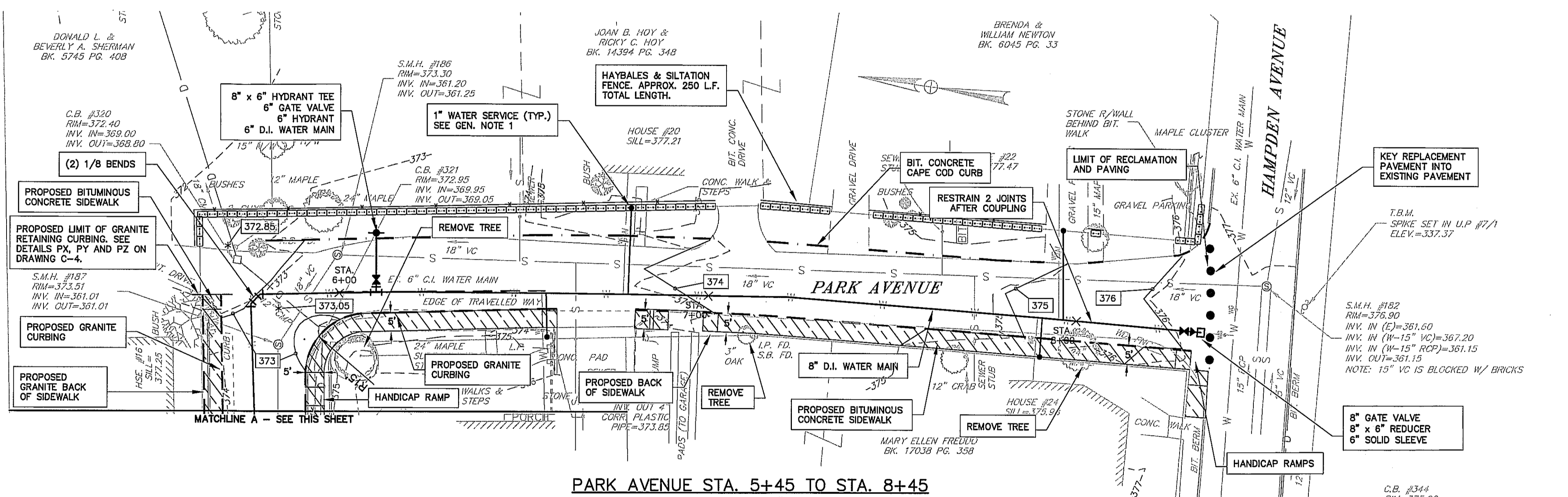


PARK AVENUE STA. 0+00 TO STA. 5+45
SCALE 1" = 20'

LEGEND

EXISTING	DESCRIPTION	PROPOSED
W	WATER MAIN	⊗
W	WATER GATE	⊗
W	REDUCER	⊗
W	SOLID SLEEVE	⊗
W	FIRE HYDRANT	⊗
W	WATER SERVICE	⊗
S	SEWER MANHOLE	⊗
S	SEWER LINE	—
⊗	DRAIN MANHOLE	⊗
⊗	CATCH BASIN	⊗
⊗	DRAIN LINE	—
T	TELE. LINE	—
⊗	TELECOMM. MANHOLE	⊗
OE	ELEC. OH. WIRE	—
⊗	UTILITY POLE	⊗
⊗	UTILITY POLE W/GUY	⊗
⊗	LIGHTPOST	⊗
G	GAS LINE	—
⊗	GAS GATE	⊗
⊗	EDGE OF VEGETATION	—
⊗	CONIFEROUS TREE	—
⊗	DECIDUOUS TREE	—
⊗	TREE STUMP	—
⊗	SIDEWALK	—
⊗	HAYBALES	—
⊗	SILTATION FENCE	—
⊗	LIMIT OF WORK	—
⊗	CDF	—
⊗	CONTOUR (INDEX)	270
⊗	CONTOUR (INTERMEDIATE)	269
⊗	SPOT ELEVATION	374.05
⊗	BUILDING	—
⊗	SILL LOCATION SHOT	—
⊗	TEMPORARY BENCH MARK	—
⊗	S.B. FD. STONE BOUND FOUND	—
⊗	R.B. FD. REINFORCING BAR FOUND	—
⊗	L.P. FD. IRON PIN FOUND	—
⊗	H.I. MAG. HIGH MAGNETIC ATTRACTION	—
⊗	AXLE FD. AXLE FOUND	—
⊗	MAIL BOX	—
⊗	SIGN	—
⊗	WOOD FENCE	—
⊗	CHAIN LINK FENCE	—
⊗	RETAINING WALL	—
⊗	CURB OR BERM (AS NOTED)	—
⊗	EDGE OF PAVEMENT	—
⊗	EDGE OF TRAVELLED WAY	—
⊗	EDGE OF GRAVEL	—
⊗	PROPERTY LINE	—
⊗	ABUTTER LINE	—
⊗	GRANITE CURBING	—
⊗	BITUMINOUS CONCRETE CURBING	—



PARK AVENUE STA. 5+45 TO STA. 8+45
SCALE 1" = 20'

GENERAL NOTES

- UNLESS OTHERWISE NOTED, ALL WATER SERVICES ARE 1" AND SHALL EACH CONSIST OF A CORPORATION, COPPER TUBING, CURB STOP AND BOX. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE SIZE OF EXISTING WATER SERVICES AND INSTALL ANY NECESSARY TRANSITION FITTINGS.
- THE LOCATION OF THE EXISTING UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE AND ARE INTENDED ONLY TO ADVISE THE CONTRACTOR OF THEIR PRESENCE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING THE ACTUAL LOCATIONS OF ALL THE EXISTING UTILITIES, INCLUDING SERVICES. CALL "DIG SAFE" (1-888-344-7233) FOR FIELD LOCATIONS OF ALL EXISTING UTILITIES. IN ADDITION, THE CONTRACTOR SHALL CONTACT THE TOWN OF MONSON WATER AND SEWER DEPARTMENT FOR LOCATION OF EXISTING WATER, SEWER AND DRAIN LINES.
- UNLESS OTHERWISE NOTED OR APPROVED BY THE ENGINEER, THE NEW WATER MAIN SHALL PASS UNDER THE EXISTING UTILITIES AND DRAIN LINES, EXISTING WATER MAINS AND HYDRANTS.
- THE CONTRACTOR SHALL MAINTAIN AT A MINIMUM, CLEARANCE BETWEEN THE NEW WATER MAIN AND OTHER EXISTING UTILITIES OF AT LEAST (18) EIGHTEEN INCHES. WATER SERVICE WITHIN 10 FEET OF SEWER PIPES OR STRUCTURES SHALL BE SLEEVED.
- ALL WATER PIPES ARE TO BE LAID WITH A MINIMUM OF 5'-0" COVER EXCEPT AS INDICATED OTHERWISE IN THE CONTRACT DRAWINGS.
- THE CONTRACTOR AT HIS EXPENSE SHALL PROVIDE ADDITIONAL TAPS IF REQUIRED FOR THE CHLORINATING AND HYDROSTATIC TESTING. TAPS SHALL BE CAPPED AFTER TESTING IS COMPLETE.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE TOWN OF MONSON WATER AND SEWER DEPARTMENT REQUIREMENTS. ALL EXCAVATION AND RESTORATION SHALL MEET TOWN SPECIFICATIONS. A TOWN STREET OPENING PERMIT WILL BE REQUIRED FOR ALL STREETS WITHIN THE PROJECT AREA PRIOR TO ANY CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF PAVEMENT MARKINGS, TRAFFIC LIGHT LOOPS, STRIPING, ARROWS, CROSSWALKS, ETC.
- THE CONTRACTOR AT HIS EXPENSE SHALL BRACE UTILITY POLES IF REQUIRED, AND REPAIR ANY DAMAGE TO EXISTING SIDEWALKS, CURBS, PAVING, SHRUBS, TREES, STONE WALLS, LAWNS, ETC. ALL EXCAVATED AREAS SHALL BE RETURNED TO EQUAL OR BETTER THAN PRIOR CONDITION BY THE CONTRACTOR.
- BASE MAP INFORMATION BASED UPON SHERMAN & FRYOR'S SURVEY PERFORMED IN MARCH 2010.
- ALL WATER MAIN TRENCHES IN EXISTING PAVED ROADS SHALL BE RESURFACED WITH TRENCH PAVEMENT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- ALL EXISTING WATER SERVICES ARE TO BE ABANDONED UNLESS OTHERWISE NOTED BY THE ENGINEER. NEW SERVICES ARE TO BE INSTALLED AS SPECIFIED AND IN ACCORDANCE WITH THE CONTRACT DRAWINGS. UNLESS OTHERWISE APPROVED BY ENGINEER, ALL ABANDONED SERVICES ARE TO BE SHUT OFF AT CORPORATION AT THE TIME OF NEW TIE OVER.
- THE HOUSE SERVICE CONNECTIONS SHALL BE COMPLETED AFTER THE NEW WATER MAIN HAS BEEN PRESSURE TESTED, CHLORINATED AND APPROVED.
- EXISTING WATER MAIN TO BE REMOVED AND PROPERLY DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH THE TOWN OF MONSON WATER AND SEWER DEPARTMENT PROCEDURES.
- REMOVE ALL EXISTING HYDRANTS AND BRANCHES WHEN NEW MAINS ARE IN SERVICE. DELIVER REMOVED HYDRANTS TO THE TOWN OF MONSON WATER AND SEWER DEPARTMENT STOCK YARD.
- CONTRACTOR SHALL USE A WATER TIGHT PLUG DURING THE WATER MAIN INSTALLATION. PLUG SHALL REMAIN IN PLACE AT ALL TIMES.
- CONTRACTOR REQUIRED TO SUBMIT CONTRACTOR REPORT AS SPECIFIED IN SPEC. SECTION 02222.
- AS APPROPRIATE, CONTRACTOR TO HAND DIG AROUND AND TAKE ALL NECESSARY MEASURES TO MAINTAIN THE INTEGRITY OF THE EXISTING DRAINAGE PIPES.
- LOCATION OF EXISTING DRAINAGE IS APPROXIMATE AND SHOULD BE VERIFIED BY CONTRACTOR IN THE FIELD.
- CONTRACTOR TO COORDINATE SHUTDOWN AND TIE-IN PROCEDURES AT EACH INTERSECTION WITH THE TOWN OF MONSON WATER AND SEWER DEPARTMENT.
- THE WORK WILL BE COMPLETED IN THE VICINITY OF THE CHICOPEE BROOK AND WETLANDS RESOURCE AREA. CONTRACTOR SHALL NOT START WORK UNTIL AN ORDER OF CONDITIONS IS ISSUED. CONTRACTOR SHALL INSTALL HAYBALES AND SILTATION FENCE PRIOR TO THE START OF CONSTRUCTION.
- CONTRACTOR SHALL INSTALL CONTROLLED DENSITY FILL ON MAIN STREET AS REQUIRED IN THE CONTRACT DOCUMENTS.
- EXISTING DRAINAGE BASINS SHALL BE REMOVED AND DISPOSED OF PROPERLY.
- CONTRACTOR SHALL REMOVE SPECIFIED TREES AND STUMPS AS SHOWN ON THE DRAWINGS AND AS INDICATED IN THE CONTRACT DOCUMENTS. CONTRACTOR SHALL RECEIVE APPROVAL FROM THE TREE WARDEN PRIOR TO REMOVAL.
- ALL WATER PIPE DELIVERED TO THE SITE SHALL BE PLUGGED, AND PIPES SHALL REMAIN PLUGGED UNTIL INSTALLED.
- CONTRACTOR SHALL COORDINATE TEMPORARY WATER INSTALLATION LOCATION WITH FIRE CHIEF AND OWNER.
- REMOVE ALL EXISTING CATCH BASIN FRAMES AND GRATES, AND DELIVER REMOVED CASTINGS TO THE TOWN OF MONSON HIGHWAY DEPARTMENT STOCK YARD.

ABBREVIATIONS

HYD	HYDRANT
RCP	REINFORCED CONCRETE PIPE
DI	DUCTILE IRON
INV	INVERT
TYP	TYPICAL
CB	CATCH BASIN
DMH	DRAIN MANHOLE
SMH	SEWER MANHOLE

MONSON, MASSACHUSETTS
PIONEER VALLEY
PLANNING COMMISSION
PARK AVENUE
IMPROVEMENTS PROJECT

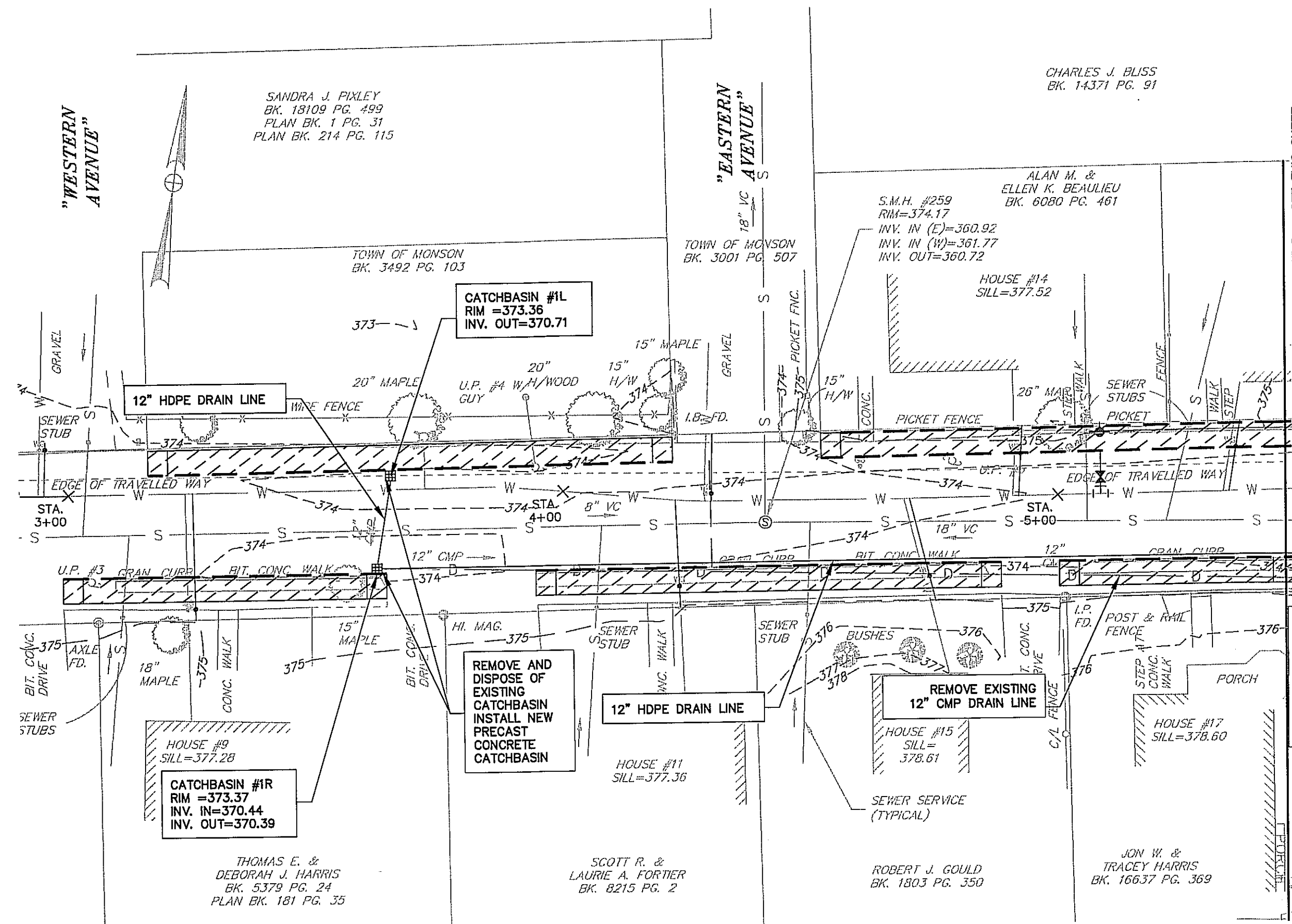
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DRAWN BY: MSB
CHECKED BY: RLC
APPROVED BY: RLC

