

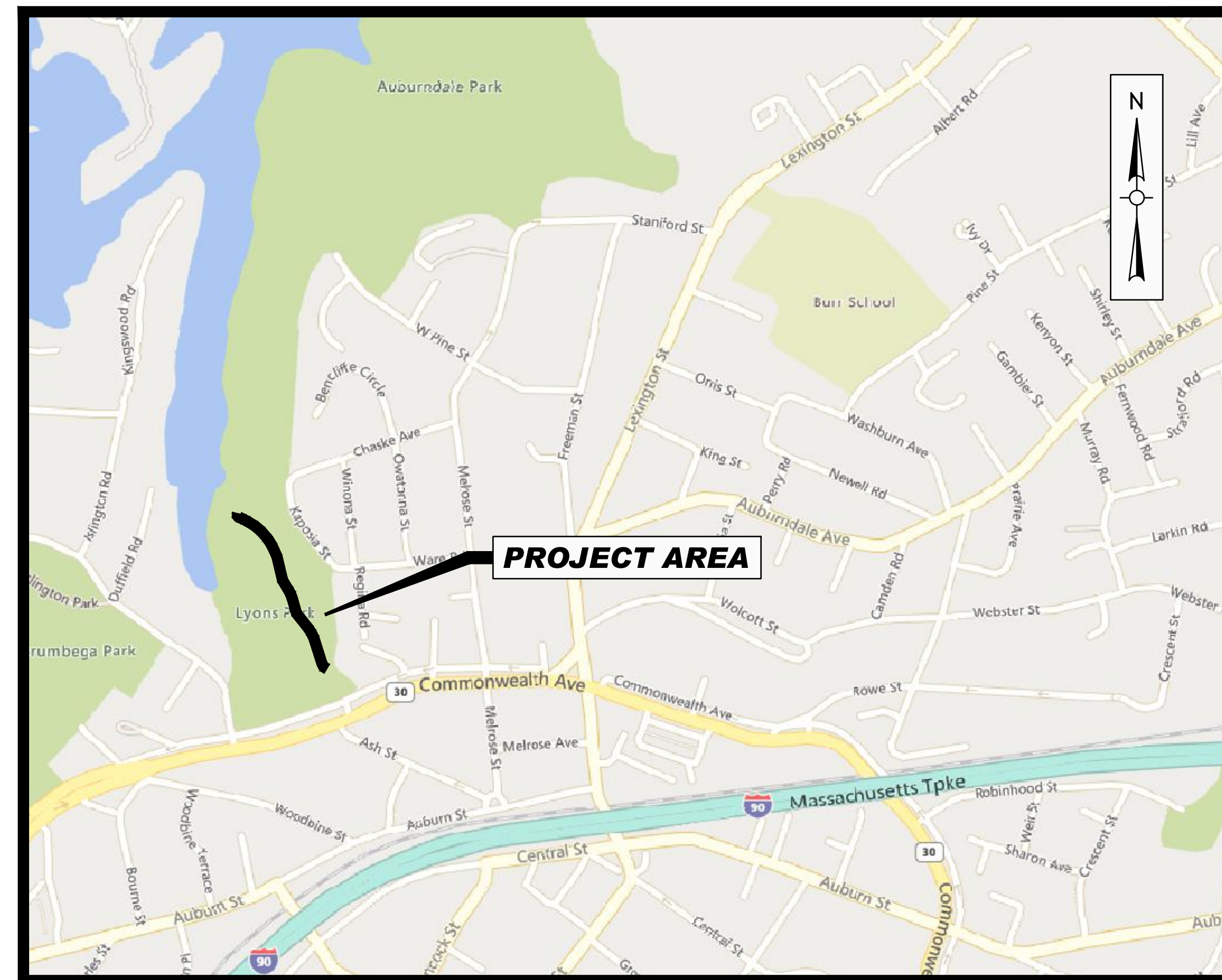
CITY OF NEWTON, MASSACHUSETTS



ISLINGTON ROAD FORCE MAIN REPLACEMENT DEPARTMENT OF PUBLIC WORKS, 1000 COMMONWEALTH AVENUE NEWTON CENTRE, MASSACHUSETTS, 02459

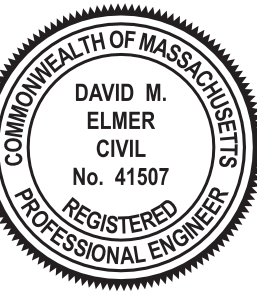
BID INVITATION #22-41

**RUTHANNE FULLER, MAYOR
JAMES MCGONAGLE, COMMISSIONER OF PUBLIC WORKS**



LOCUS MAP
SCALE : 1"=500'

DRAWING INDEX	
SHEET	TITLE
G000	COVER
G001	ABBREVIATIONS, NOTES AND LEGEND
C101	CROSS COUNTRY FORCE MAIN STA 0+00 TO 8+80
C102	CONSTRUCTION ZONE SAFETY PLAN
D501	DETAILS I
D502	DETAILS II



Weston & Sampson

Weston & Sampson Engineers, Inc.
55 Walkers Brook Drive, Suite 100
Reading, MA 01867
978.532.1900 800.SAMPSON
www.westonandsampson.com

Issued Date:

JANUARY 2022



Know what's below.
Call before you dig.

Issued For:

BIDDING

LEGEND

DESCRIPTION	EXISTING	PROPOSED
SANITARY SEWER	—S—	—8" PVC—
FORCE MAIN	—FM—	—6" FM DI—
WATER MAIN	—W—	—6" W DI—
TEMPORARY WATER		—4" W—
STORM DRAIN	—D—	—18" D RCP—
GAS	—G—	—4" G—
ELECTRIC	—E—	—E—
TELEPHONE	—T—	—T—
HOUSE CONNECTION		6" HOUSE CONN (TYP)
GRINDER PUMP	⊙	● GP
SANITARY SEWER MANHOLE	⊙	● SMH
STORM DRAIN MANHOLE	⊙	● SDMH
ELECTRICAL MANHOLE	⊙	● EMH
TELEPHONE MANHOLE	⊙	● TMH
AIR RELEASE VALVE MANHOLE	⊙	● ARMH
FORCE MAIN CLEANOUT MANHOLE	⊙	● FMCO
CLEANOUT	⊙	● CO
CATCH BASIN	□	■ CB
CATCH BASIN (CURB INLET)	□	■ CB
HYDRANT	⊙	⊙
TEMPORARY HYDRANT		⊙
GATE VALVE	⊙	⊙
CHECK VALVE	⊙	⊙
CURB STOP	⊙	⊙
BUTTERFLY VALVE	⊙	⊙
BALL VALVE	⊙	⊙
REDUCER	⊙	⊙
CAP OR PLUG	⊙	⊙
GAS GATE VALVE	⊙	⊙
UTILITY POLE	⊙	⊙
GUY POLE	⊙	⊙
LIGHT POST	⊙	⊙
EDGE OF PAVEMENT	—	—
EDGE OF UNPAVED ROAD	—	—
CURB	—	—
SIDEWALK	—	—
RAILROAD	—	—
STONE WALL	—	—
RETAINING WALL	—RET WALL—	—RET WALL—
FENCE	—X—	—X—
INDIVIDUAL DECIDUOUS TREE	⊙	⊙
INDIVIDUAL EVERGREEN TREE	⊙	⊙
TREE LINE	—	—
SURVEY MARKER	⊙	⊙
PROPERTY LINE	—P—	—P—
EASEMENT LINE	—	—
LIMIT OF WORK	—	—
APPROX. LIMIT OF REFUSE	—	—
SPOT ELEVATIONS	x 141.5	x 141.5
CONTOUR LINES	—56—	—56—
DEPRESSION CONTOUR LINES	—	—
HOUSE NUMBER	#35	#35
FLOOR ELEVATION	FL=56.7	FL=56.7
SILL ELEVATION	S=56.7	S=56.7
WETLAND	—	—
WETLAND FLAGS	—	—
RIP RAP	—	—
STATE HIGHWAY STATION	○	○
SURFACE MOUNTED DELINEATOR	△	△
GUARD POST	△	△
BOLLARD	○ B	● B
SIGN	—	—
BENCH MARK	⊙	⊙
AUGER	⊕ A-1	⊕ A-1
PERCOLATION TEST	⊕ 1	⊕ PT-1
TEST PIT	⊕ 1	⊕ TP-1
BORING	⊕ B-10	⊕ B-11
PROBE	⊕ P-10	⊕ P-11
GROUNDWATER MONITORING WELL	⊕ WS-1	⊕ WS-1
GAS MONITORING WELL	⊕ GMW-10	⊕ GMW-10
GAS VENT	○ GV	● GV
HAY BALES	—	—
ROCK OUTCROP	—	—
DRAINAGE DITCH / SWALE	—	—

