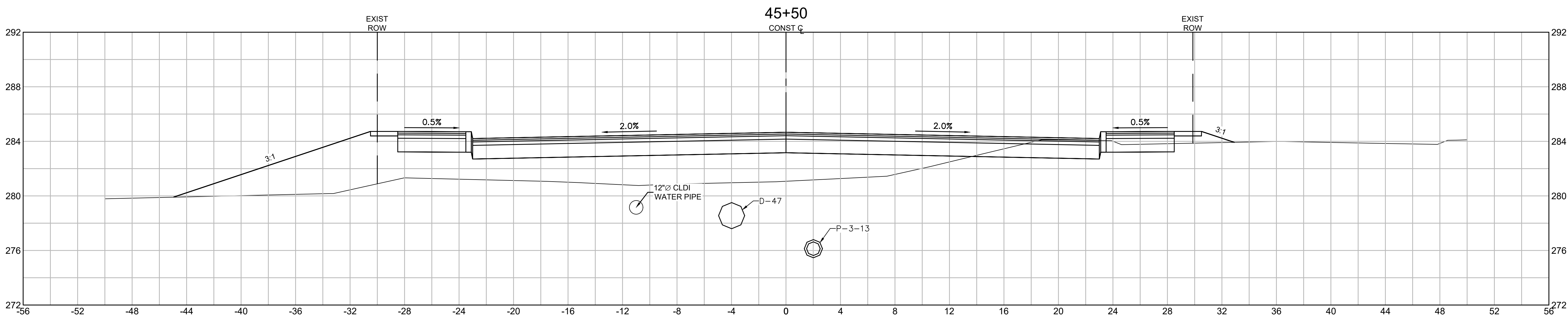
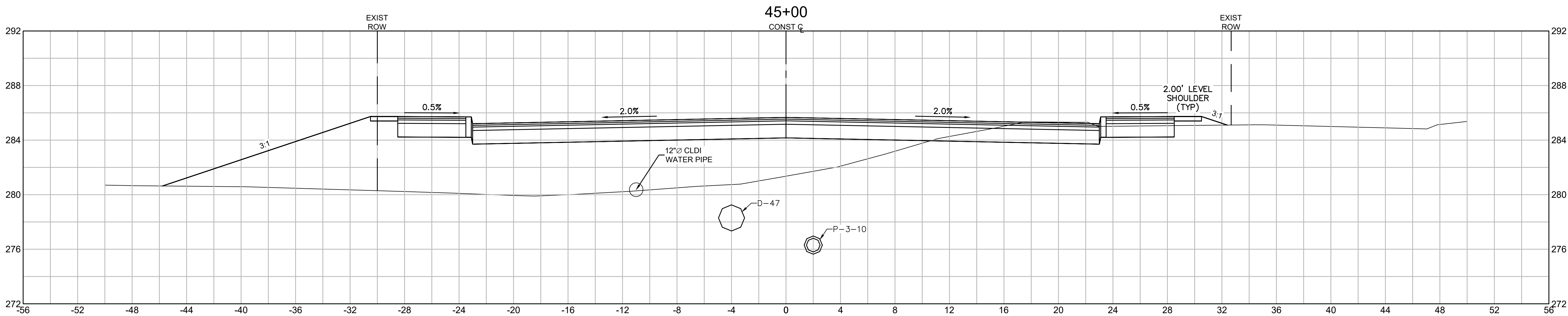
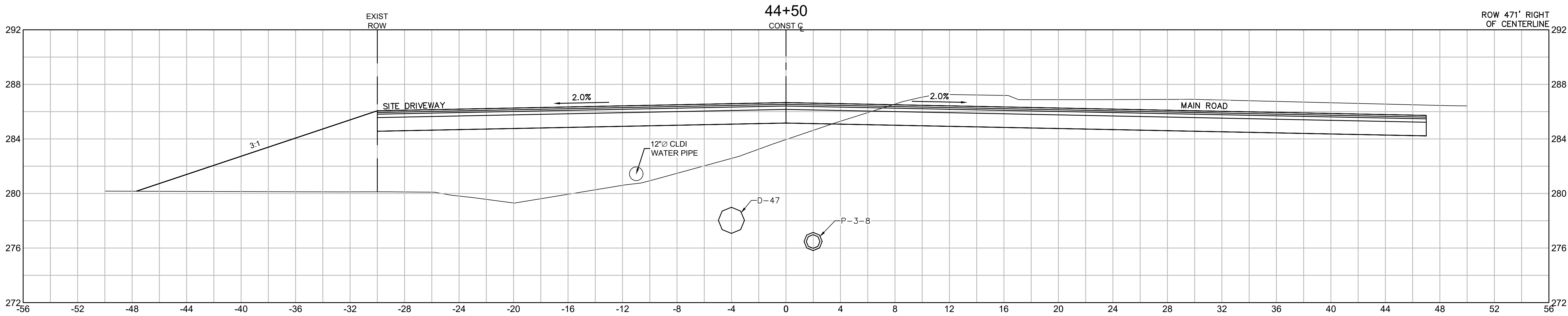
SUBDIVISION NAME & LOCATION
**King Street
Commons**
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER
Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