DATE: MAY 2010
SCALE: 1 INCH = 20 FEET
SHEET: 1 OF 4

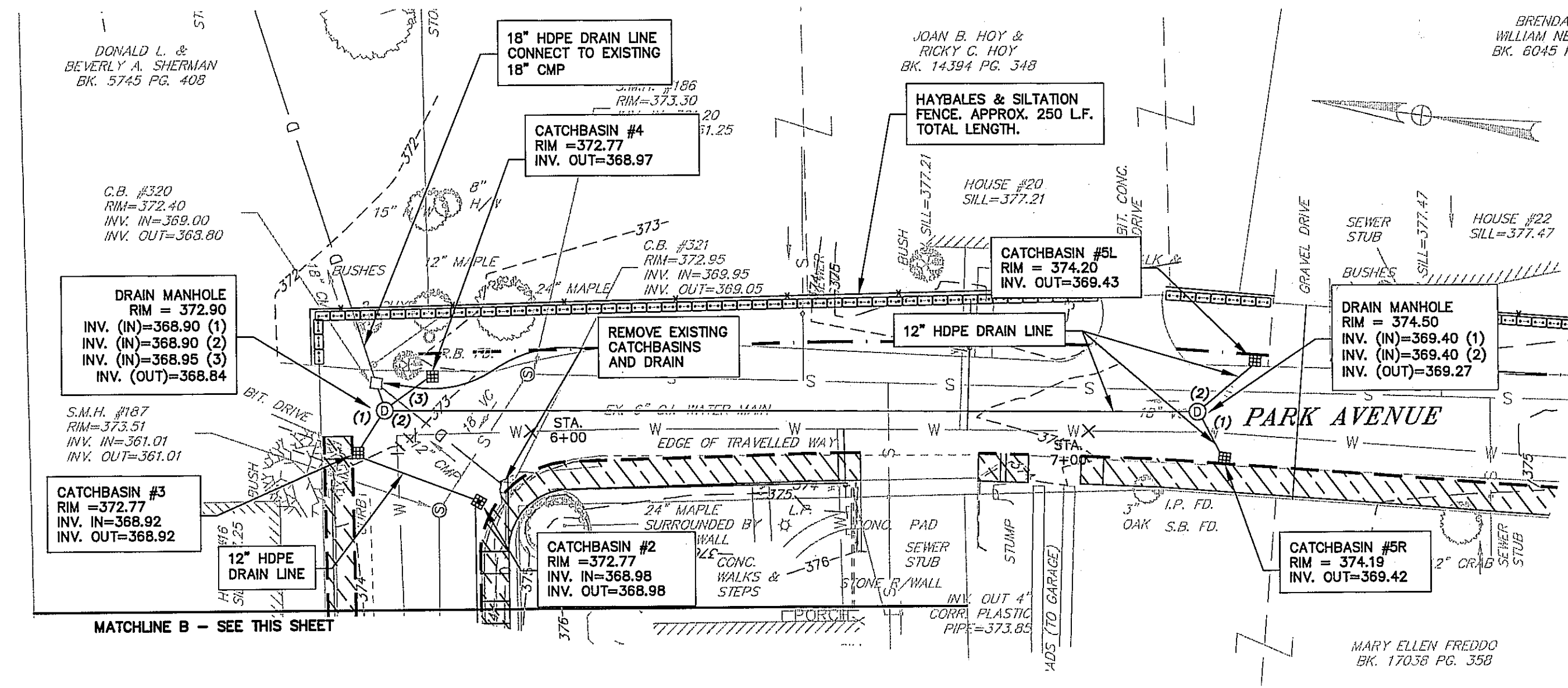
**TATA & HOWARD
INCORPORATED**

5-28-10

C-1

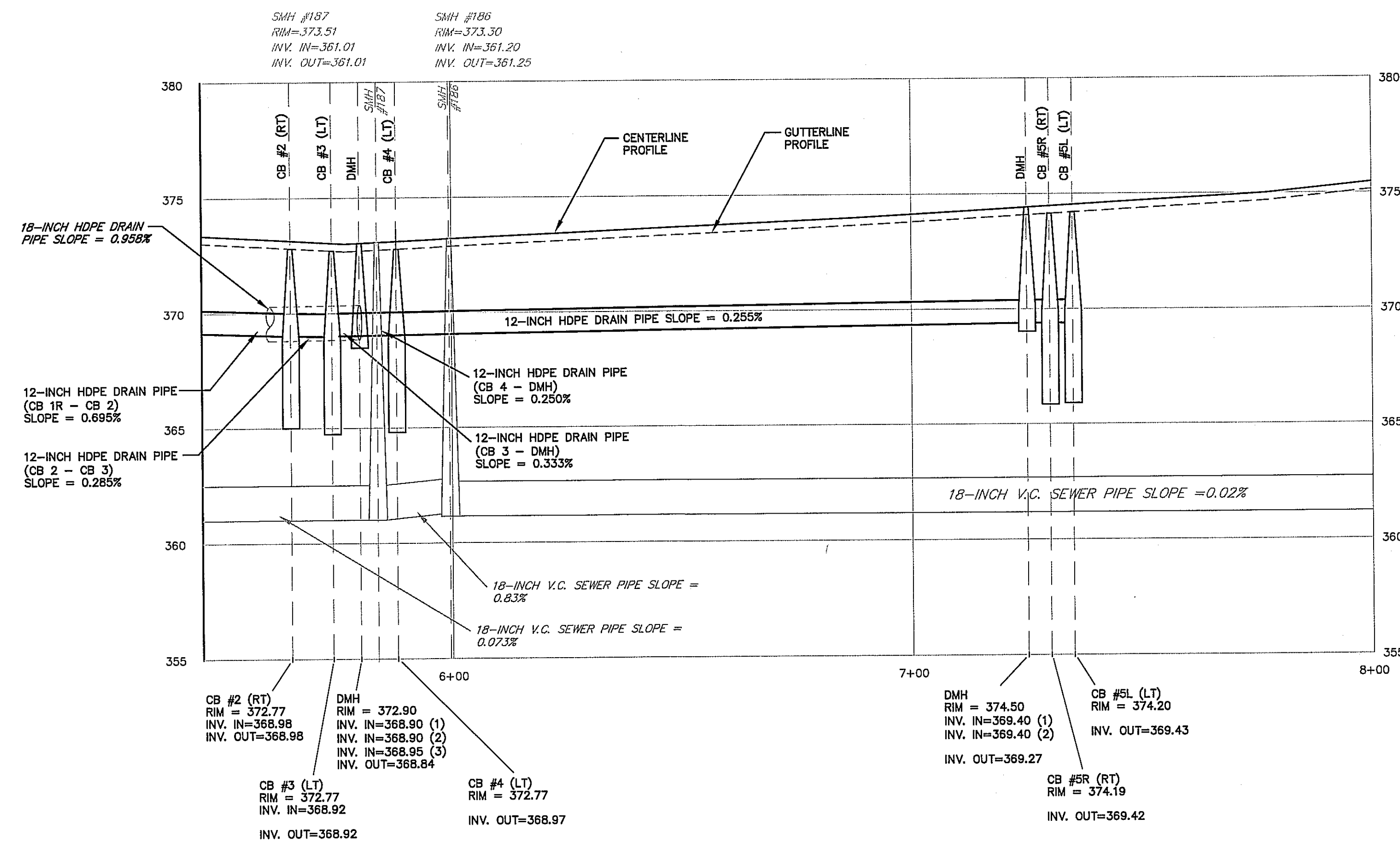
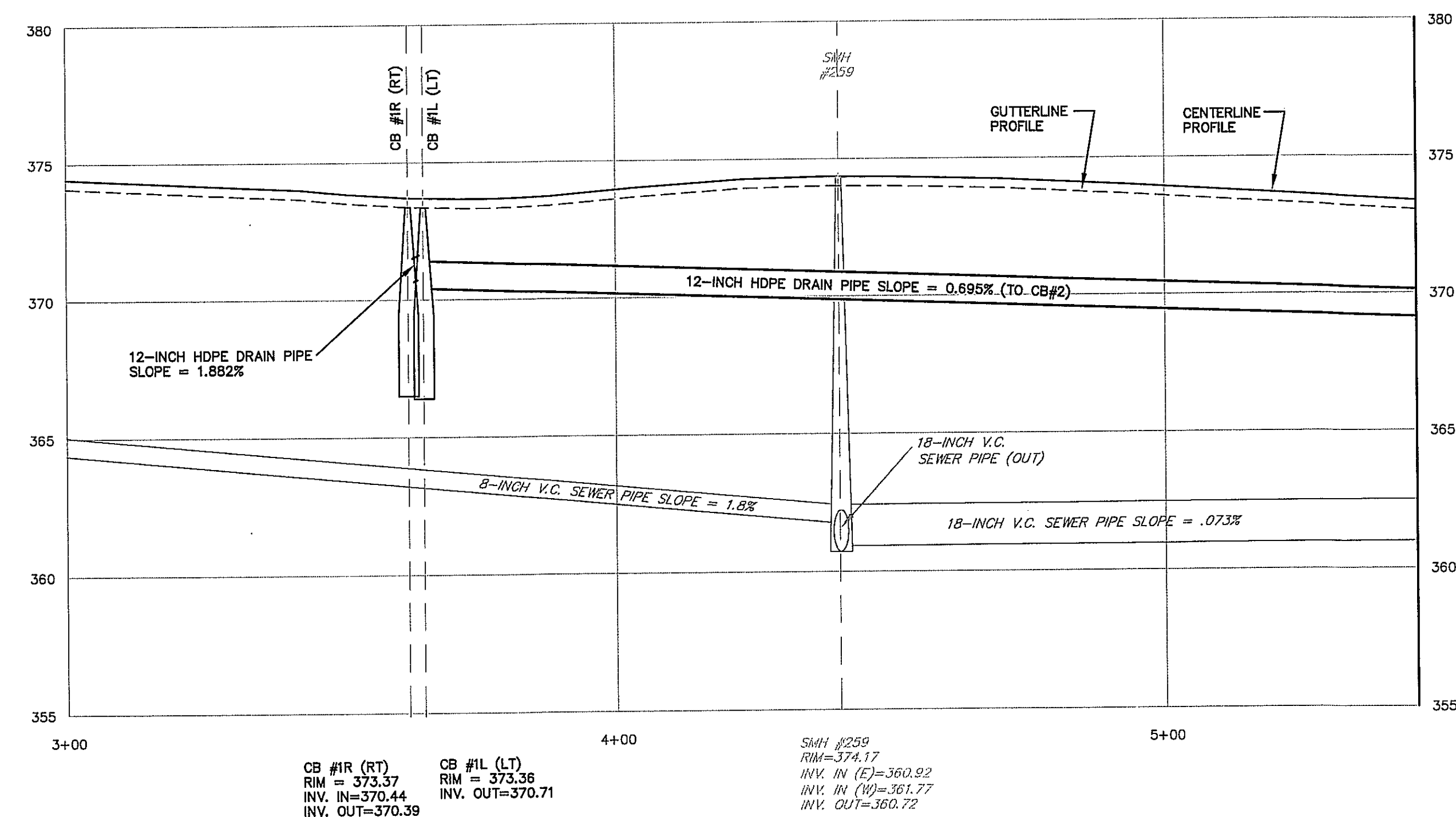


PARK AVENUE STA 2+90 TO STA 5+45
SCALE 1" = 20'



PARK AVENUE STA 5+45 TO STA 7+85
SCALE 1" = 20'

NOTE: REFER TO SHEET C-1 FOR PROPOSED ROADWAY GRADING.



PARK AVENUE DRAINAGE AND ROADWAY PROFILE

VERTICAL SCALE: 1" = 4'
HORIZONTAL SCALE: 1" = 20'