NOTE: ITEMS SHOWN IN THE LEGEND MAY NOT BE PRESENT IN THESE PLANS

ABBREVIATIONS

AC	ASBESTOS CEMENT PIPE
ACCMP	ASPHALT COATED CORRUGATED METAL PIPE
ARV	AIR RELEASE VALVE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BC	BITUMINOUS CONCRETE
BIT	BITUMINOUS
BLDG	BUILDING
BM	BENCH MARK
BO	BLOW OFF
BV	BUTTERFLY VALVE
CATV	CABLE TELEVISION
CB	CATCH BASIN
CC	CONCRETE CURB
CI	CAST IRON
CL	CENTERLINE
CL	CEMENT LINED
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
CU FT	CUBIC FEET
CY	CUBIC YARD
D	STORM DRAIN, DEPTH FROM RIM TO INVERT
DI	DROP INLET, DUCTILE IRON
DIA	DIAMETER
DMH	DRAIN MANHOLE
DWG	DRAWING
E	EAST, ELECTRIC
EA	EACH
EF	EACH FACE
ELEV	ELEVATION
EOP	EDGE OF PAVEMENT
EW	EACH WAY
EXIST	EXISTING
FLG	FLANGE
FT	FEET, FOOT
G	NATURAL GAS
GALV	GALVANIZED
GC	GRANITE CURB
GR	GRANITE
HC	HOUSE CONNECTION
HORIZ	HORIZONTAL
HP	HIGH PRESSURE
HYD	FIRE HYDRANT
I	INVERT
INV	INVERT
ID	INSIDE DIAMETER
IP	IRON PIPE
LB	POUND
LF	LINEAR FEET
LS	LUMP SUM
MAX	MAXIMUM
MB	MAIL BOX
MECH	MECHANICAL
MH	MANHOLE
MassDOT	MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MWRA	MASSACHUSETTS WATER RESOURCES AUTHORITY
N	NORTH
NE	NORTH EAST
NW	NORTH WEST
NF	NOT FOUND
NO OR #	NUMBER
OD	OUTSIDE DIAMETER
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
PE	PLAIN END, POLYETHYLENE
PL	PROPERTY LINE
PL	PLATE
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT-OF-WAY
RQD	ROCK QUALITY
S	SEWER, SOUTH
SE	SOUTH EAST
SECT	SECTION
SF	SQUARE FEET
SHT	SHEET
SPEC	SPECIFICATIONS
SQ FT	SQUARE FEET
SS	SEWER SERVICE, STAINLESS STEEL
STA	STATION
STL	STEEL
SW	SIDEWALK, SOUTH WEST
T	HYDROSTATIC THRUST, TELEPHONE
TBM	TEMPORARY BENCH MARK
THK	THICK (NESS)
TYP	TYPICAL
UP	UTILITY POLE
VC	VITRIFIED CLAY
VERT	VERTICAL
W	WATER, WEST
W/	WITH
W/O	WITHOUT

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL CALL DIGSAFE AT 1-888-344-7233 AT LEAST 72 HOURS, SATURDAYS, SUNDAYS, AND HOLIDAYS EXCLUDED, PRIOR TO EXCAVATING AT ANY LOCATION. A COPY OF THE DIGSAFE PROJECT REFERENCE NUMBER(S) SHALL BE GIVEN TO THE OWNER PRIOR TO EXCAVATION.
2. LOCATIONS OF EXISTING PIPES, CONDUITS, UTILITIES, FOUNDATIONS AND OTHER UNDERGROUND OBJECTS ARE NOT WARRANTED TO BE CORRECT AND THE CONTRACTOR SHALL HAVE NO CLAIM ON THAT ACCOUNT SHOULD THEY BE OTHER THAN SHOWN.
3. TEST PITS TO LOCATE EXISTING UTILITIES MAY BE ORDERED BY THE ENGINEER.
4. STONE WALLS, FENCES, MAIL BOXES, SIGNS, CURBS, LIGHT POLES, ETC. SHALL BE REMOVED AND REPLACED AS NECESSARY TO PERFORM THE WORK. UNLESS OTHERWISE INDICATED, ALL SUCH WORK SHALL BE INCIDENTAL TO CONSTRUCTION OF THE PROJECT.
5. ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND PAYMENT LIMITS SHALL BE RESTORED AT NO ADDITIONAL COST TO THE OWNER.
6. CONCRETE CRADLES OR ARCHES SHALL BE CONSTRUCTED WHERE SHOWN ON THE DRAWINGS OR WHERE REQUIRED BY THE ENGINEER. UNLESS OTHERWISE INDICATED, CONCRETE USED FOR PIPE ANCHOR BLOCKS, BACKING, PIPE CRADLES, ARCHES, AND FILL SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
7. THE CONTRACTOR SHALL NOT STORE ANY APPARATUS, MATERIALS, SUPPLIES, OR EQUIPMENT ON DRAINAGE STRUCTURES OR WITHIN 100 FEET OF WETLANDS.
8. SEWER TRENCHES MAY BE EXCAVATED WIDER THAN THE 'LIMIT OF EXCAVATION AND PAYMENT FOR EARTH EXCAVATION' ABOVE THE 'LINE OF NARROW TRENCH LIMIT.' ANY SUCH ADDITIONAL EXCAVATION SHALL BE AT THE CONTRACTOR'S EXPENSE AND SHALL NOT BE MEASURED FOR PAYMENT.
9. BELOW THE 'LINE OF NARROW TRENCH LIMIT' THE TRENCH SHOULD NOT BE EXCAVATED BEYOND THE TRENCH WIDTH 'W'. IF MATERIAL IS LOOSENEED OR REMOVED BEYOND THE ABOVE MENTIONED LIMITS, THE CONTRACTOR WILL BE REQUIRED TO PROVIDE CRUSHED STONE FOR THE FULL WIDTH OF THE TRENCH AT NO ADDITIONAL COST TO THE OWNER.
10. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF MASSACHUSETTS GENERAL LAW CHAPTER 82A, TRENCH EXCAVATION AND SAFETY REQUIREMENTS, TO PREVENT THE GENERAL PUBLIC FROM UNAUTHORIZED ACCESS TO UNATTENDED TRENCHES.
11. CONTRACTOR SHALL BE AVAILABLE 24/7 TO RESPOND PROMPTLY TO BYPASS REPAIRS REQUIRED DURING THE PROJECT.
12. CONTRACTOR SHALL PROVIDE NECESSARY FLOW CONTROL (e.g. PUMPING TRUCKS) AS NECESSARY DURING CONSTRUCTION ACTIVITIES IF FLOW CANNOT BE DIRECTED INTO THE TEMPORARY BYPASS SYSTEM.
13. CONTRACTOR SHALL PROVIDE NECESSARY FLOW CONTROL TO DEWATER EXISTING 6-INCH FORCE MAIN.
14. CONTRACTOR SHALL MAINTAIN EXISTING FLOWS IN THE SYSTEM, BYPASSING AS NECESSARY TO PREVENT SURCHARGING, AS APPROVED OR REQUIRED BY THE ENGINEER.
15. CONTRACTOR SHALL INSULATE FORCE MAIN WHEN GROUND COVER IS LESS THAN 5- FEET. INSULATION SHALL BE CONSIDERED INCIDENTAL.
16. CONTRACTOR SHALL COORDINATE WITH THE CITY OF NEWTON FOR WORK TO BE PERFORMED ON LYONS FIELD.
17. CONTRACTOR SHALL PROTECT IRRIGATION SYSTEM AND ELECTRICAL CONDUITS ON LYONS FIELD.
18. CONTRACTOR SHALL LOAM AND SEED ALL LOCATIONS DISTURBED FROM CONSTRUCTION ACTIVITY ON LYONS FIELD AS PER SPECIFICATION SECTION 02920.
19. IN AREAS DESIGNATED AS WETLANDS, THE CONTRACTOR SHALL CAREFULLY REMOVE AND STOCKPILE THE TOP 24-INCHES OF SOIL. THIS TOPSOIL MATERIAL SHALL BE USED AS BACKFILL FOR THE TRENCH EXCAVATION TOP LAYER. ELEVATIONS SHALL MATCH EXISTING.
20. CONSERVATION COMMISSION ORDER OF CONDITIONS ARE INCLUDED IN ATTACHMENT A OF SPECIFICATION SECTION 00890, PERMITS.
21. CONTRACTOR SHALL COORDINATE A PRE-CONSTRUCTION SITE VISIT WITH THE CONSERVATION ADMINISTRATOR TO CONFIRM SEDIMENT CONTROL, TREE PROTECTION, AND LIMITS OF WORK.
22. CONTRACTOR SHALL SUBMIT THE FOLLOWING ITEMS TO THE CONSERVATION ADMINISTRATOR AND ENGINEER PRIOR TO THE START OF WORK FOR REVIEW AND APPROVAL:
 - CONSTRUCTION LOGISTICS AND OPERATIONS PLAN
 - DEWATERING CONTINGENCY PLAN
 - STOCKPILING AND STAGING AREA DETAILS
23. CONTRACTOR SHALL IMPLEMENT APPROPRIATE CONTROLS FOR THE TRACKING, LITTER MANAGEMENT, AND VEHICLE REFUELING.
24. CONTRACTOR SHALL HAVE A SPILL KIT ON SITE AND SHALL ADDRESS AND RECTIFY OIL AND HYDRAULIC LEAKS AS SOON AS THEY ARE NOTICED.