DESIGNER / ENGINEER

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DESIGNED BY RJF DATE 11-26-25
CHECKED BY CPR SCALE AS NOTED

PROJECT NO. T1180
TEC CAD FILE
T1180_SECTION
DRAWING NO. **C-61**
SHEET 61 OF 63



REVISIONS

DRAWING TITLE

Roadway Cross Sections
44+50 to 45+50

SUBDIVISION NAME & LOCATION

King Street Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER

Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

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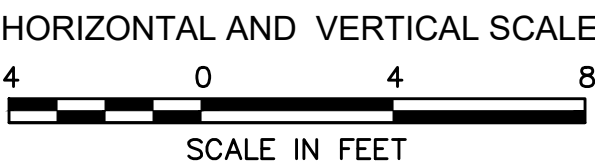
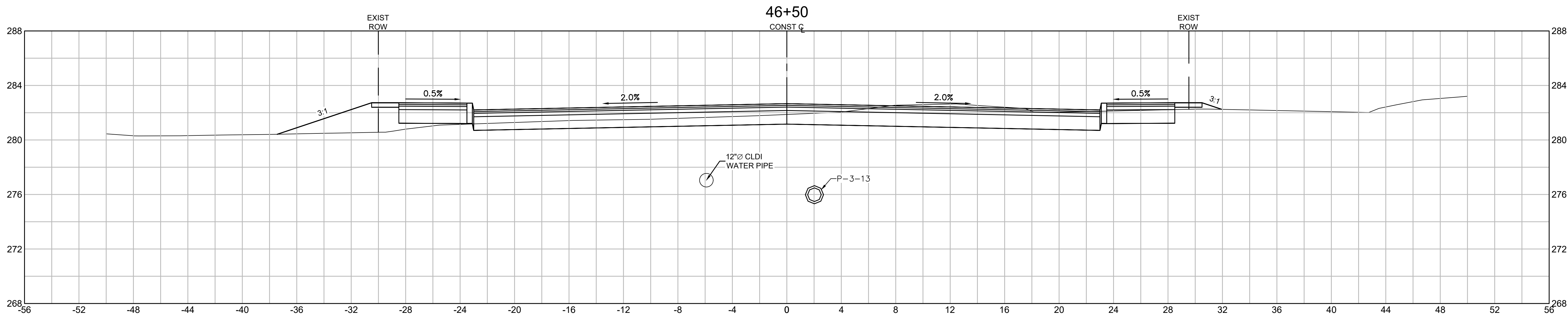
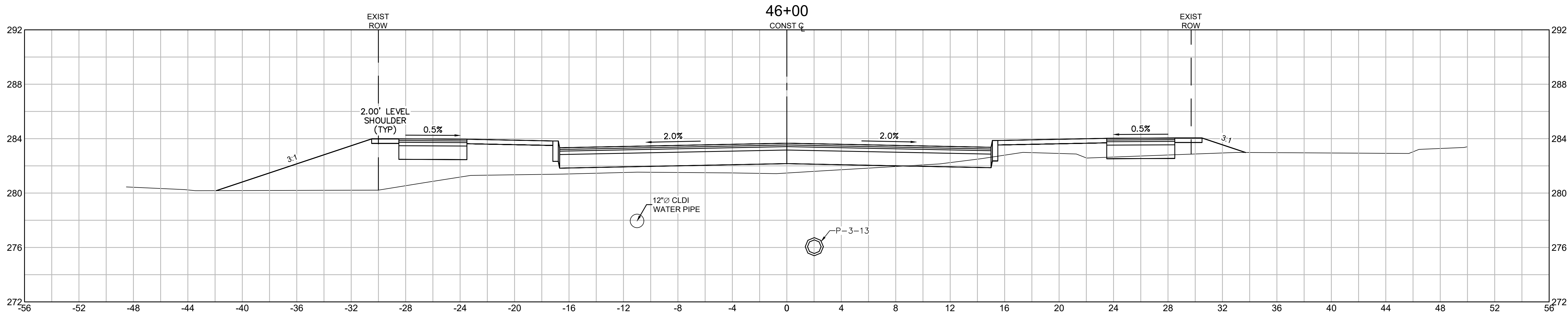
TEC, Inc.
282 Merrimack Street, 2nd Floor
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PROJECT NO. T1180
TEC CAD FILE
T1180_SECTION
DRAWING NO. C-62
SHEET 62 OF 63





REVISIONS

DRAWING TITLE
Roadway Cross Sections
46+00 to 46+50

SUBDIVISION NAME & LOCATION
King Street Commons
550 King Street
Littleton, MA 01460

OWNER / APPLICANT / SUBDIVIDER
Lupoli Companies
282 Merrimack Street
Lawrence, MA 01843

DESIGNER / ENGINEER



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