MONSON, MASSACHUSETTS
PIONEER VALLEY
PLANNING COMMISSION

DRAINAGE PLAN AND
DRAINAGE & ROADWAY
PROFILE

PARK AVENUE
IMPROVEMENTS PROJECT

Approved By: FSD

Designed By: LSS/JAM

Drawn By: LSS

Checked By: FSD

Approval By: KLG

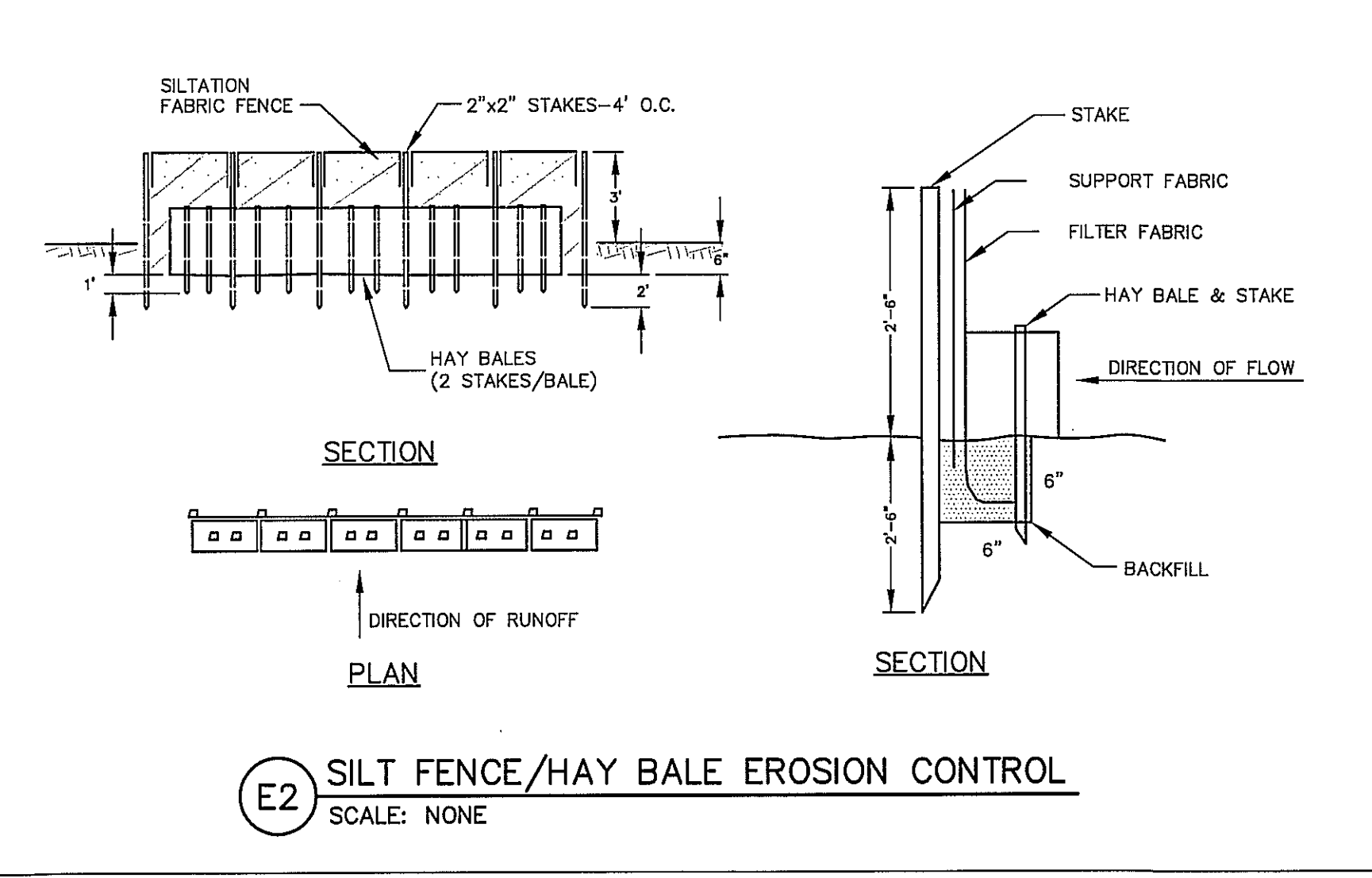
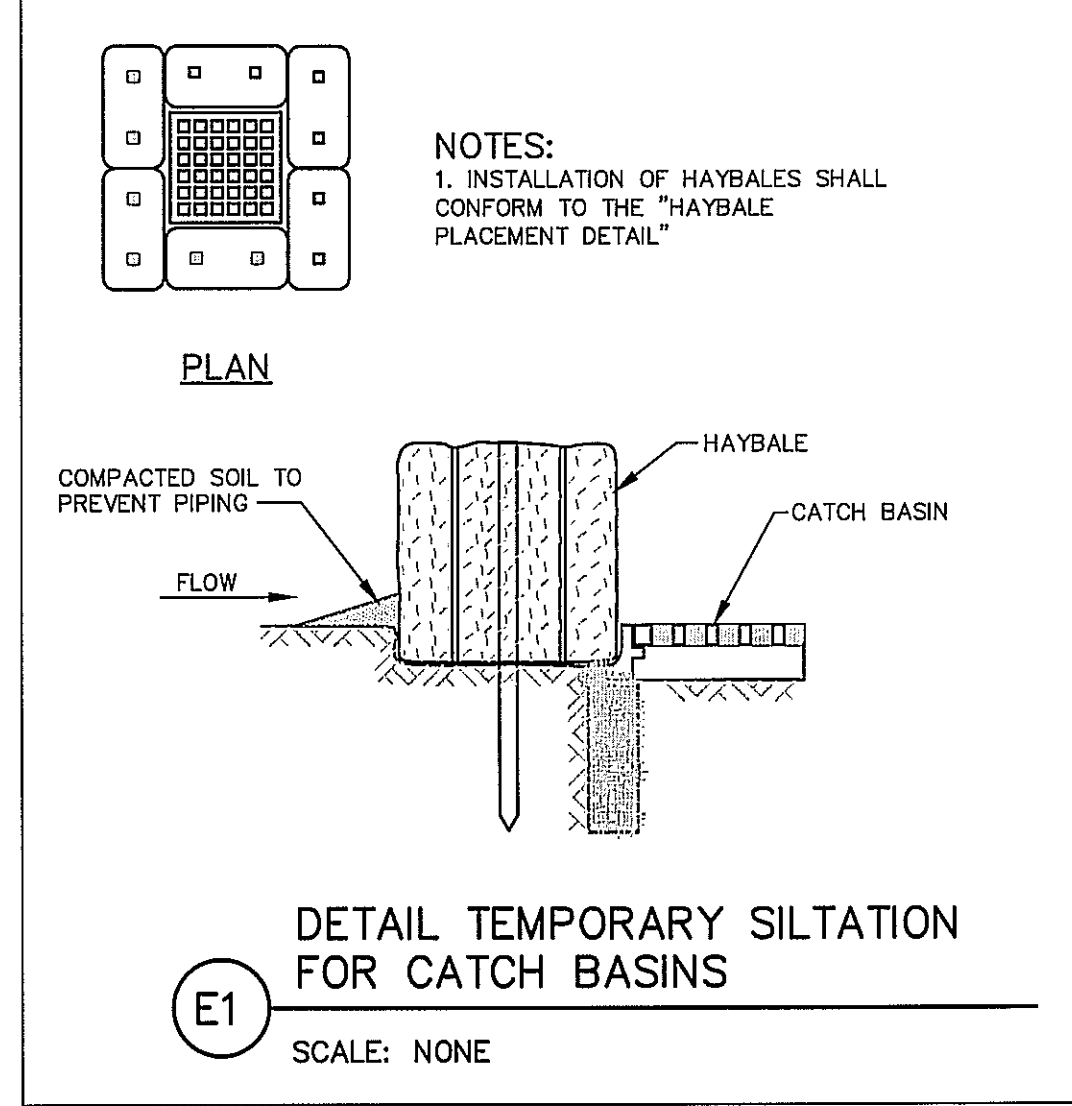
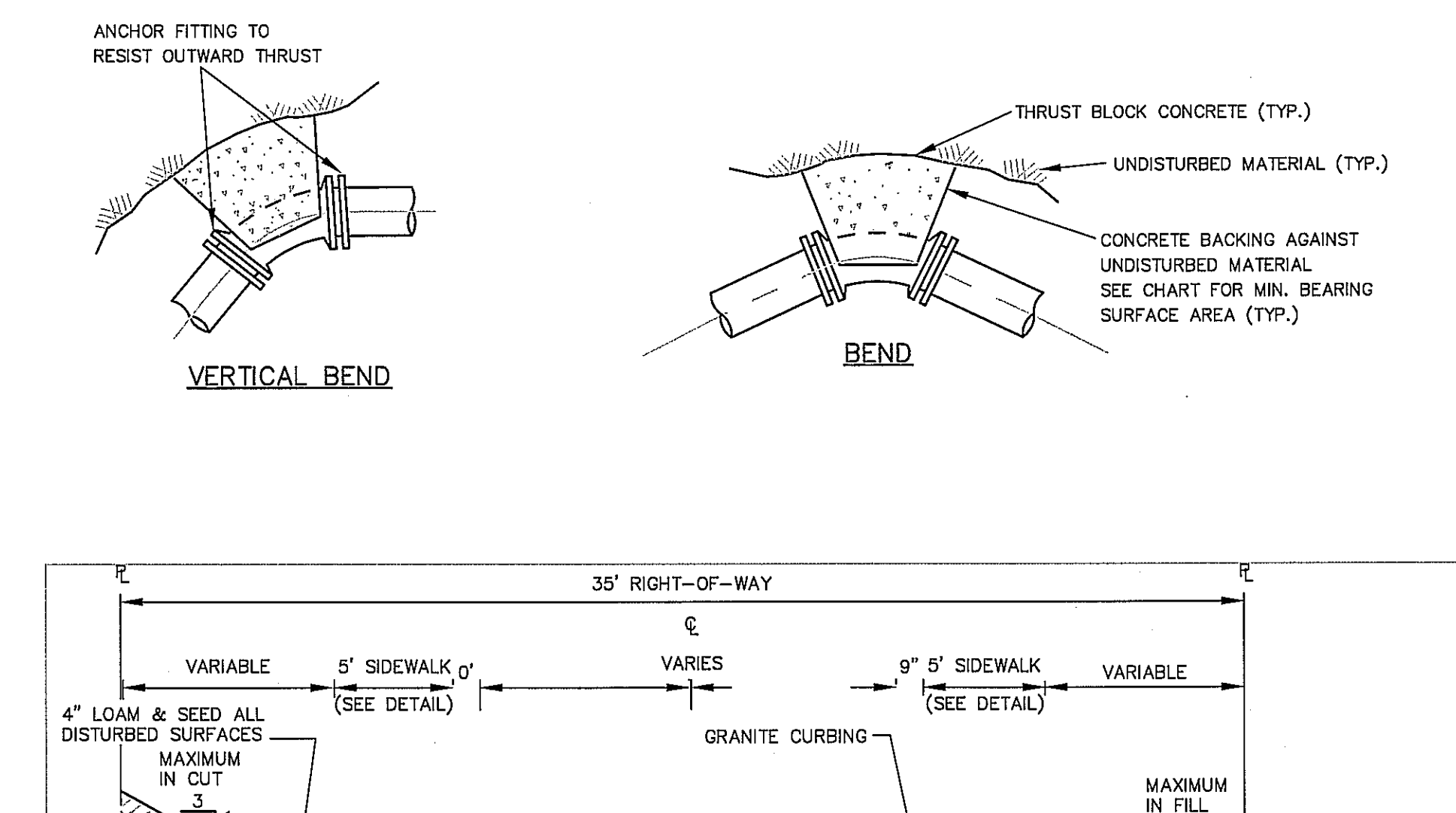
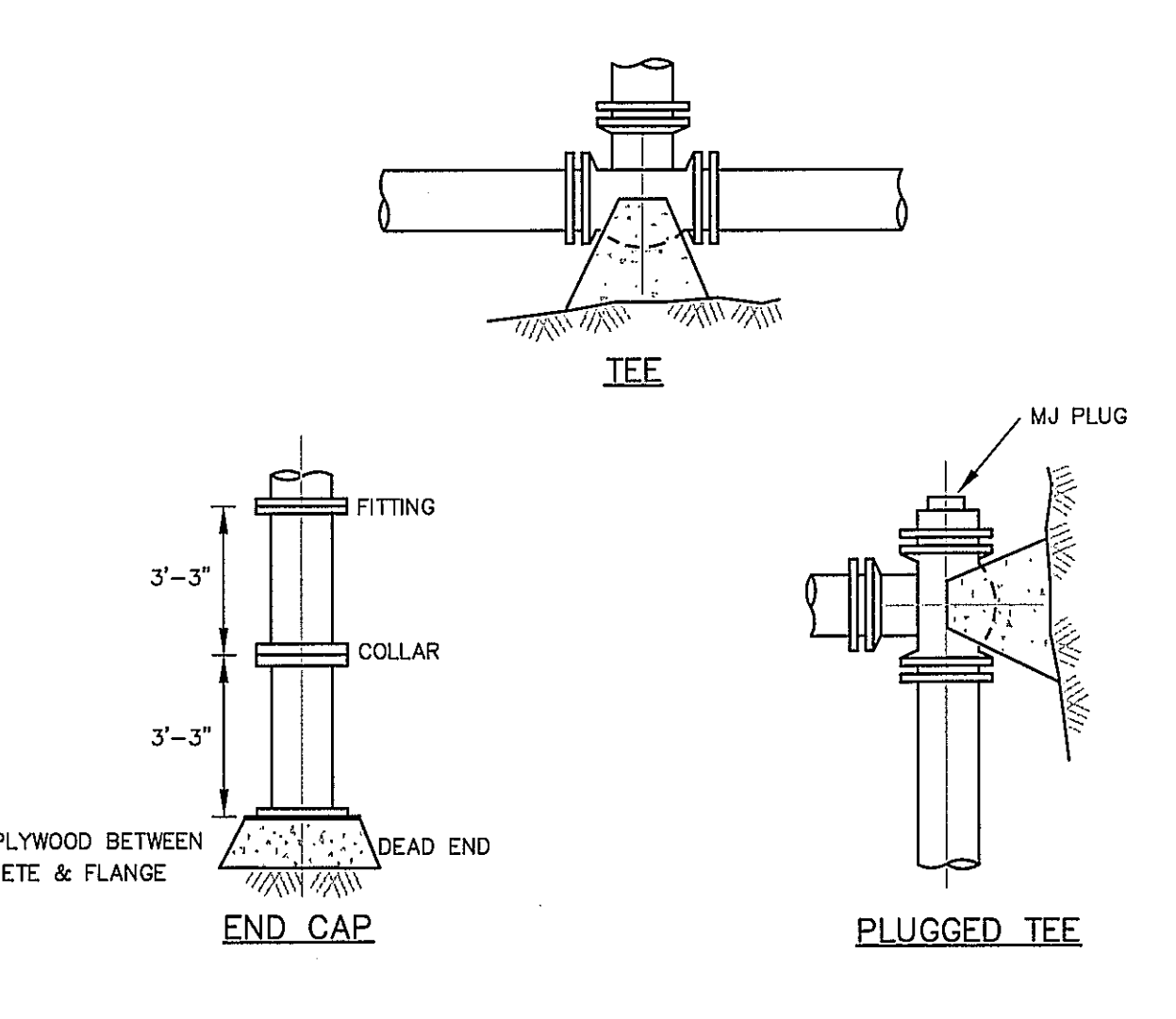