Project: CITY OF NEWTON, MA



ISLINGTON ROAD
FORCE MAIN REPLACEMENT

DEPARTMENT OF PUBLIC WORKS
1000 COMMONWEALTH AVENUE
NEWTON CENTRE, MA 02459

Weston & Sampson


Weston & Sampson Engineers, Inc.
55 Walkers Brook Drive, Suite 100
Reading, MA 01867
978.532.1900 800.SAMPSON
www.westonandsampson.com

Consultants:

Revisions:

No.	Date	Description

Seal:



Issued For:

BIDDING

Scale: AS NOTED

Date: JANUARY 2022

Drawn By: RWS
Reviewed By: PAT
Approved By: DME

W&S Project No.: ENG21-0512
W&S File No.: 247-83

Drawing Title:

**ABBREVIATIONS,
NOTES AND LEGEND**

Sheet Number:

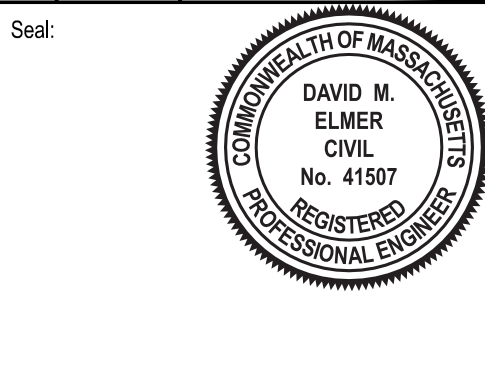
G001

Rev: 2.0 Date: July 2020

Consultants:

Revisions:

No.	Date	Description

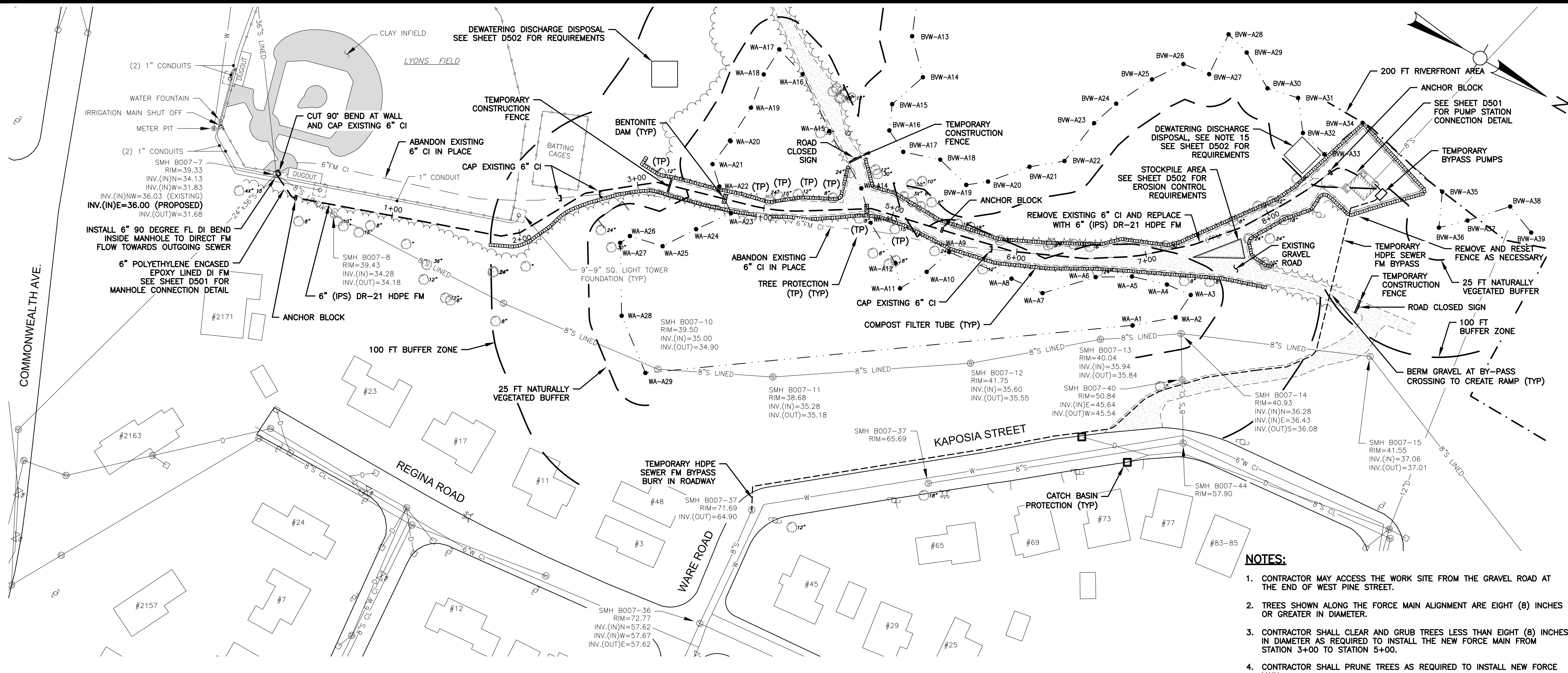


Issued For:

BIDDING

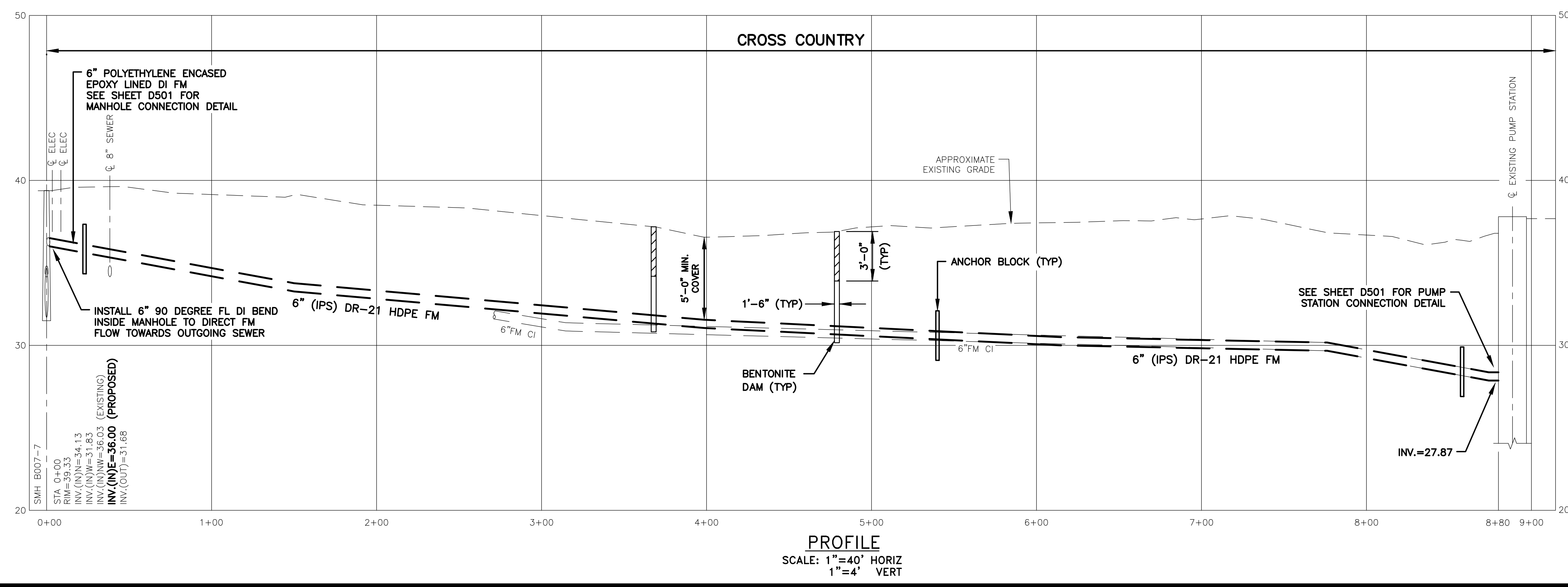
Scale: AS NOTED
 Date: JANUARY 2022
 Drawn By: RWS
 Reviewed By: PAT
 Approved By: DME
 W&S Project No.: ENG21-0512
 W&S File No.: 247-82