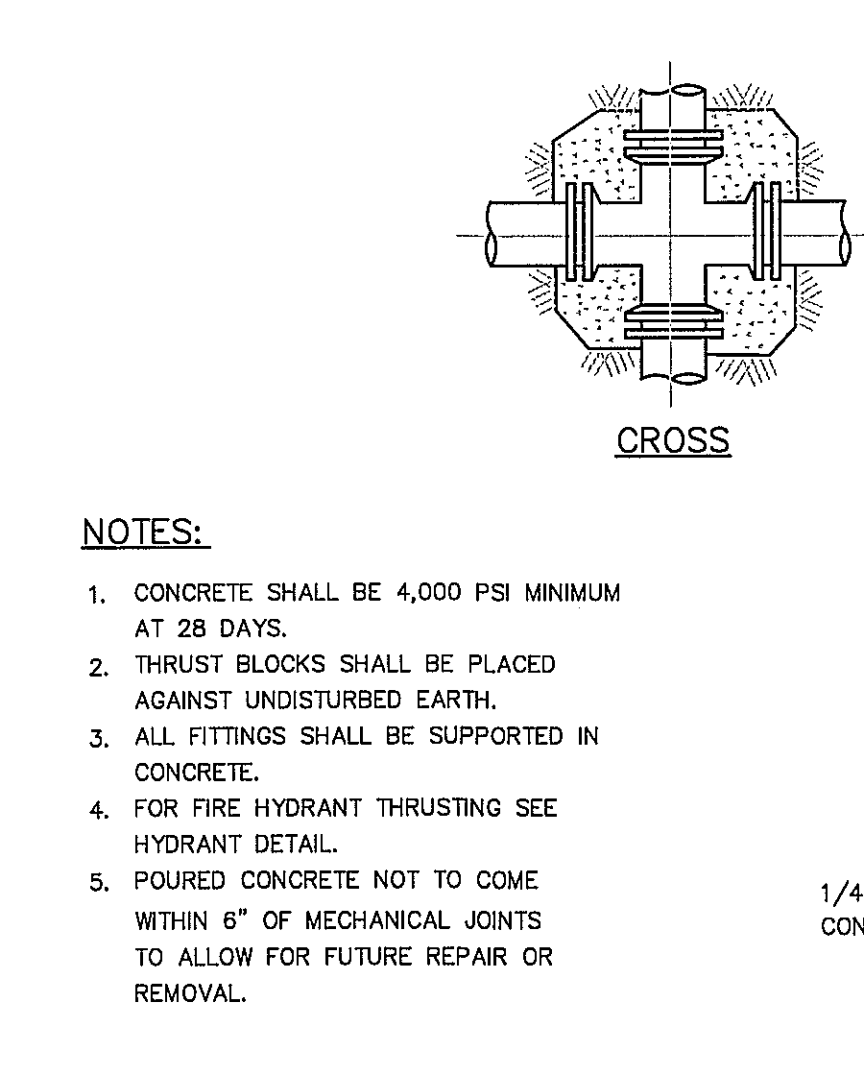
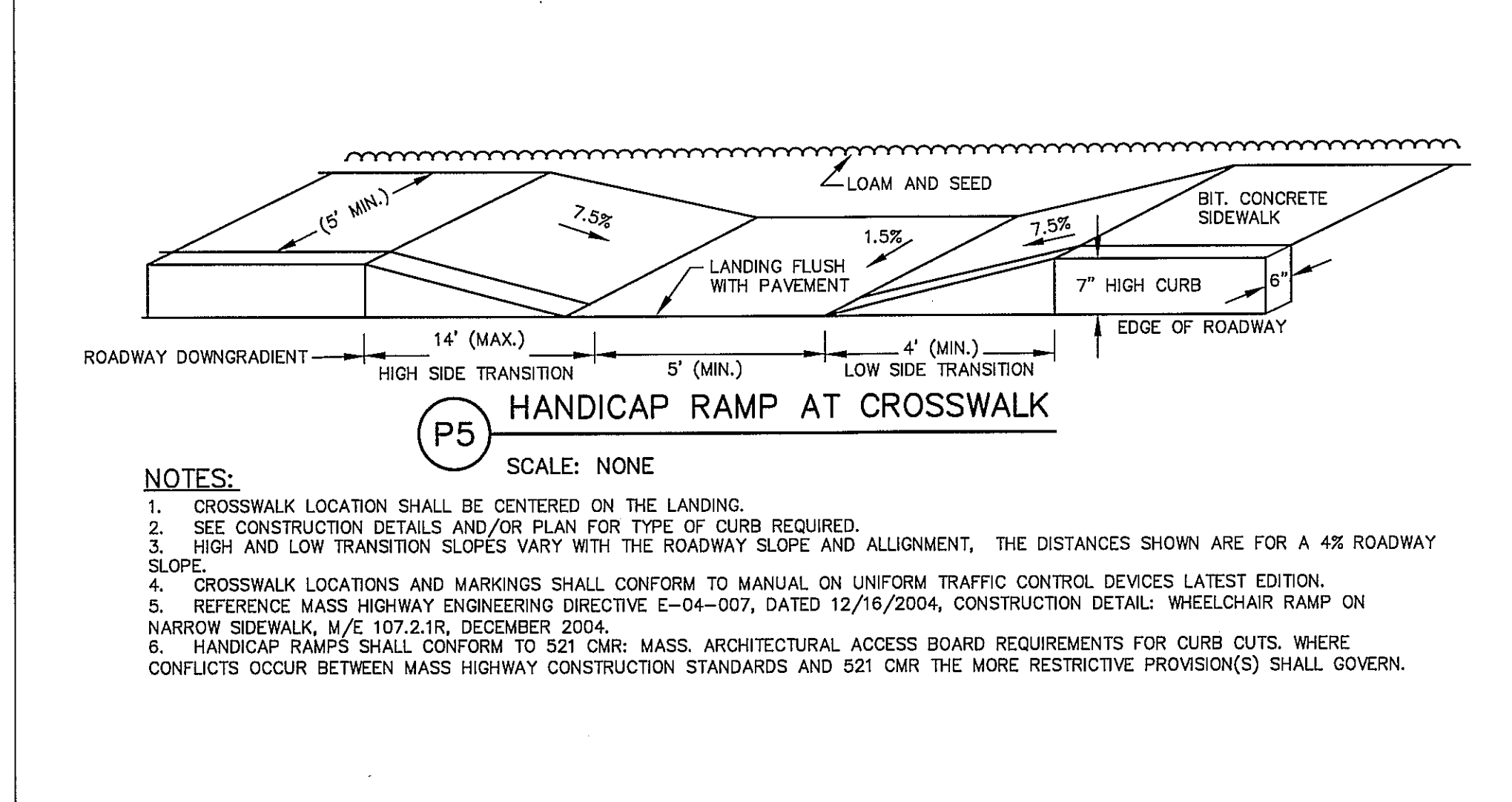
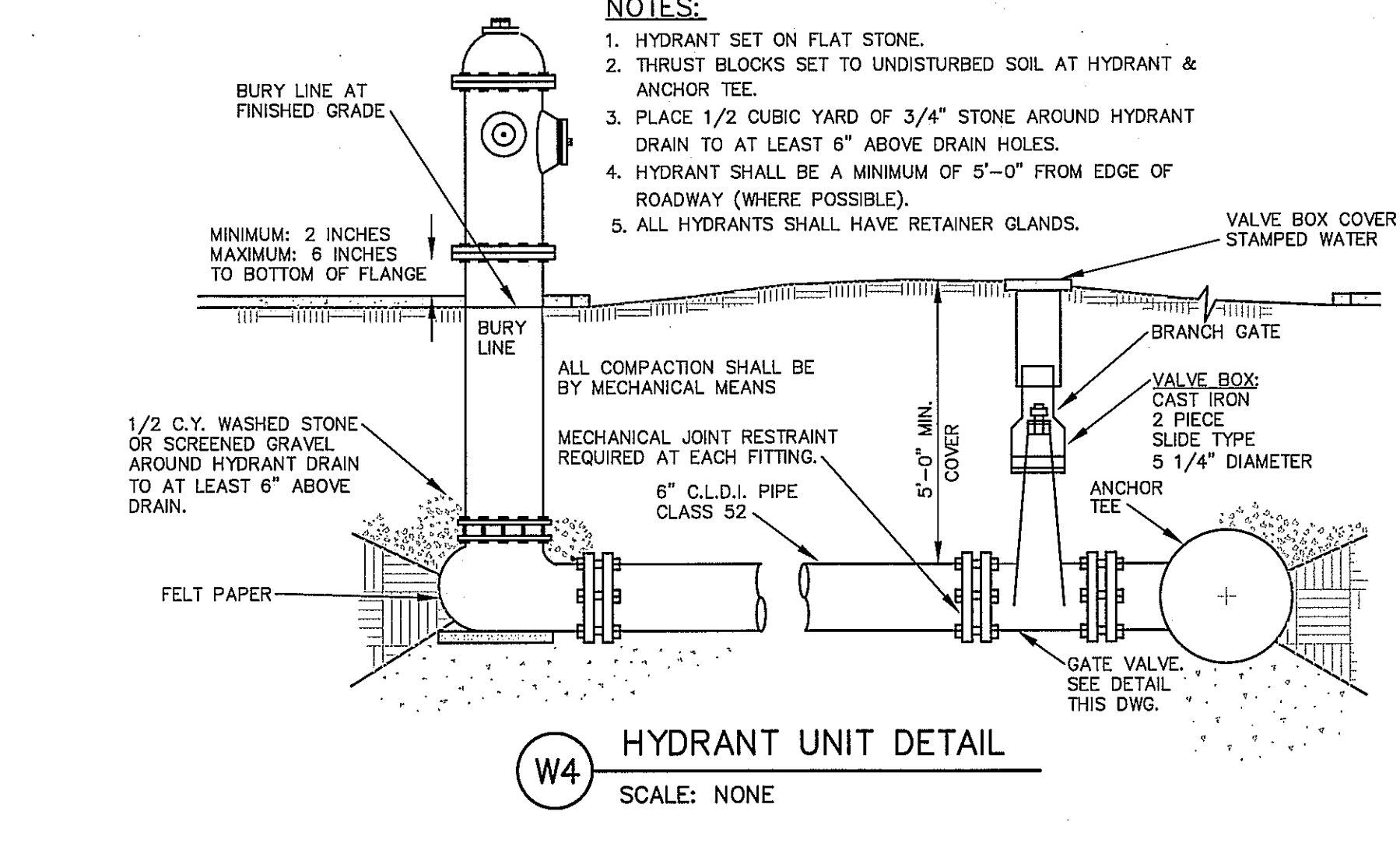
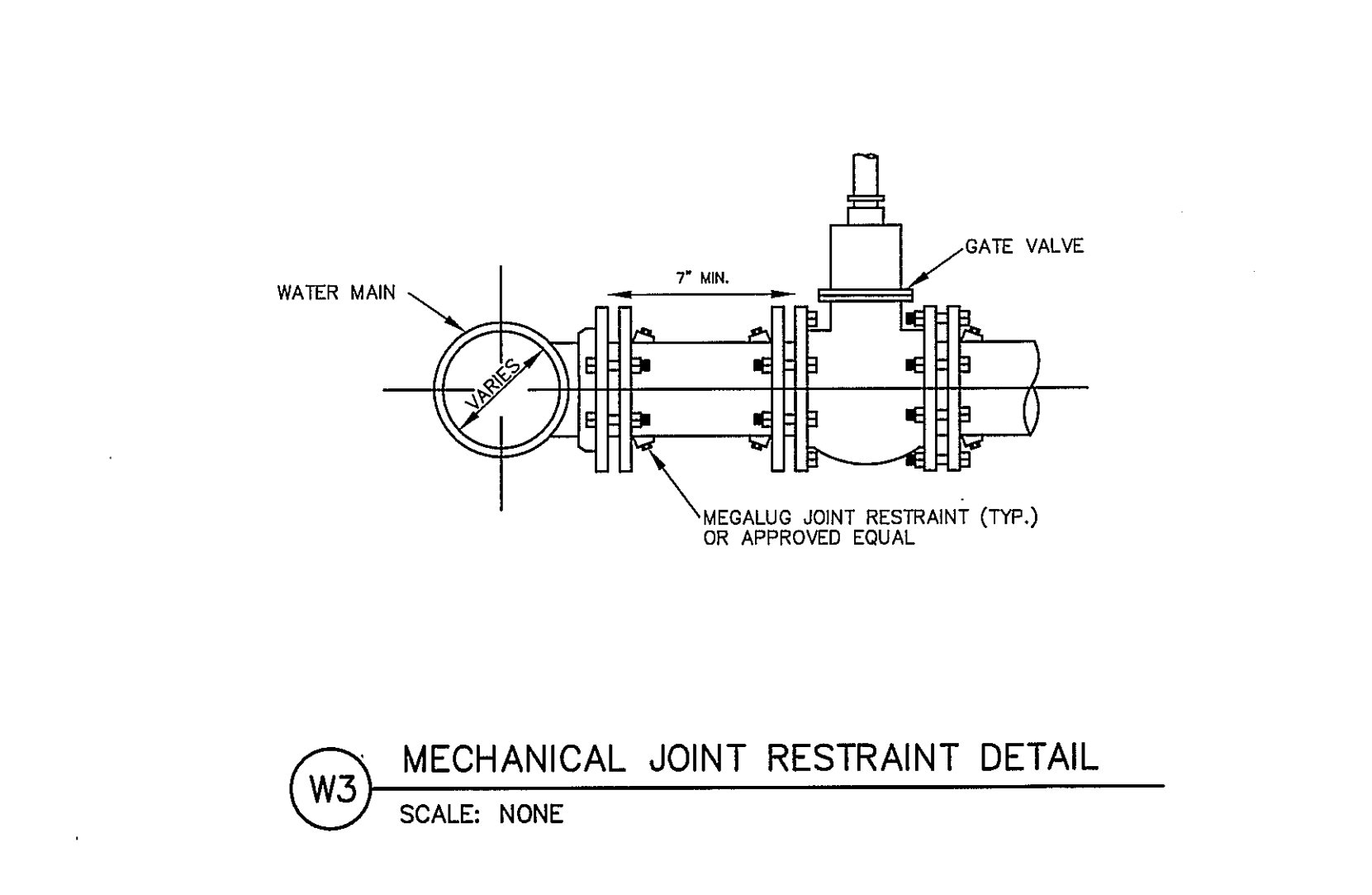
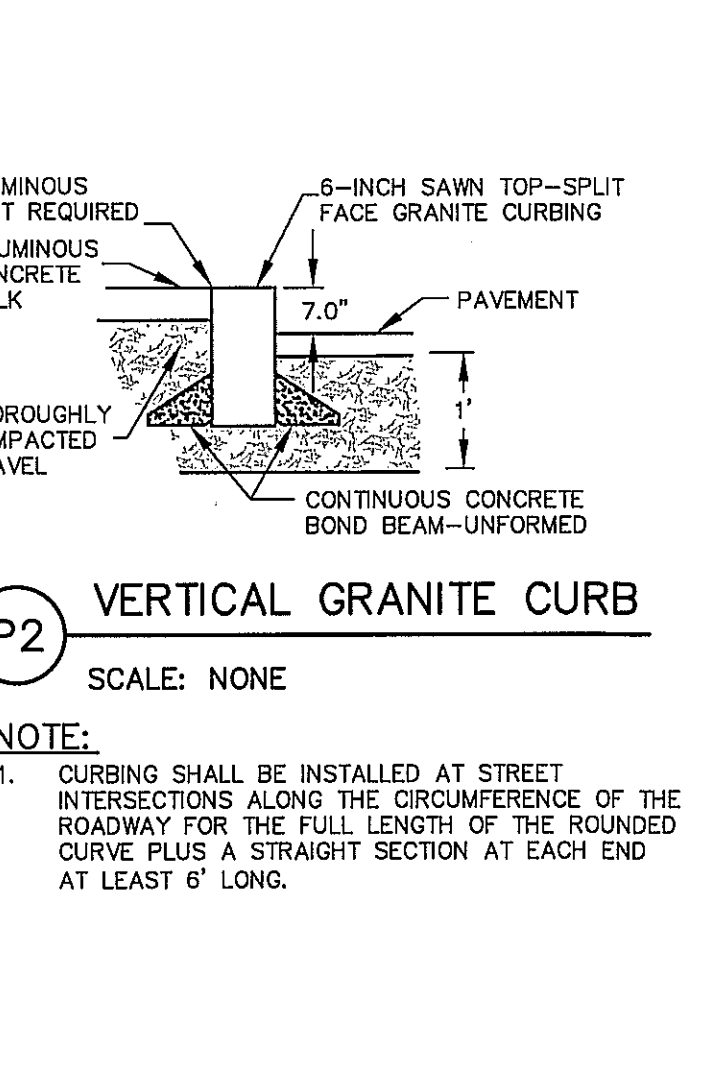
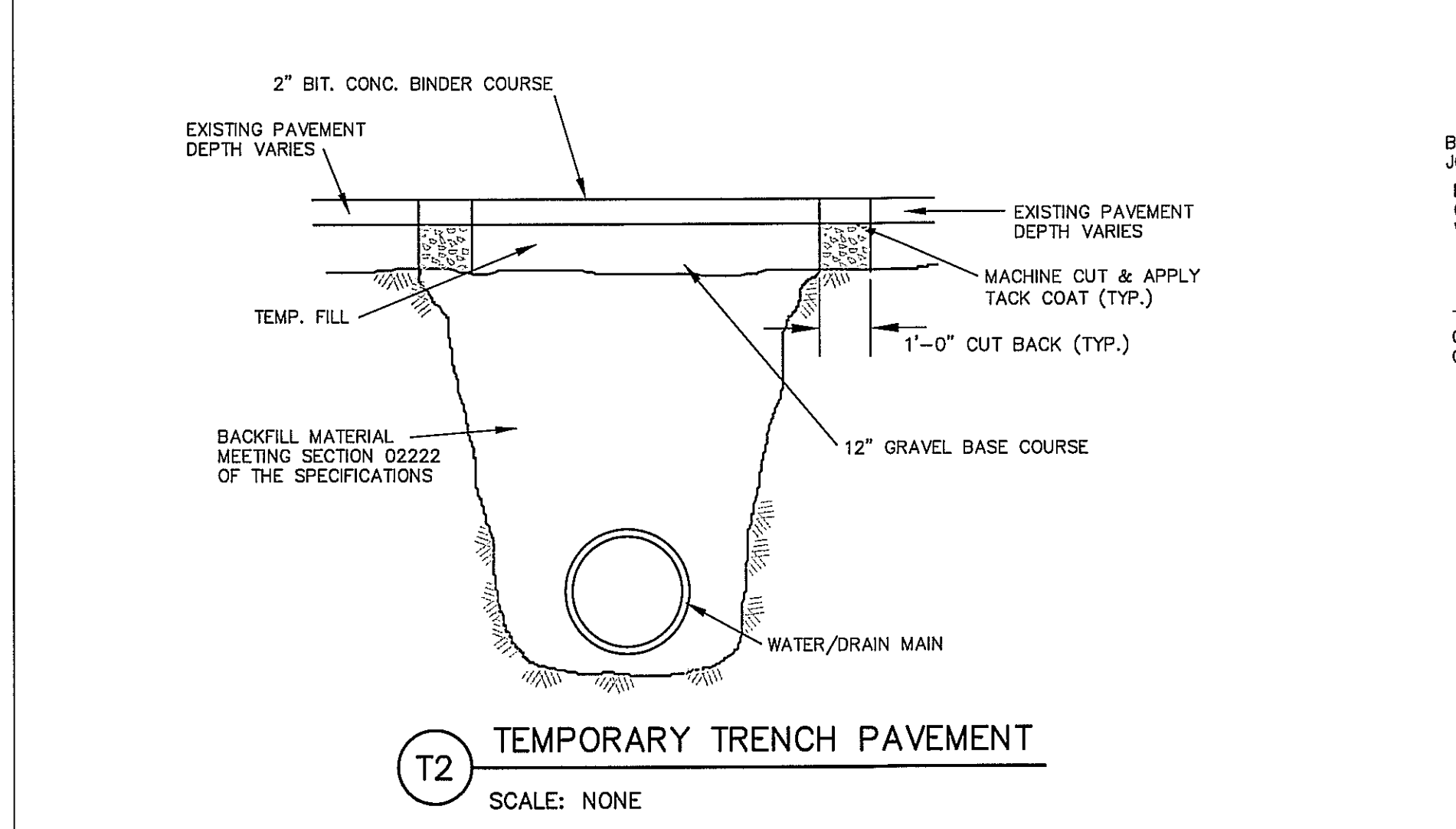
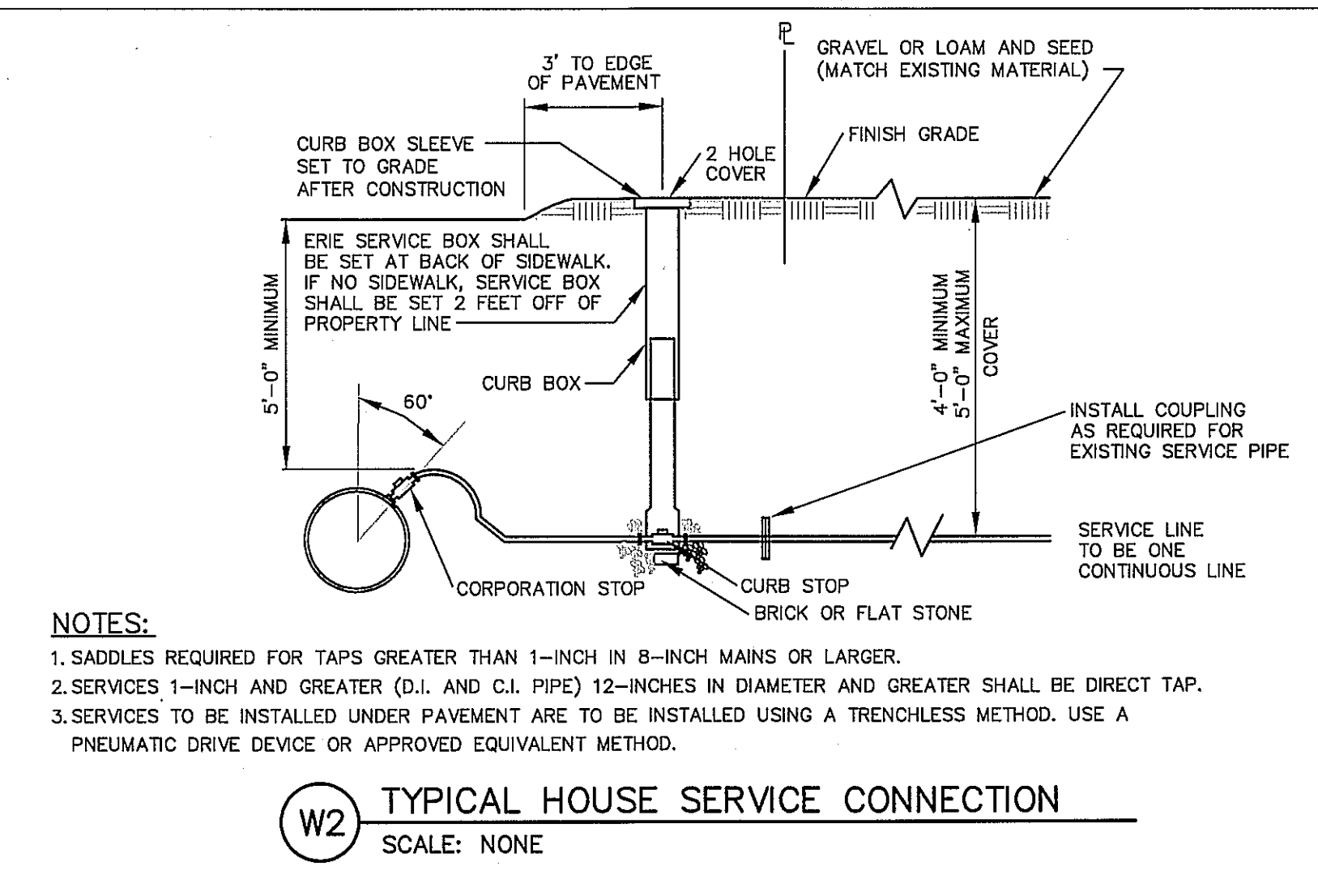
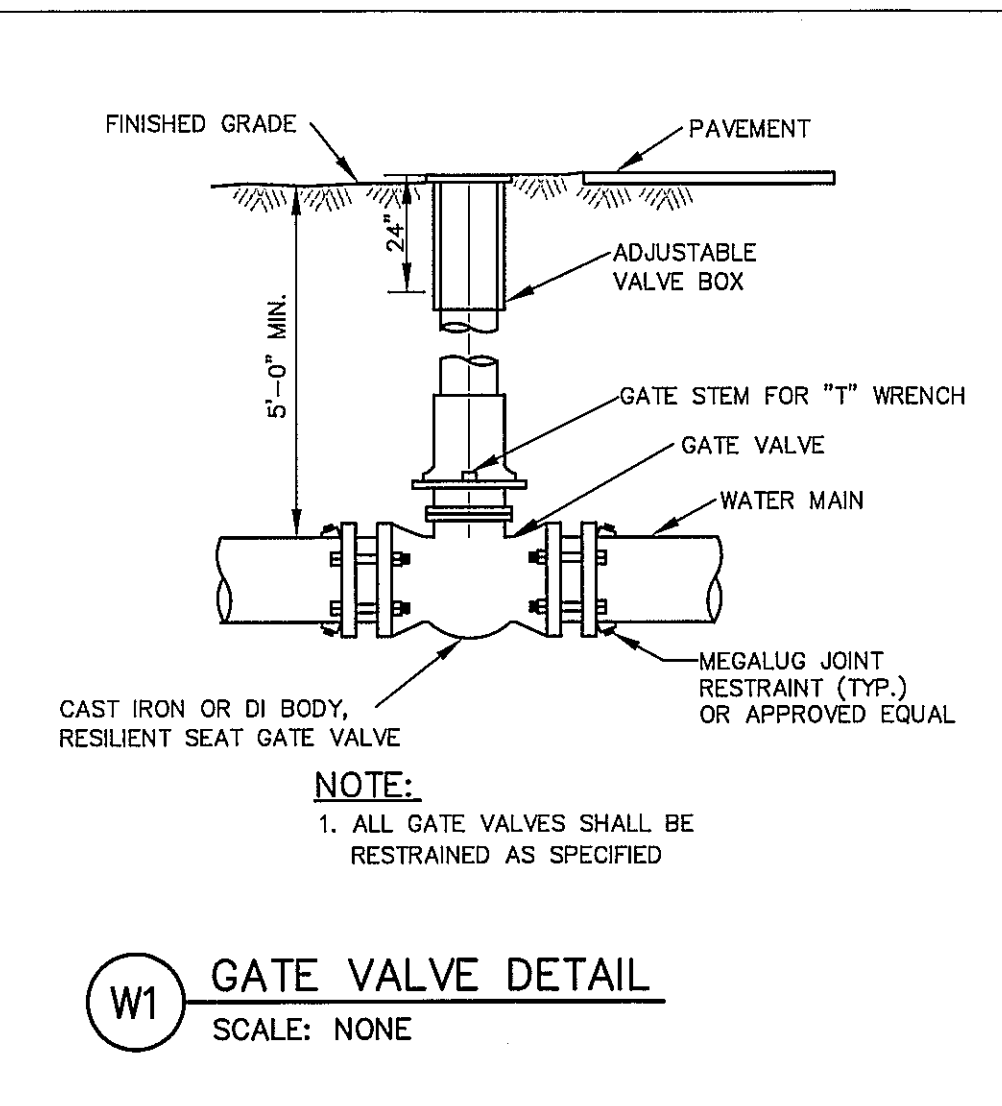
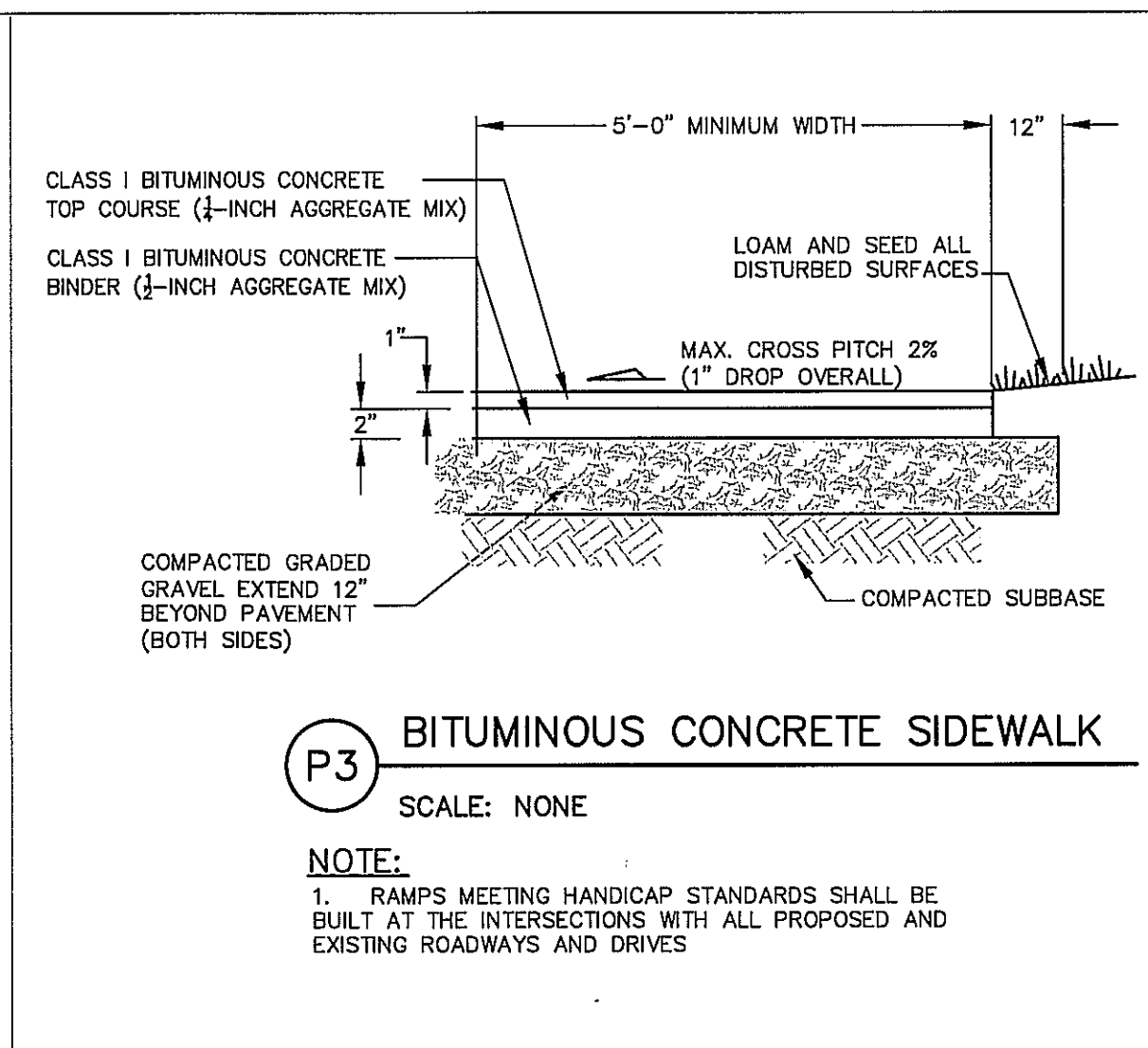
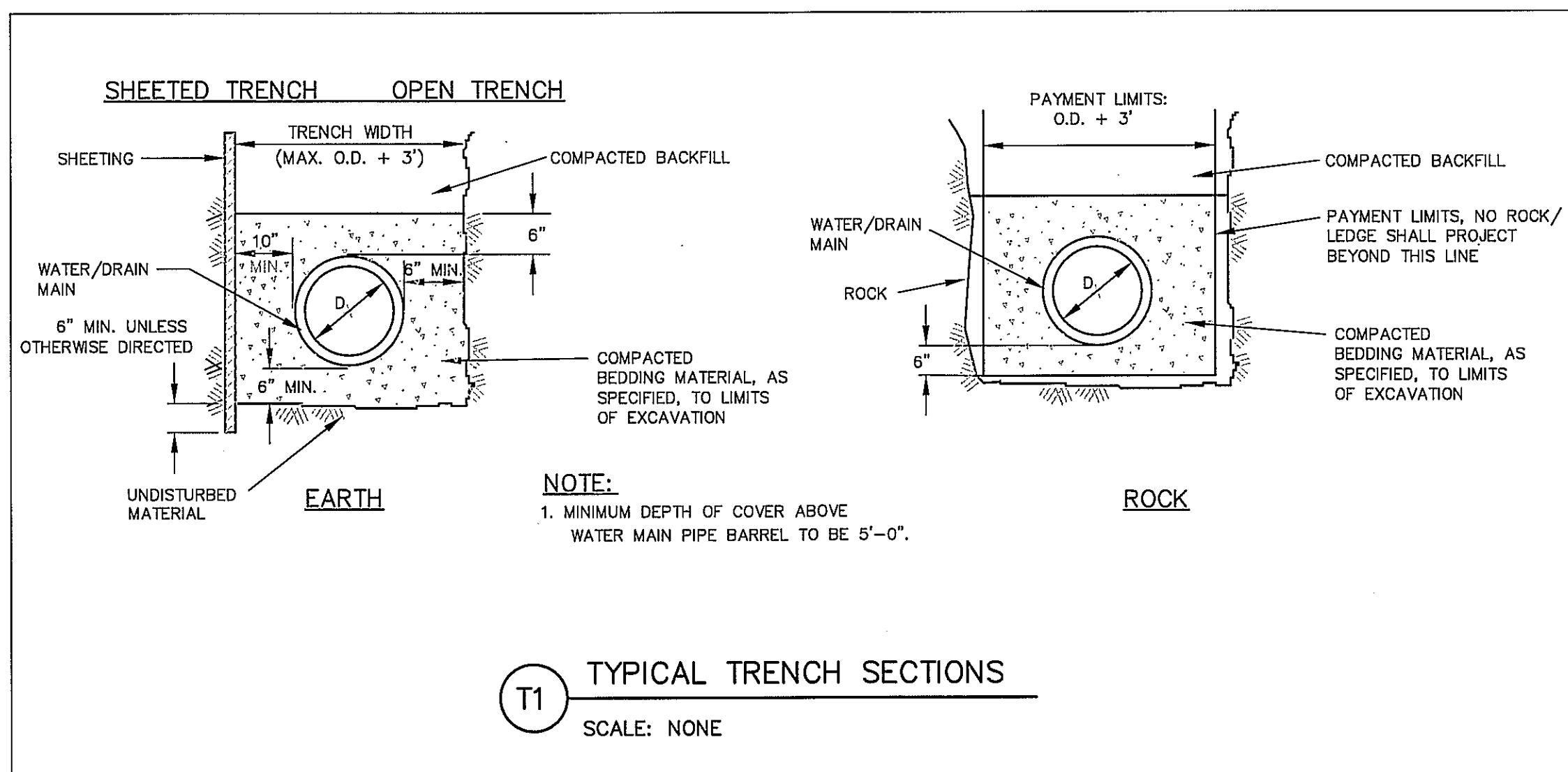
Rev.	Date	Description

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INCORPORATED

QUALITY CONTROL
No. 0000

T&H NO.: P-2271
DATE: MAY 2010
SCALE: 1 INCH = 20 FEET
SHEET: 2 OF 4

C-2



AREA OF BEARING FACE OF CONCRETE THRUST BLOCKS IN SQUARE FEET
Based on 250 P.S.I. & 1.5 ton/s.f. allowable soil bearing capacity

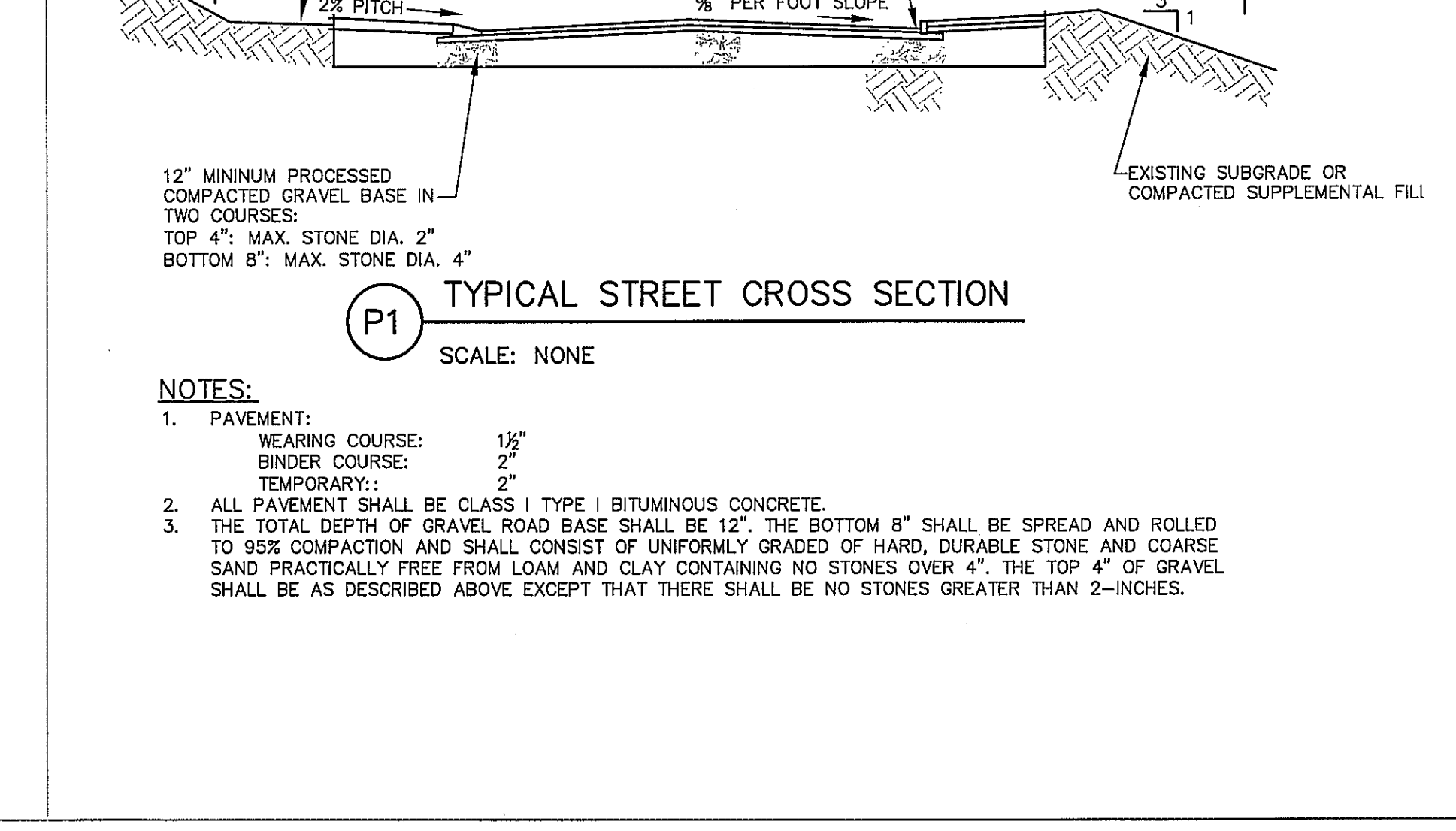
PIPE SIZE IN.	1/4 BEND	1/8 BEND	1/16 BEND	PLUG & TEES
4, 6, 8	6.0	2.9	2.3	4.5
10	9.6	5.2	2.3	6.7
12	13.3	6.7	3.7	9.6
16	24.0	11.8	3.7	17.0
20	30.0	14.8	6.2	22.5

MINIMUM LENGTH OF PIPE TO BE RESTRAINED IN THE REQUIRED DIRECTION (IN FEET)
Based on Ductile Iron Pipe with a 150 PSI Test Pressure with 5.0 feet of Bury in Unified Soil Classification SM.