Drawing Title:
CROSS COUNTRY FORCE MAIN STA 0+00 TO STA 8+80
 Sheet Number:
C101

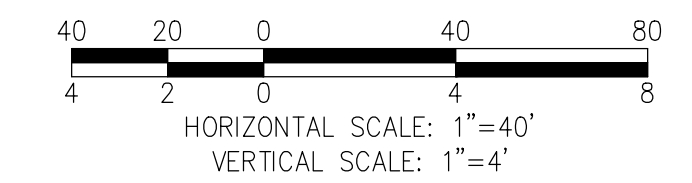


PLAN
 SCALE: 1" = 40'

- NOTES:**
- CONTRACTOR MAY ACCESS THE WORK SITE FROM THE GRAVEL ROAD AT THE END OF WEST PINE STREET.
 - TREES SHOWN ALONG THE FORCE MAIN ALIGNMENT ARE EIGHT (8) INCHES OR GREATER IN DIAMETER.
 - CONTRACTOR SHALL CLEAR AND GRUB TREES LESS THAN EIGHT (8) INCHES IN DIAMETER AS REQUIRED TO INSTALL THE NEW FORCE MAIN FROM STATION 3+00 TO STATION 5+00.
 - CONTRACTOR SHALL PRUNE TREES AS REQUIRED TO INSTALL NEW FORCE MAIN.
 - CONTRACTOR SHALL RESTORE FULL WIDTH OF GRAVEL ROAD IN ALL DISTURBED AREAS AS PER GRAVEL ROAD DETAIL ON SHEET D501. RESTORED GRAVEL ROAD SHALL MATCH EXISTING GRADE. CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING MATERIAL AS REQUIRED.
 - CONTRACTOR SHALL CAREFULLY REMOVE AND STOCKPILE THE TOP 24-INCHES OF SOIL FROM APPROXIMATE STA 3+66 TO APPROXIMATE STA 4+78. THE TOPSOIL MATERIAL SHALL BE USED AS BACKFILL FOR THE TRENCH EXCAVATION TOP LAYER IN THIS LOCATION. ELEVATIONS SHALL MATCH EXISTING.
 - CONTRACTOR SHALL INSTALL TRACER WIRE ON NEW HDPE FORCE MAIN AND SHALL INSTALL TERMINAL ACCESS POINT IN WEATHERPROOF ENCLOSURE ON EXTERIOR OF PUMP STATION. TRACER WIRE ABOVE GRADE SHALL BE INSTALLED IN CONDUIT. SEE SPECIFICATION SECTION 02518.
 - CONTRACTOR SHALL INSTALL TEMPORARY CONSTRUCTION FENCE AND ROAD CLOSED SIGNS AS SHOWN ABOVE DURING CONSTRUCTION HOURS. CONTRACTOR SHALL MOVE TEMPORARY CONSTRUCTION FENCE AND ROAD CLOSED SIGNS AT THE END OF EACH WORK DAY TO RESTORE PEDESTRIAN ACCESS.
 - ISLINGTON PUMP STATION PUMPS AT AN ESTIMATED 240GPM.
 - CONTRACTOR SHALL MONITOR FLOW IN THE GRAVITY SEWER DURING TEMPORARY BYPASS PUMPING. CONTRACTOR SHALL NOT ALLOW THE GRAVITY SEWER TO SURCHARGE.
 - ALL WORK SHALL TAKE PLACE IN PREVIOUSLY DISTURBED AREAS (LAWN, DIRT PATH, GRAVEL ROAD).
 - THE AREA IS SUSCEPTIBLE TO FLOODING AND PORTIONS OF THE PATHWAY ARE REGULARLY UNDERWATER. EXCAVATION SHALL NOT BE INITIATED IN AN AREA THAT IS UNDERWATER.
 - CONTRACTOR MAY SIDE-CAST SPOILS FROM TRENCHES IF THERE IS ROOM TO DO SO ON EXISTING PATHWAYS (INSIDE EROSION CONTROL AREAS) OR SPOILS MAY BE PLACED IN TRUCKS. CONTRACTOR SHALL NOT SIDE-CAST OR STOCKPILE SPOILS IN VEGETATED AREAS BESIDE THE PATHWAYS.
 - CONTRACTOR MAY STOCKPILE IN EXISTING PATHWAYS, BUT STOCKPILES MUST BE SURROUNDED WITH COMPOST FILTER TUBES TO PREVENT AND CONTROL SILTATION AND EROSION.
 - ROCKS AND DEBRIS ARE PRESENT AT PROPOSED DEWATERING DISCHARGE DISPOSAL LOCATION. CONTRACTOR SHALL REMOVE AND DISPOSE OF ROCKS AND DEBRIS FOLLOWING COMPLETION OF CONSTRUCTION.
 - CONTRACTOR SHALL BE AWARE OF POTENTIAL HIGH GROUNDWATER ALONG FORCE MAIN ALIGNMENT WHEN DESIGNING DEWATERING SYSTEM.



PROFILE
 SCALE: 1"=40' HORIZ
 1"=4' VERT



W:\Projects\2021\Newton\ISLINGTON ROAD FORCE MAIN\DWG\C101.dwg
 1/20/22 10:00 AM
 RWS

Rev. 2.0 Date: July 2020

Consultants:

No.	Date	Description

Revisions:

No.	Date	Description

Seal:

Issued For:
BIDDING

Scale: AS NOTED
 Date: JANUARY 2022
 Drawn By: RWS
 Reviewed By: PAT
 Approved By: DME
 W&S Project No.: ENG21-0512
 W&S File No.: 247-81

Drawing Title:
CONSTRUCTION ZONE SAFETY PLAN
 Sheet Number:
C102
 Rev: 2.0 Date: July 2020