PIPE SIZE IN.	1/4 BEND	1/8 BEND	1/16 BEND	TEES*	PLUG/CAP
6	16.0	7.0	3.0	29.0	29.0
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
16	42.0	17.0	8.0	57.0	89.0
20	53	21.0	10.0	80.0	115.0

(* Lengths shown are for the Tee Branch. The required length of restraint for the Tee Run is 18 feet.)

W5 TYPICAL CONCRETE BACKING
SCALE: NONE



MONSON, MASSACHUSETTS
PIONEER VALLEY
PLANNING COMMISSION
PARK AVENUE
IMPROVEMENTS PROJECT

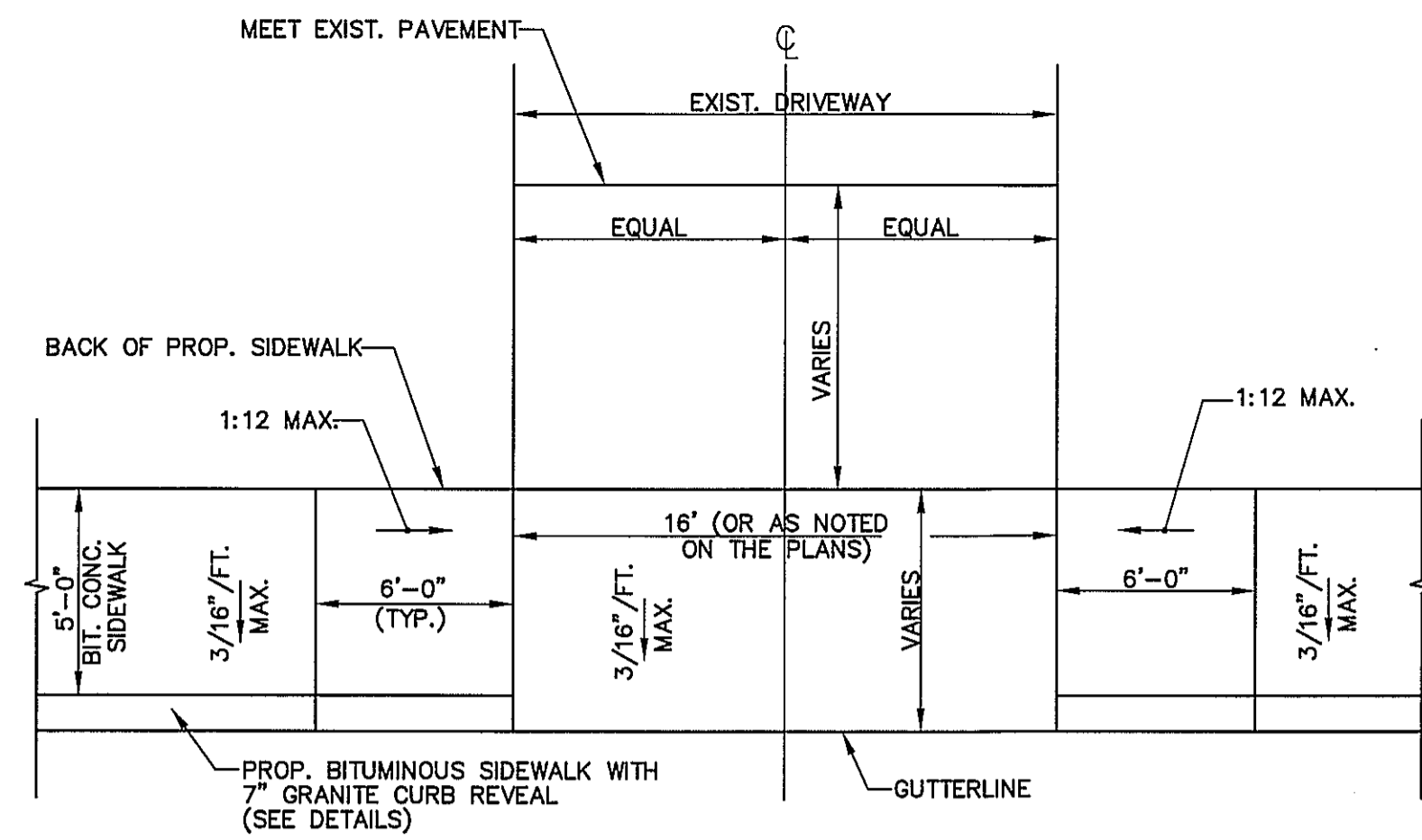
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Designed By: MSB/JAM
Drawn By: MSB

DETAIL SHEET

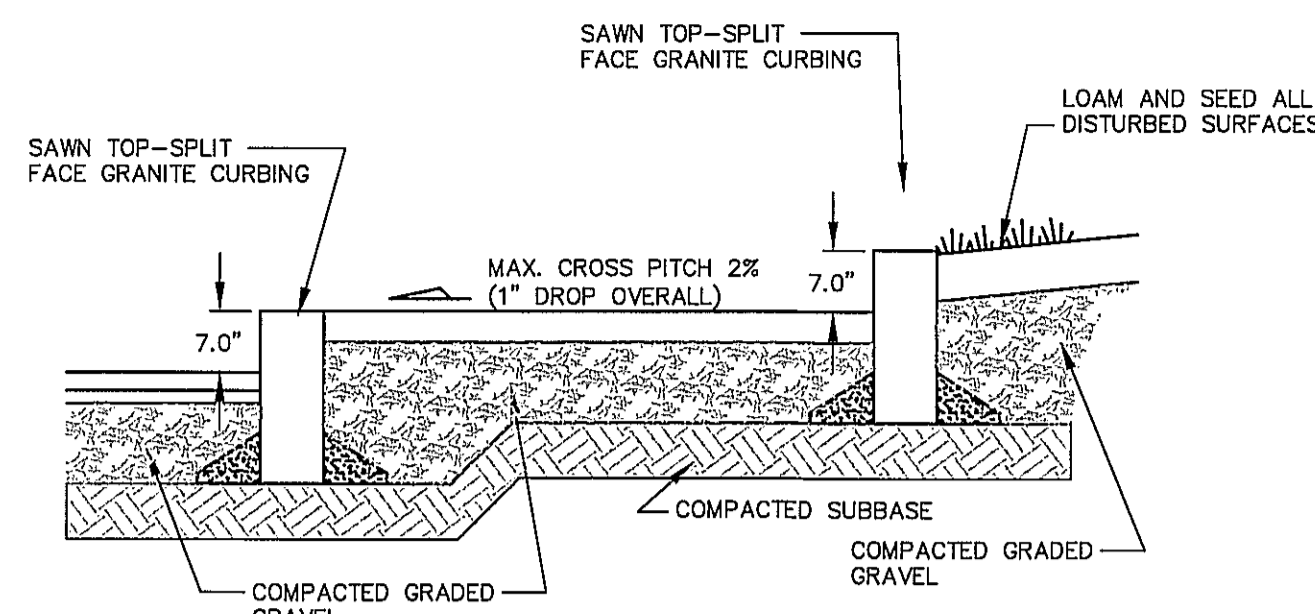
T&H NO.: P-2271
DATE: MAY 2010
SCALE: AS NOTED
SHEET: 3 OF 4

TATA & HOWARD INCORPORATED

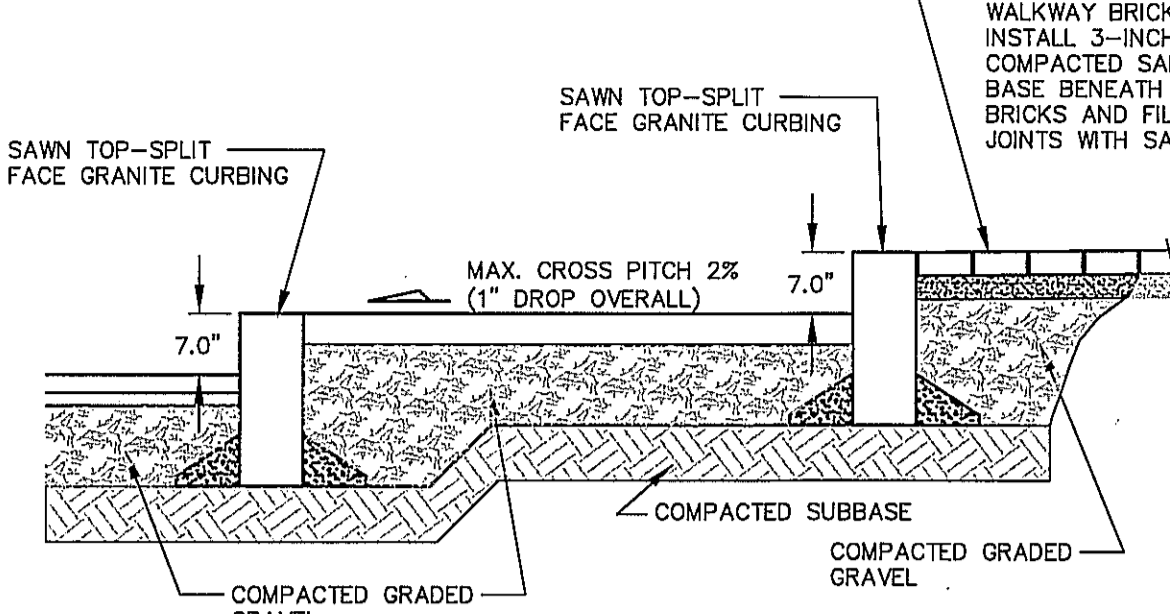
C-3



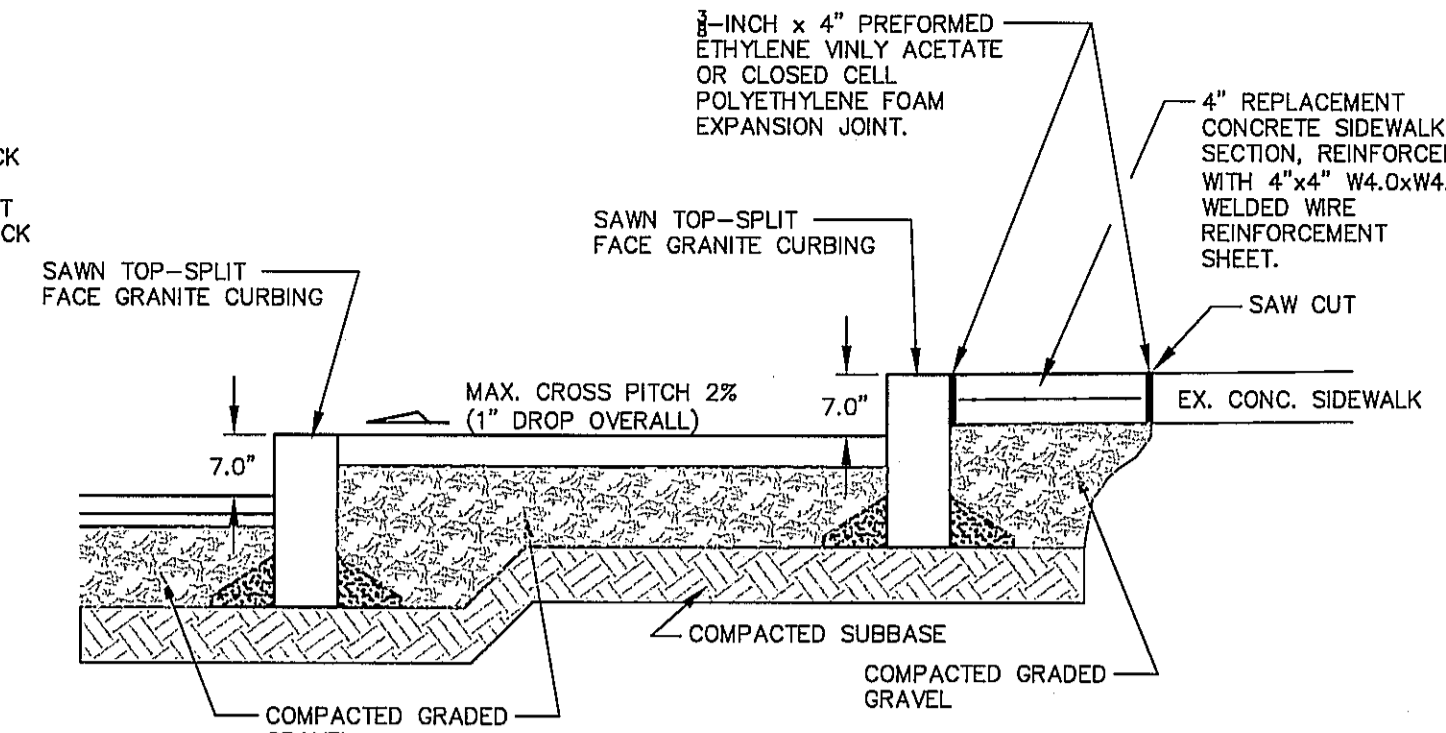
DRIVEWAY WITH SIDEWALK: PLAN VIEW
NOT TO SCALE



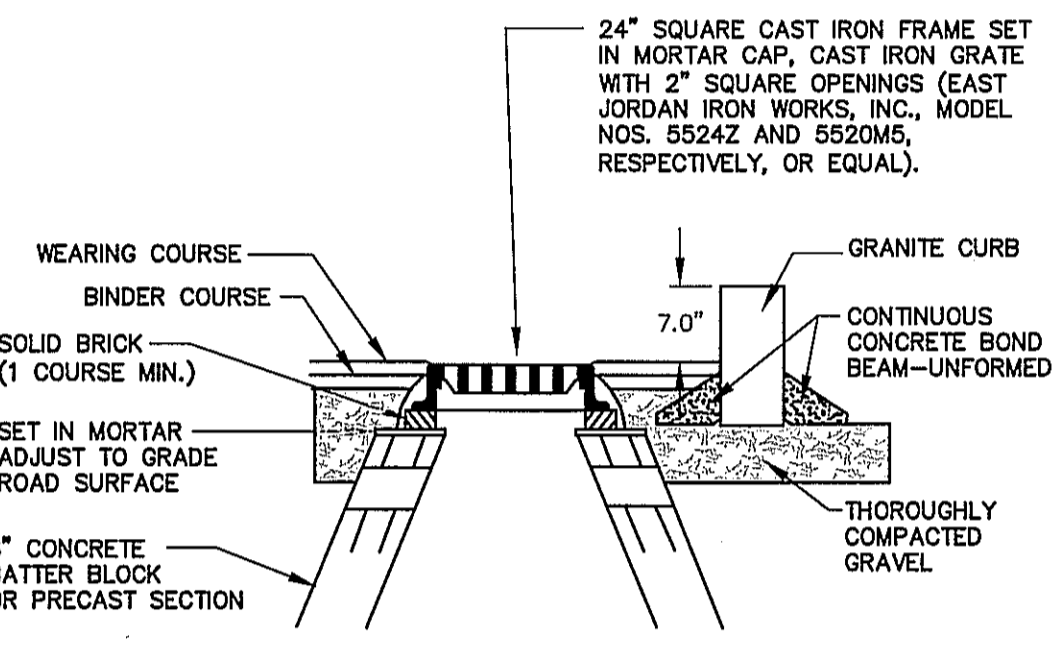
PX BITUMINOUS CONCRETE SIDEWALK, STA 4+56 TO 5+78
SCALE: NONE