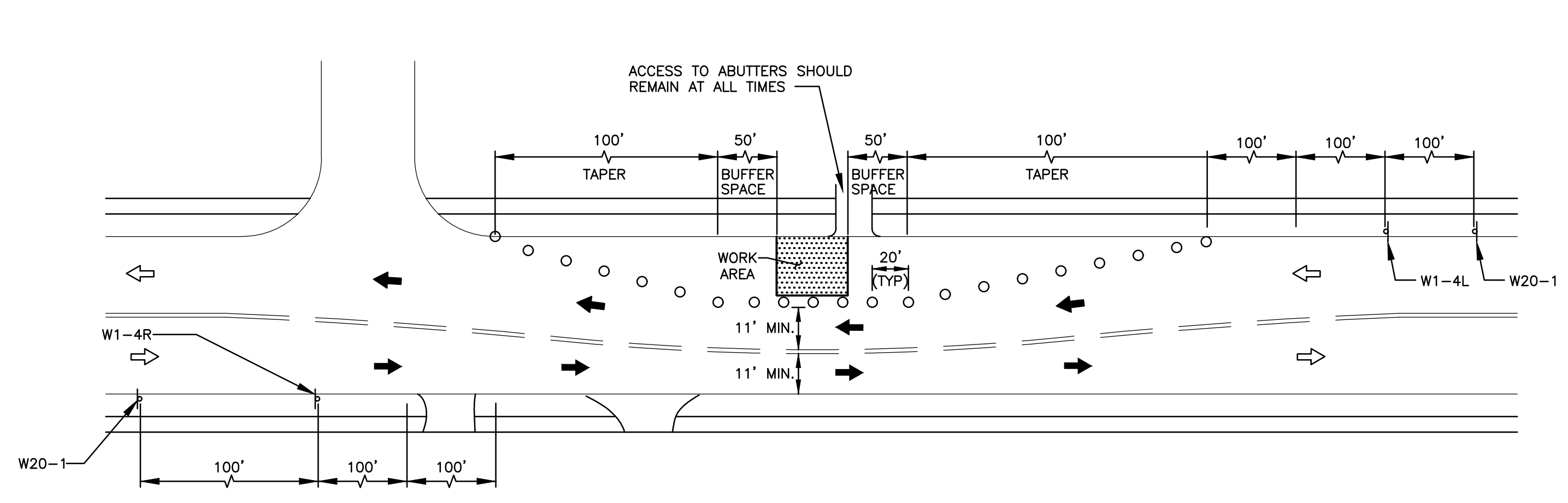
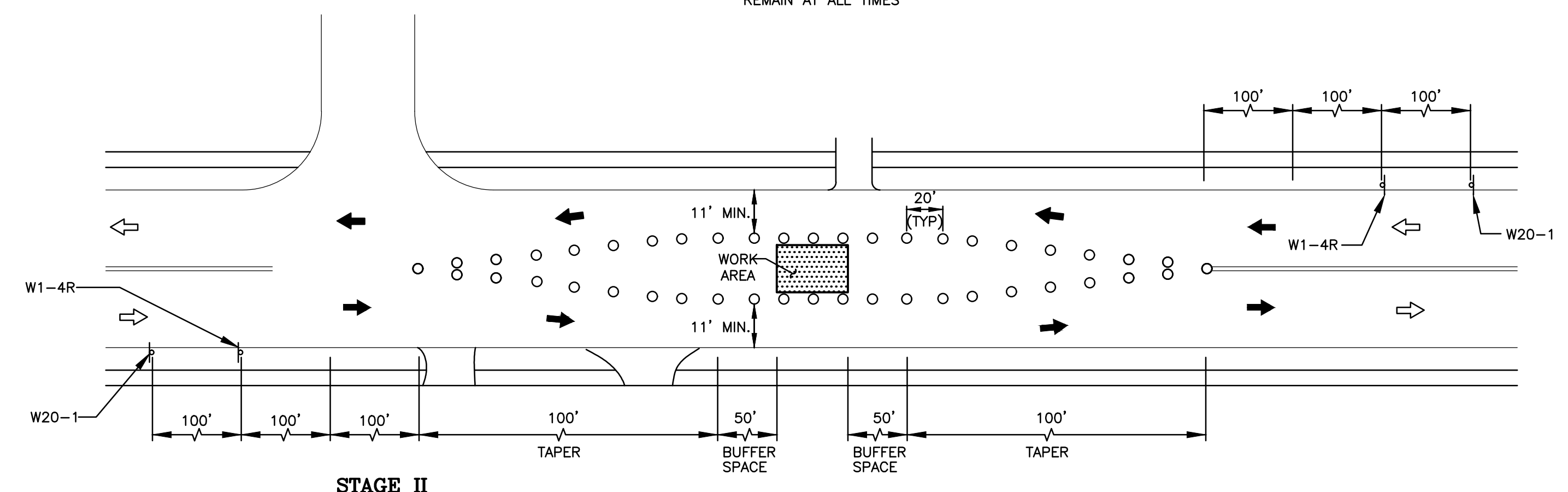
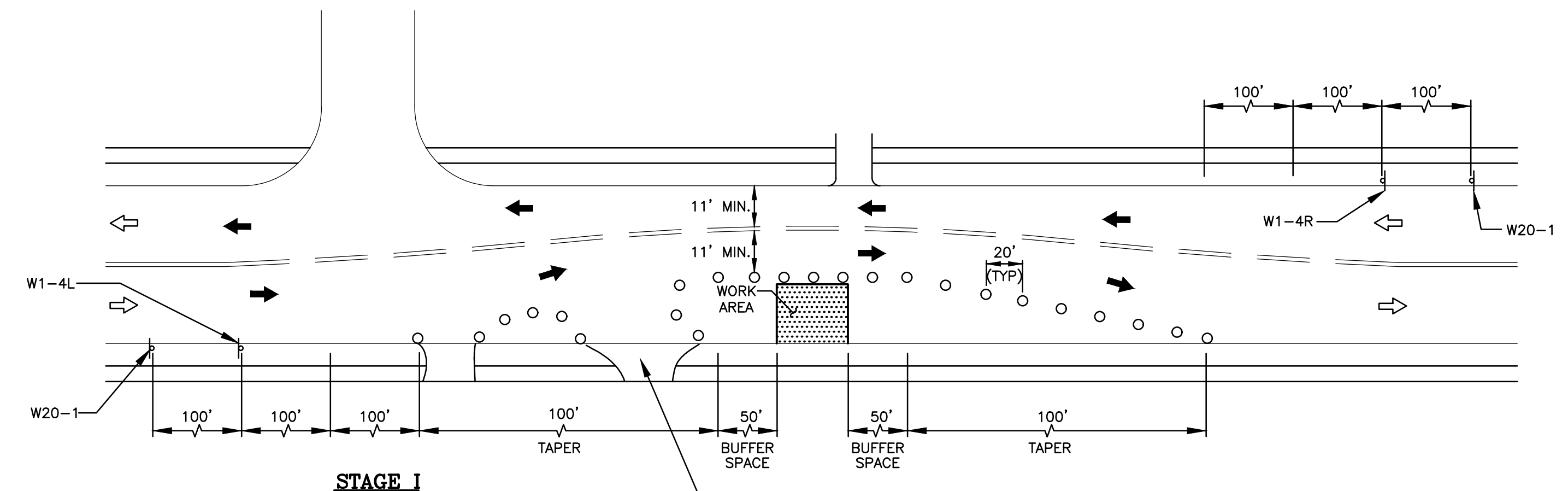
TEMPORARY TRAFFIC SIGN SUMMARY

MUTCD CODE	SIZE OF SIGN		SIGN
	WIDTH	HEIGHT	
W1-4L	30"	30"	
W1-4R	30"	30"	
W20-1	36"	36"	
W20-4	36"	36"	
W20-8	36"	36"	

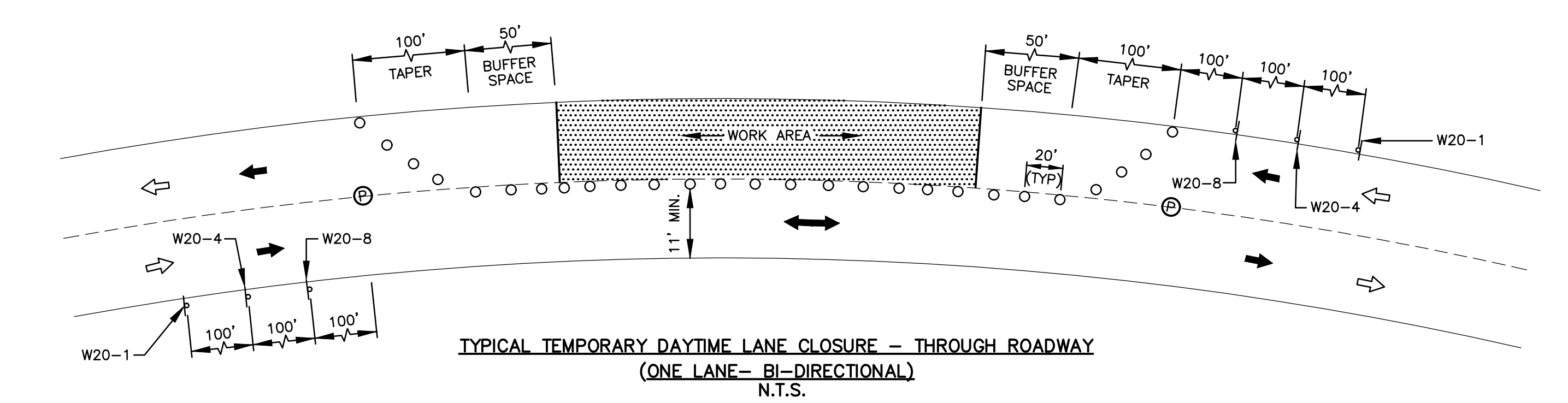
- NOTE:
- FOR THE LATEST SPECIFICATION ON TEXT DIMENSIONS AND COLOR, CONTRACTOR SHALL REFER TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CURRENT EDITION).

- LEGEND:
- REFLECTORIZED DRUM
 - TRAFFIC FLOW DURING CONSTRUCTION
 - NORMAL TRAFFIC FLOW
 - POLICE DETAIL OFFICER
 - CONSTRUCTION SIGN
 - WORK AREA