PY BITUMINOUS CONCRETE SIDEWALK, STA 5+05
SCALE: NONE

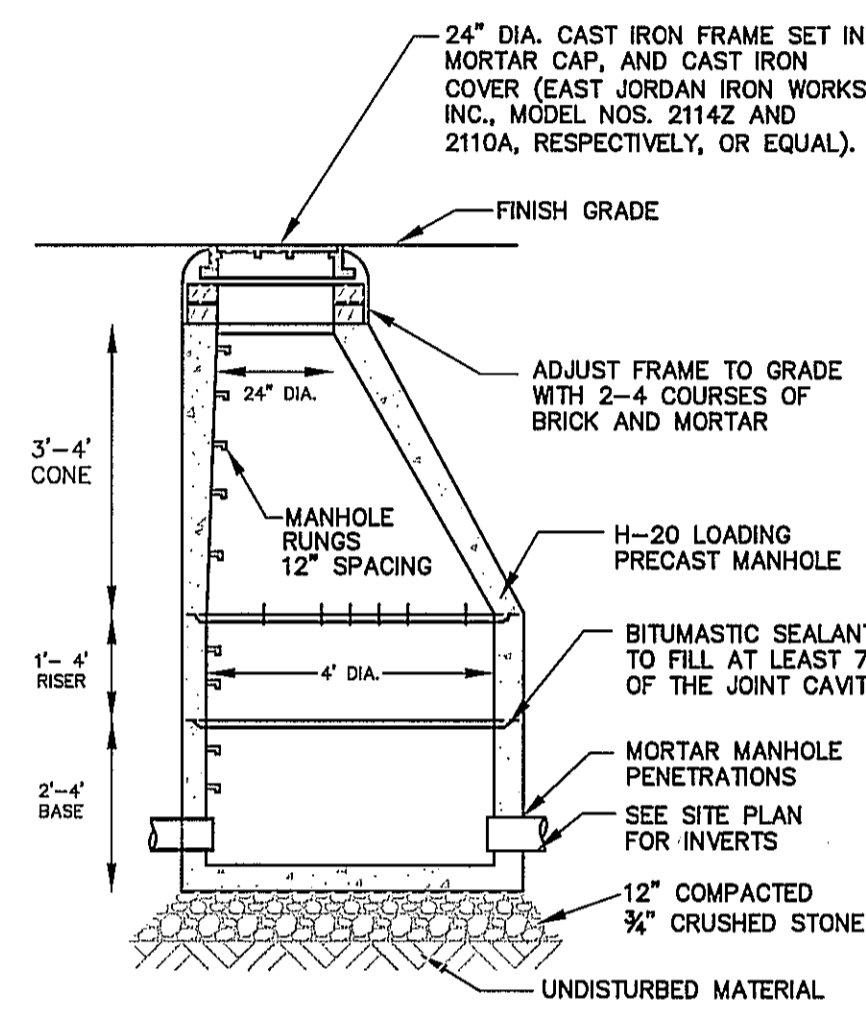


PZ BITUMINOUS CONCRETE SIDEWALK, STA 4+61 & 5+32
SCALE: NONE

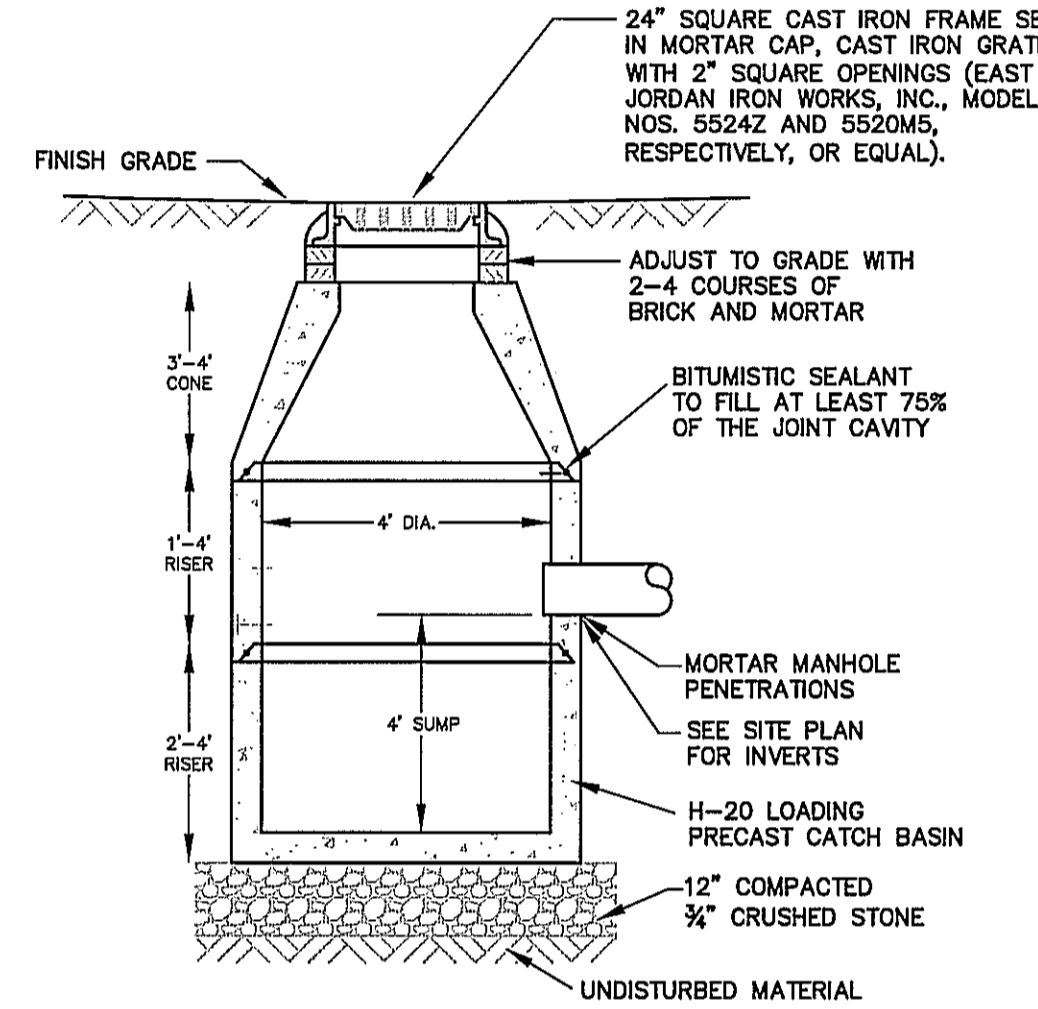


P4 CATCH BASIN WITH GRANITE CURB
NOT TO SCALE

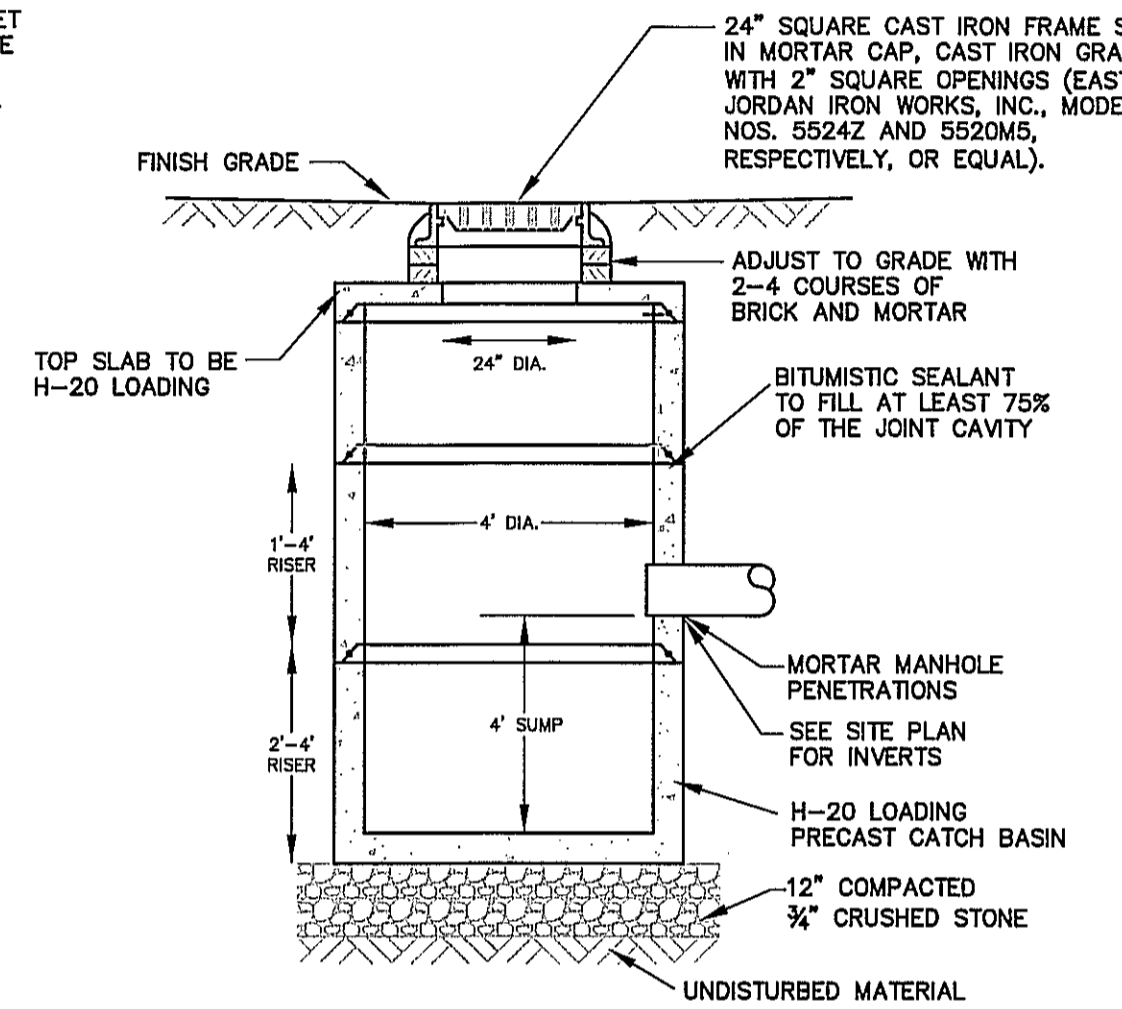
NOTE:
1. PRECAST STRUCTURE MAY BE SUBSTITUTED IF APPROVED. ALL COURSES & KEYWAYS SHALL BE MORTARED.



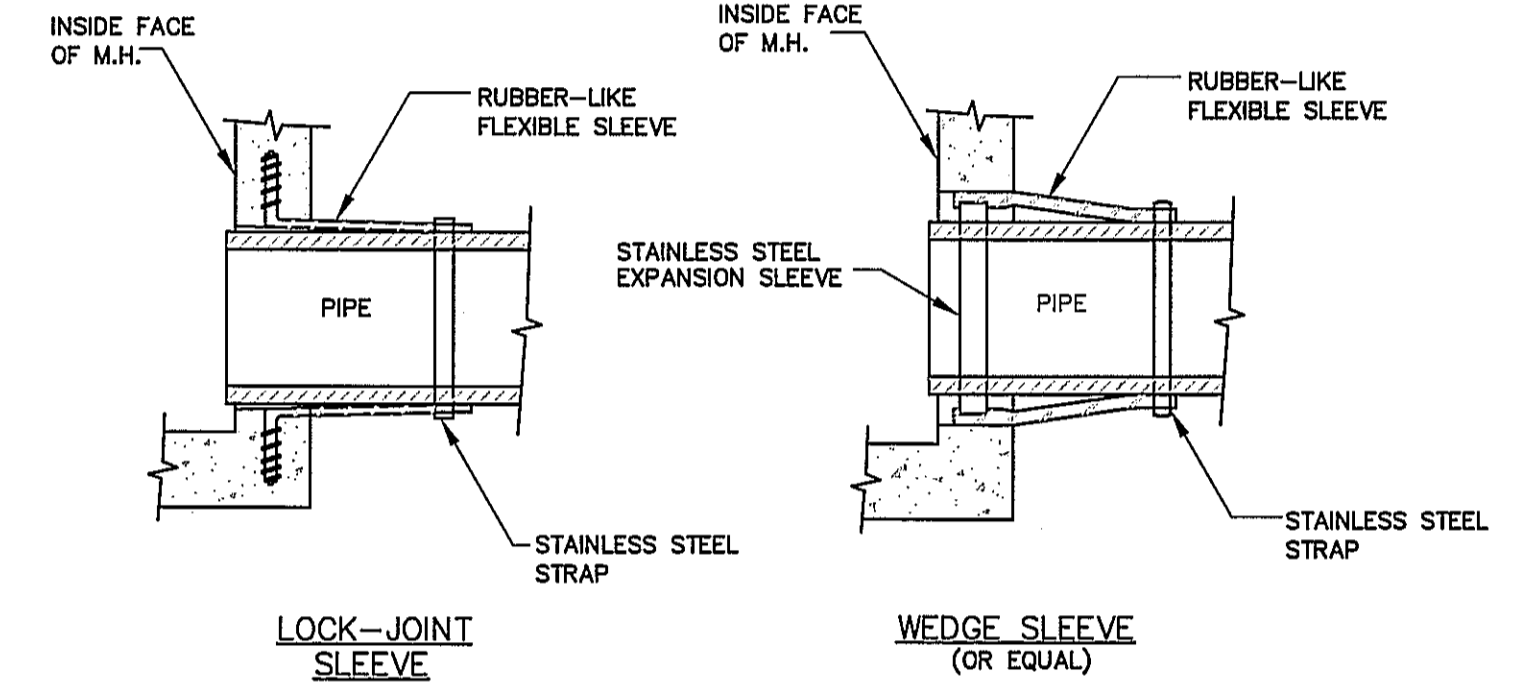
PRECAST DRAIN MANHOLE
NOT TO SCALE



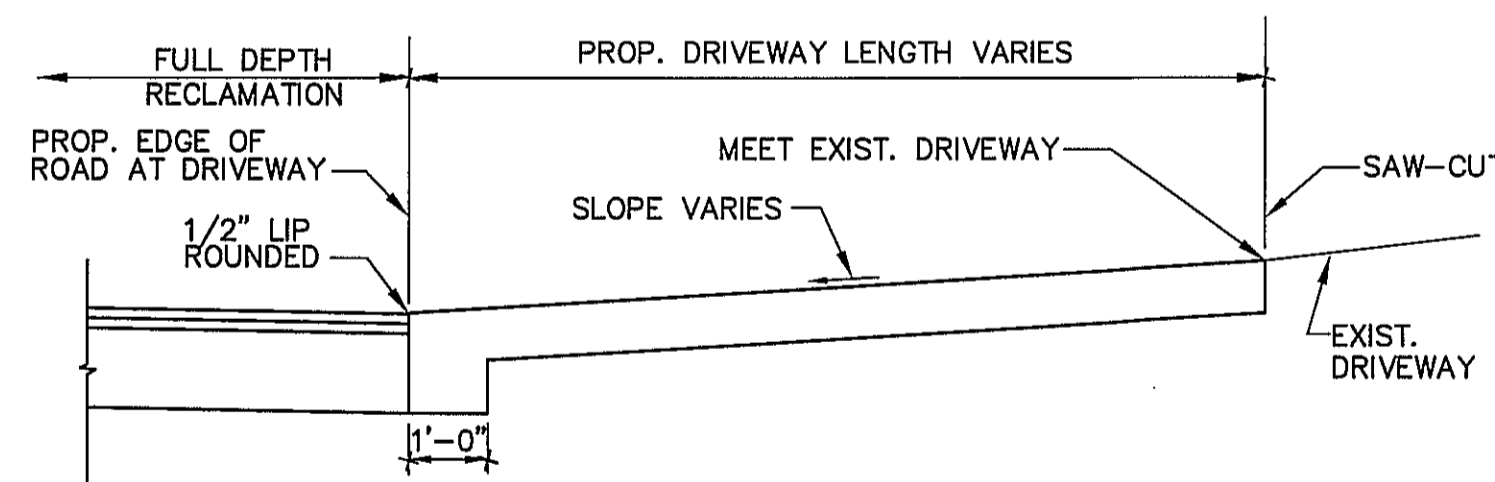
PRECAST CATCH BASIN
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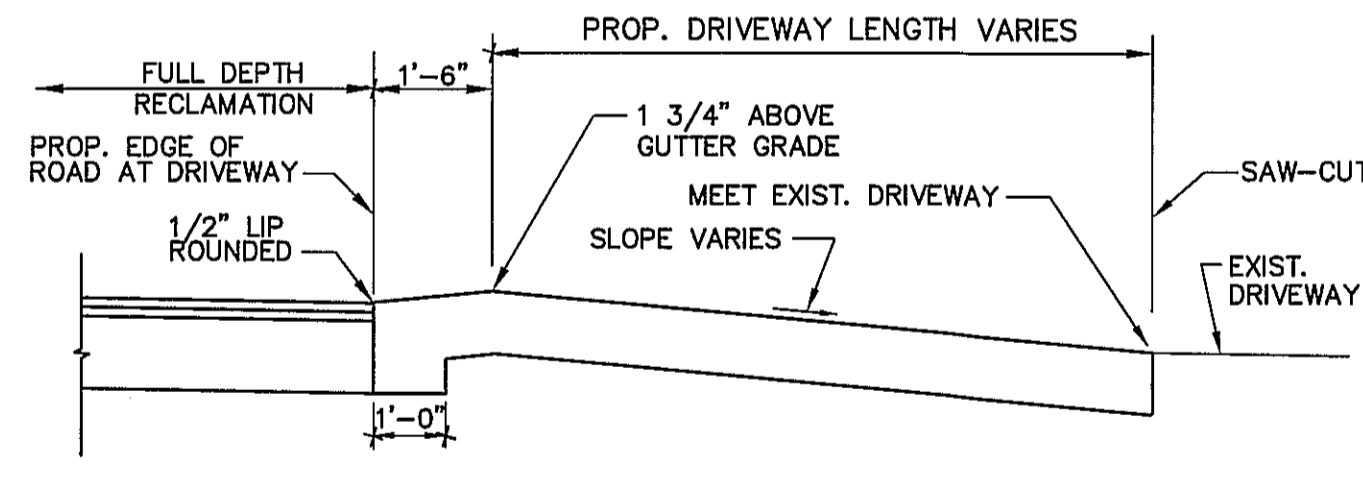
PRECAST FLAT-TOP CATCH BASIN
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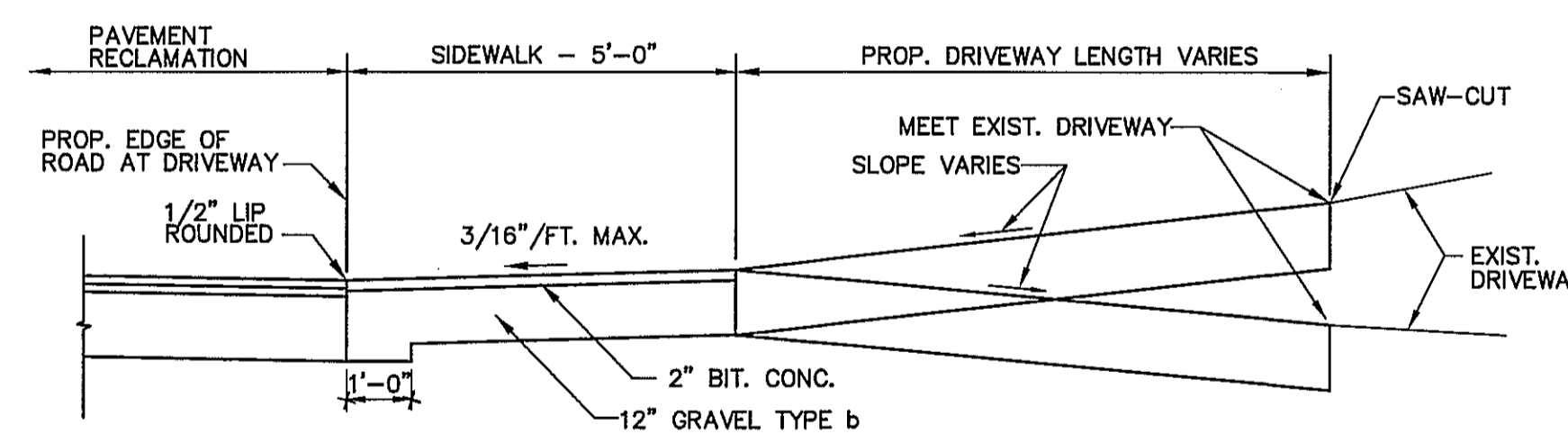
SLEEVE FOR M.H./C.B. WALL PENETRATION
NOT TO SCALE