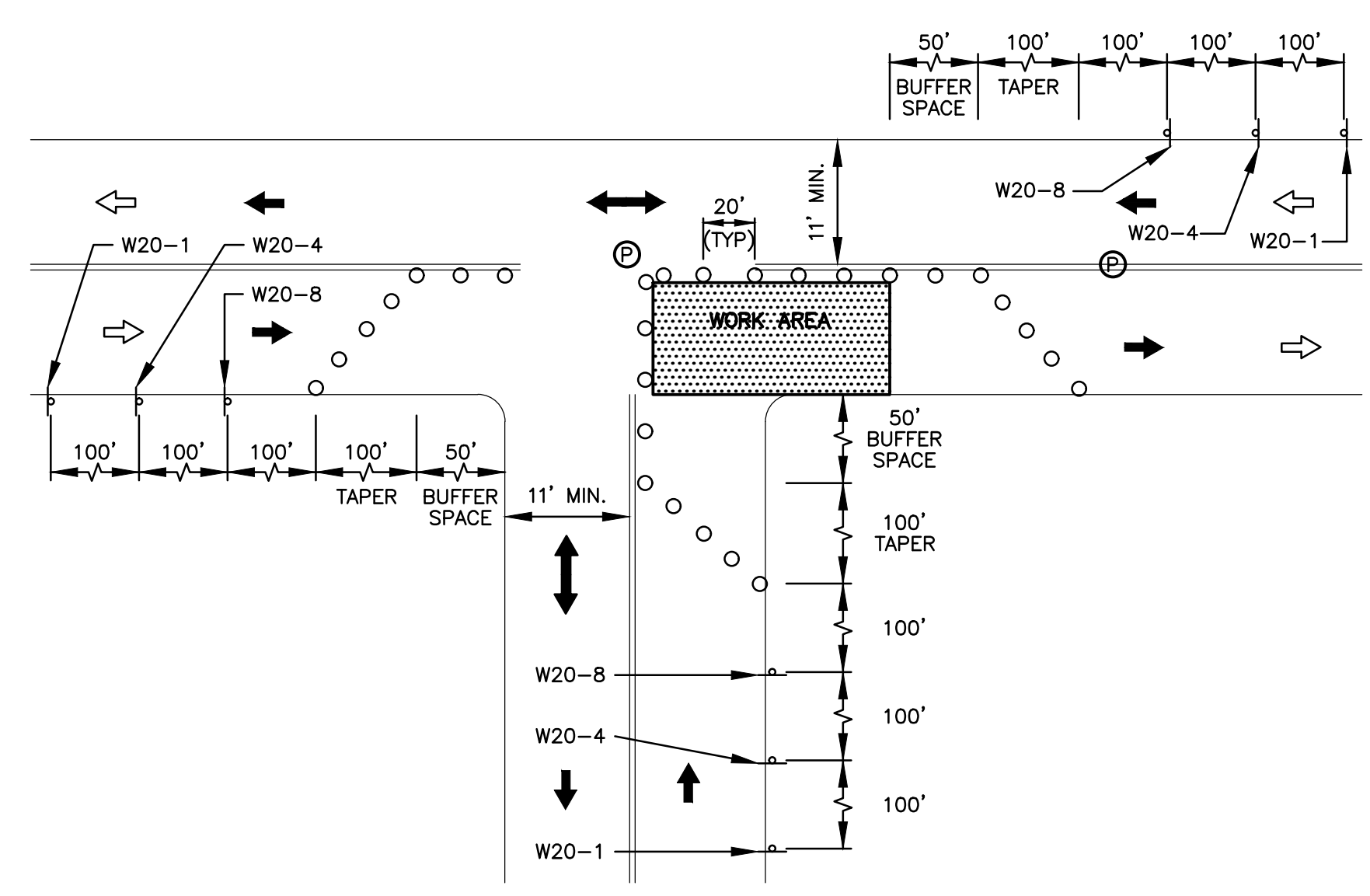
- GENERAL NOTES:
- PLACEMENT OF ALL CONSTRUCTION SIGNS, DRUMS, BARRICADES, TRAFFIC DEVICES AND THE SHAPE, SIZE & COLOR OF ALL TEMPORARY TRAFFIC SIGNS SHALL CONFORM WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
 - ADVANCE WARNING SIGN PLACEMENT AND TAPER LENGTH TO BE ADJUSTED ACCORDING TO STREET CONDITIONS AND DRIVEWAY OPENINGS.
 - ALL DRUMS SHALL BE APPROXIMATELY PLACED AND MOVED AS NECESSARY TO MAINTAIN ADEQUATE ABUTTER ACCESS AT ALL TIMES.
 - THE CONTRACTOR SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT AND SIMILAR OPERATIONS.
 - NONESSENTIAL TRAFFIC CONTROL DEVICES SHALL BE COVERED OR REMOVED DURING NON-WORKING HOURS.
 - PEDESTRIANS SHALL BE PROVIDED WITH ACCESS AND SAFE PASSAGE THROUGH THE TEMPORARY TRAFFIC CONTROL ZONE AT ALL TIMES.
 - W20-8 SHALL BE TAKEN DOWN OR COVERED AFTER EACH WORKING DAY OR WHEN OTHERWISE NOT APPLICABLE, OR WHEN POLICE OFFICERS ARE NOT PRESENT TO DIRECT TRAFFIC.
 - ADVISORY SPEED PLATES (W13-1 - SEE CURRENT EDITION OF MUTCD) SHALL BE USED IF APPLICABLE AND AS REQUIRED BY THE ENGINEER.
 - NO DIFFERENCE IN ROADWAY LANE ELEVATION WILL BE ALLOWED AT THE END OF THE WORK DAY.
 - SAMPLE TRAFFIC PLANS INCLUDED ON THIS PLAN SHEET ARE BASED ON AN URBAN (LOW SPEED) ROAD TYPE FROM THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
 - DASHED LINES SHOW LANE DESIGNATIONS TO BE USED DURING CONSTRUCTION.
 - THE CONTRACTOR SHALL SUBMIT ANY REVISIONS TO THE CONSTRUCTION ZONE SAFETY PLAN TO THE ENGINEER FOR APPROVAL.
 - THIS CONSTRUCTION ZONE SAFETY PLAN SHALL NOT RELIEVE THE CONTRACTOR OF HIS SOLE RESPONSIBILITY FOR CONSTRUCTION SITE SAFETY.



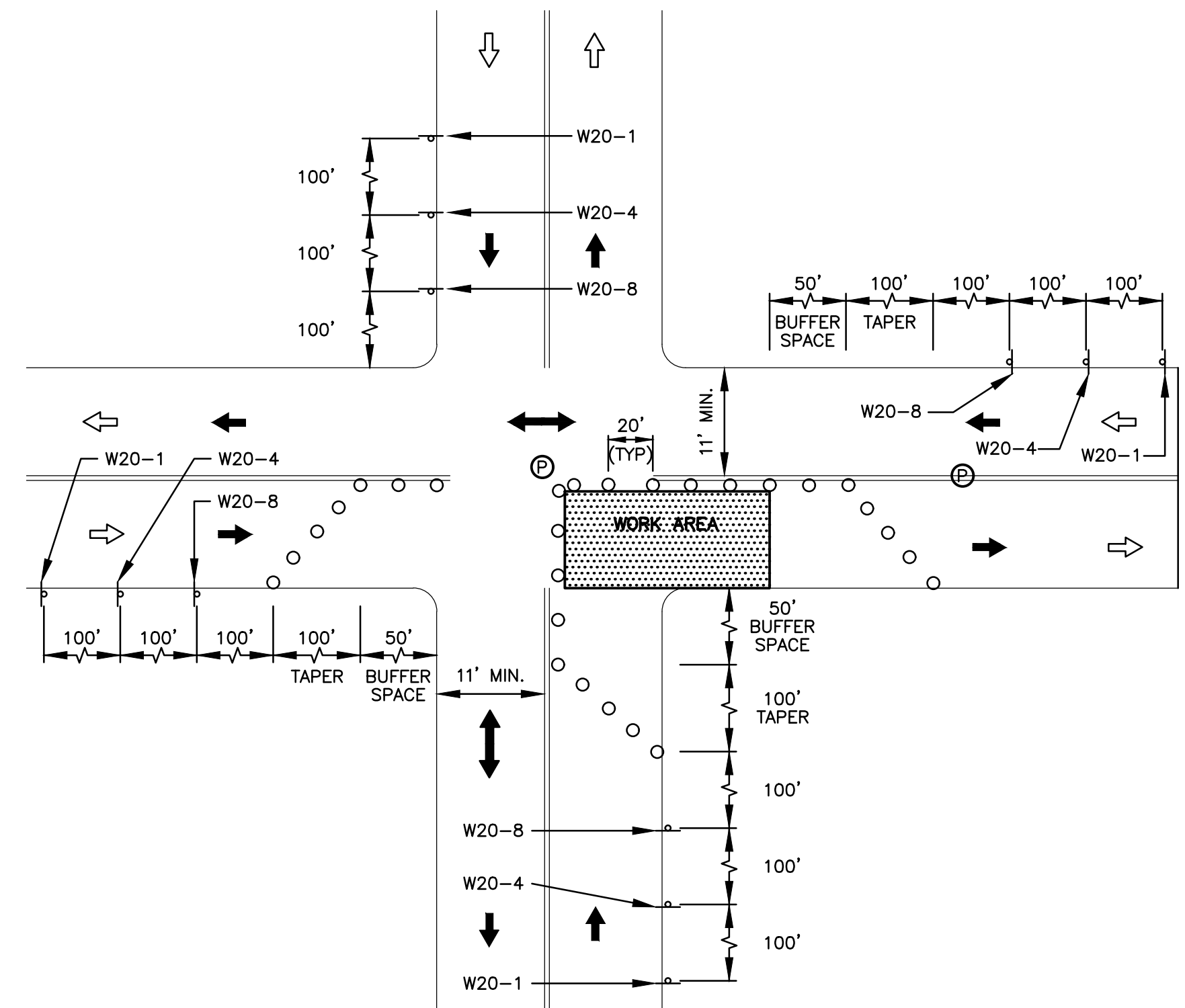
TRAFFIC OPERATION STAGES
 N.T.S.



TYPICAL TEMPORARY DAYTIME LANE CLOSURE - THROUGH ROADWAY
 (ONE LANE-BI-DIRECTIONAL)
 N.T.S.

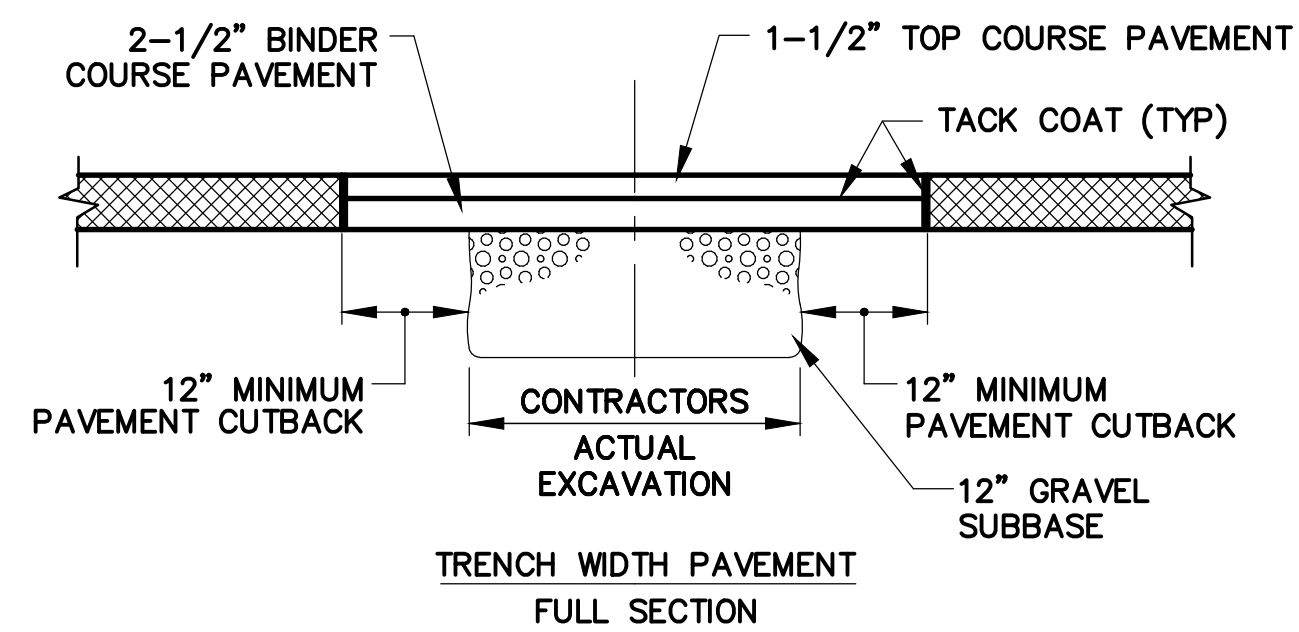
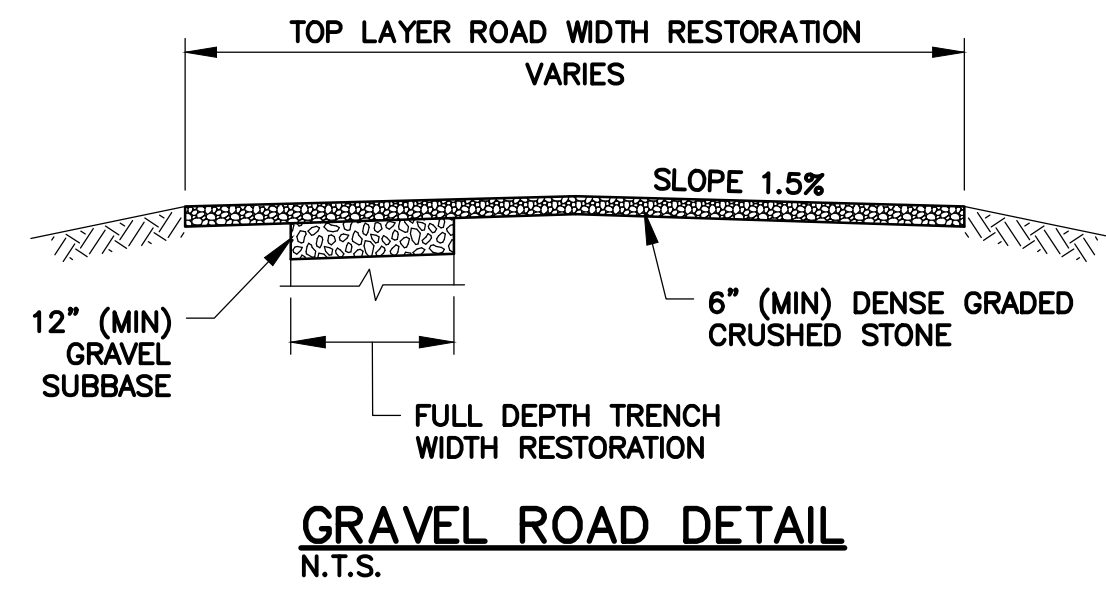


"T" INTERSECTION LANE CLOSURE
 N.T.S.



CLOSURE AT SIDE OF INTERSECTION
 N.T.S.

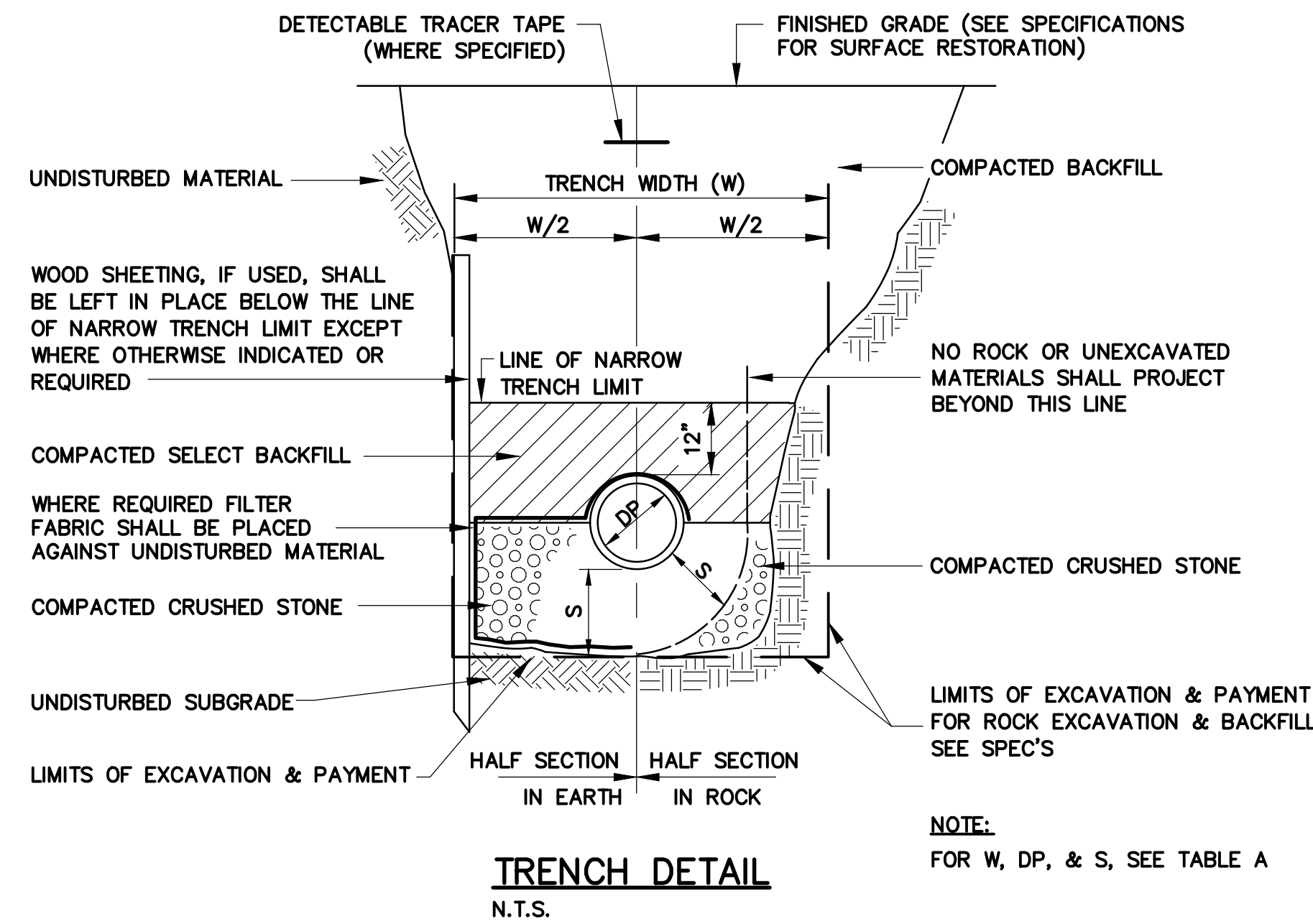
W&S Project No.: ENG21-0512; Rev: 2.0 Date: July 2020