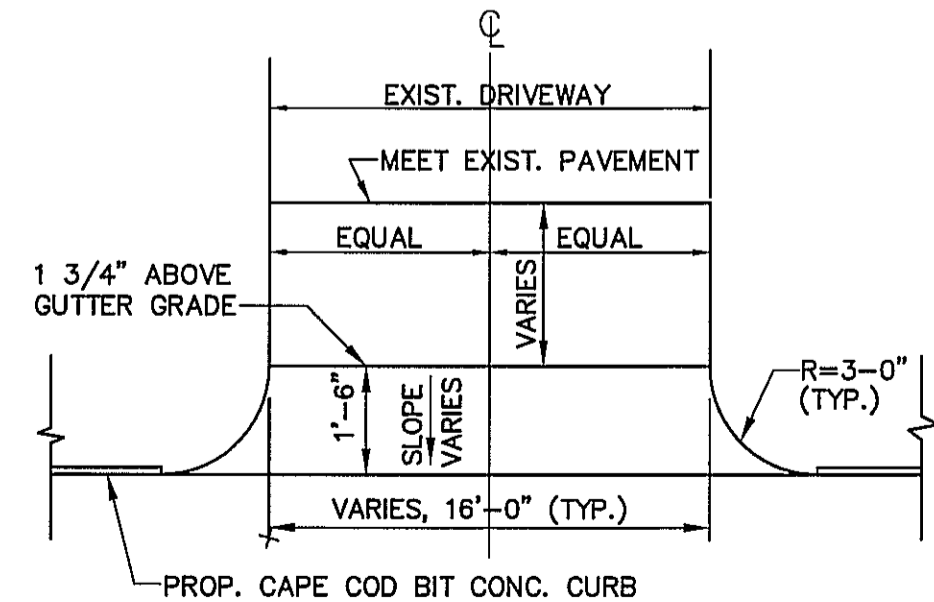
DRIVEWAY WITHOUT SIDEWALK
(EXIST. DRIVEWAY SLOPING TOWARD ROAD)
NOT TO SCALE



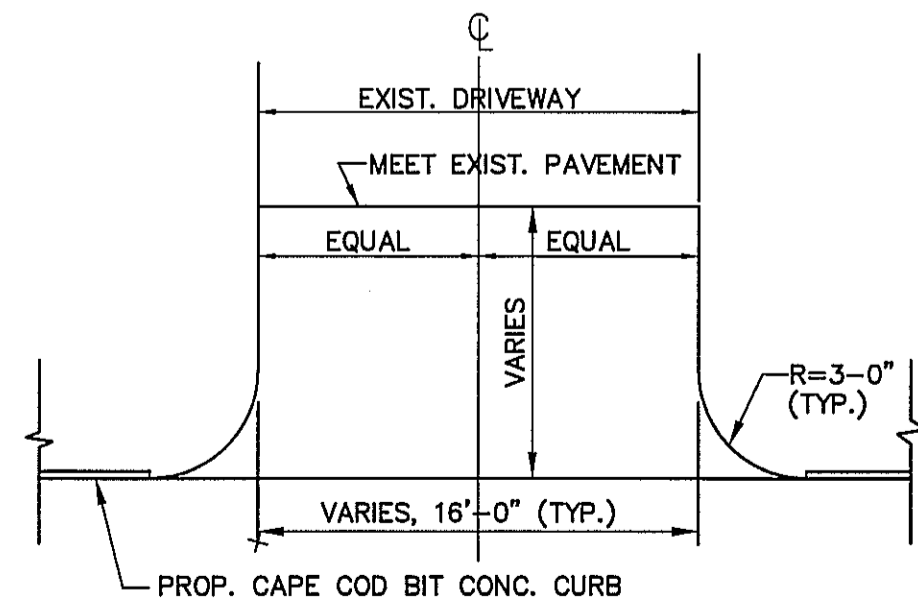
DRIVEWAY WITHOUT SIDEWALK
(EXIST. DRIVEWAY SLOPING AWAY FROM ROAD)
NOT TO SCALE



DRIVEWAY WITH SIDEWALK
NOT TO SCALE

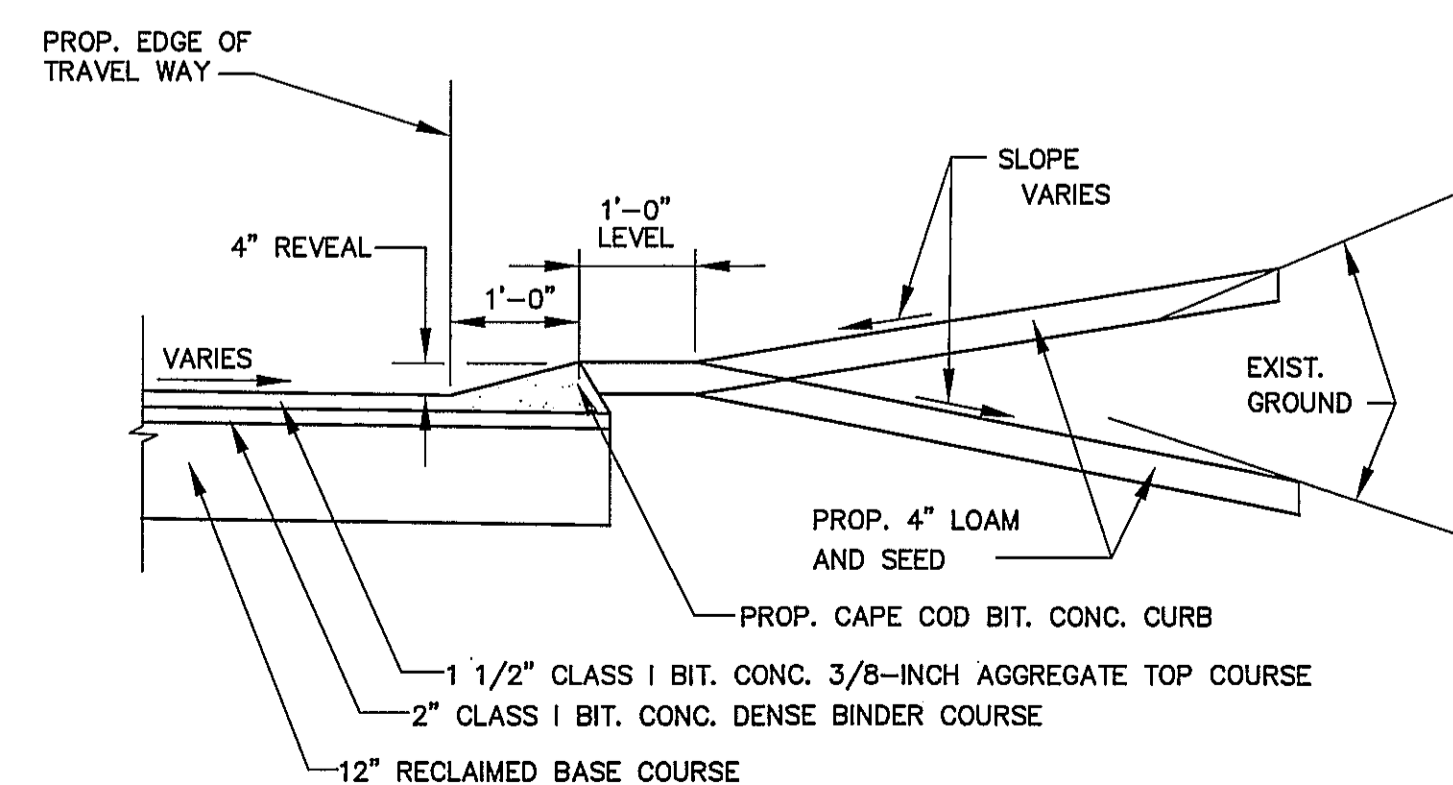


DETAIL FOR DRIVEWAY WITHOUT SIDEWALK
(EXIST. DRIVEWAY SLOPING AWAY FROM ROAD)
NOT TO SCALE

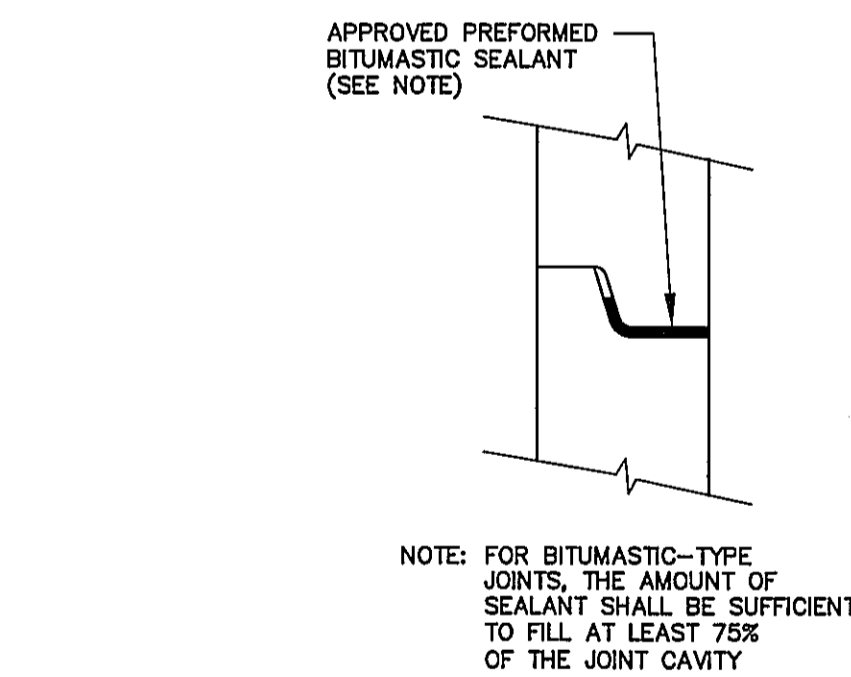


DRIVEWAY WITHOUT SIDEWALK
(EXIST. DRIVEWAY SLOPING TOWARD ROAD)
NOT TO SCALE

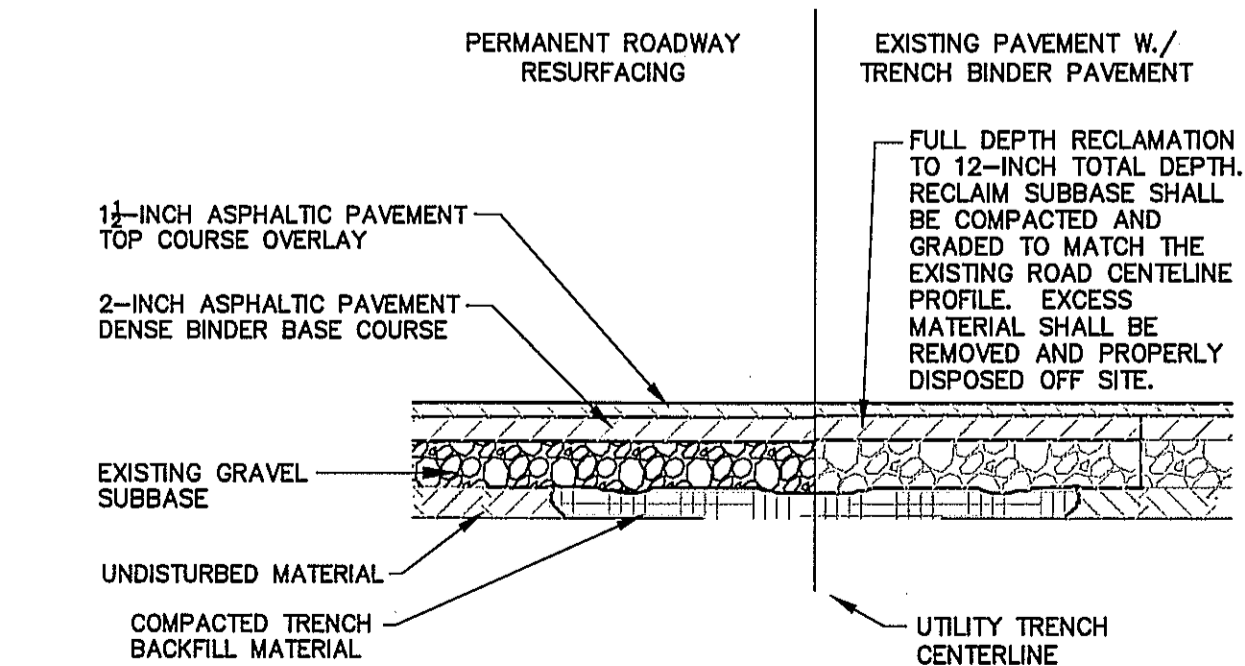
(SEE DETAIL FOR BIT CONC. CURB TYPE 2 REVEAL TRANSITIONING AT DRIVEWAYS)



DETAIL FOR BITUMINOUS CURB WITHOUT SIDEWALK
NOT TO SCALE



BITUMASTIC
MANHOLE SEALANT/GASKET
NOT TO SCALE



NOTE:
UNLESS OTHERWISE DIRECTED BY THE ENGINEER, RECLAIM SUBBASE AND OVERLAYING PAVEMENT LAYERS SHALL BE GRADED WITH A CROWN.

FULL DEPTH RECLAMATION
PERMANENT PAVEMENT
NOT TO SCALE

MONSON, MASSACHUSETTS
 PIONEER VALLEY
 PLANNING COMMISSION
 PARK AVENUE
 IMPROVEMENTS PROJECT
 Approved By: RLG
 Checked By: PSD
 Designed By: LSS/JAM
 Drawn By: LSS
 Description:
 Date:
 Rev.:
 5-20-10
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 T&H NO.: P-2271
 DATE: MAY 2010
 SCALE: AS NOTED
 SHEET: 4 OF 4
 C-4