NOTES:

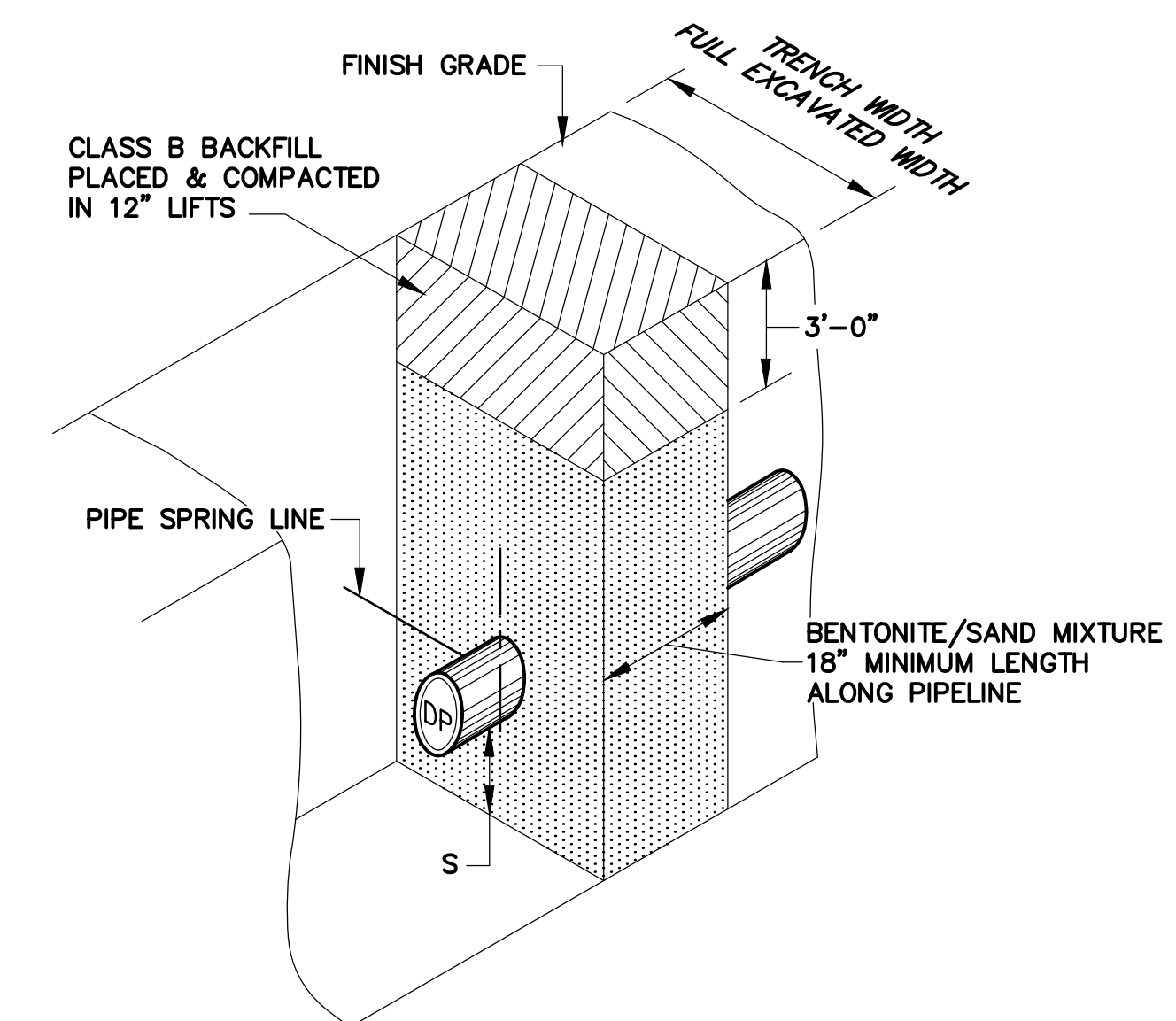
- CONTRACTOR SHALL MATCH PAVEMENT THICKNESS OF EXISTING PAVEMENT. PAVEMENT THICKNESS SHALL NOT BE LESS THAN 4 INCHES.
- MAXIMUM PAVEMENT THICKNESS PER COURSE NOT TO EXCEED 2 INCHES.

TRENCH PAVEMENT REPLACEMENT DETAIL
N.T.S.



DEPTH TO INVERT	DIAMETER OF PIPE (DP)	MAXIMUM TRENCH WIDTH BELOW LINE OF NARROW TRENCH LIMIT (SHEETED OR UNSHEETED) (W)	MINIMUM CLEARANCE (S)
0-12'	TO 18"	5'	6"

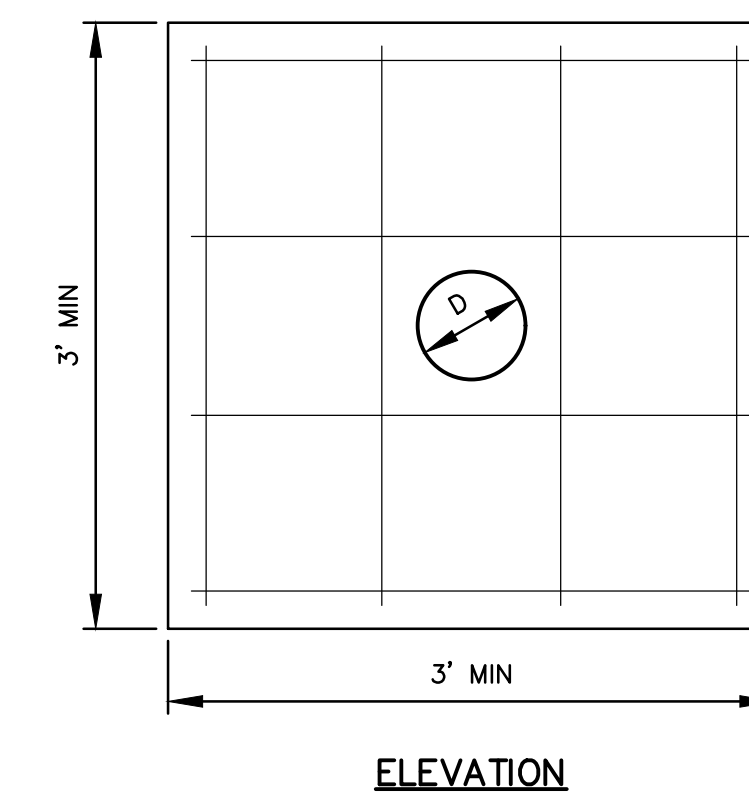
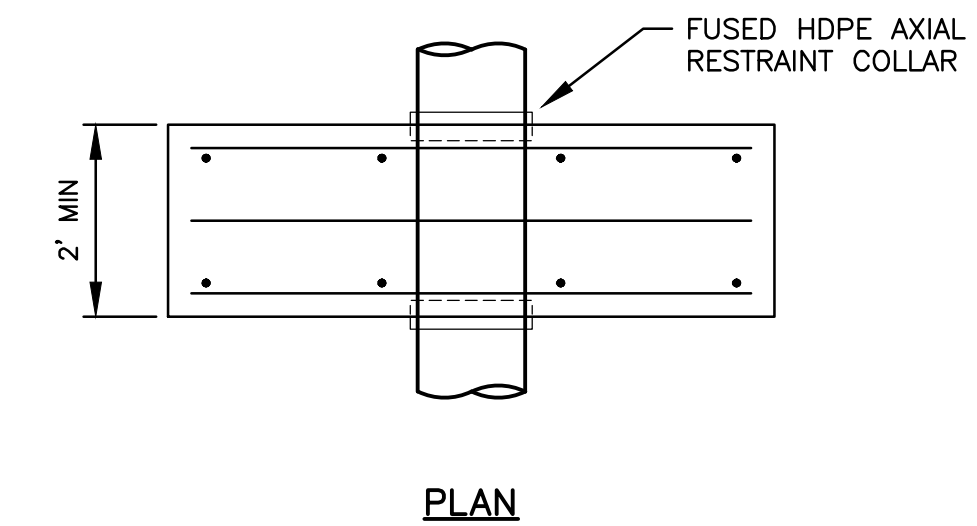
TABLE A



NOTES:

- DAM TO BE PLACED AGAINST UNDISTURBED MATERIAL OR SHEETING
- SEE TABLE A FOR S & D.P. DIMENSIONS
- SEE BENTONITE DAM SPECIFICATION SECTION 02347

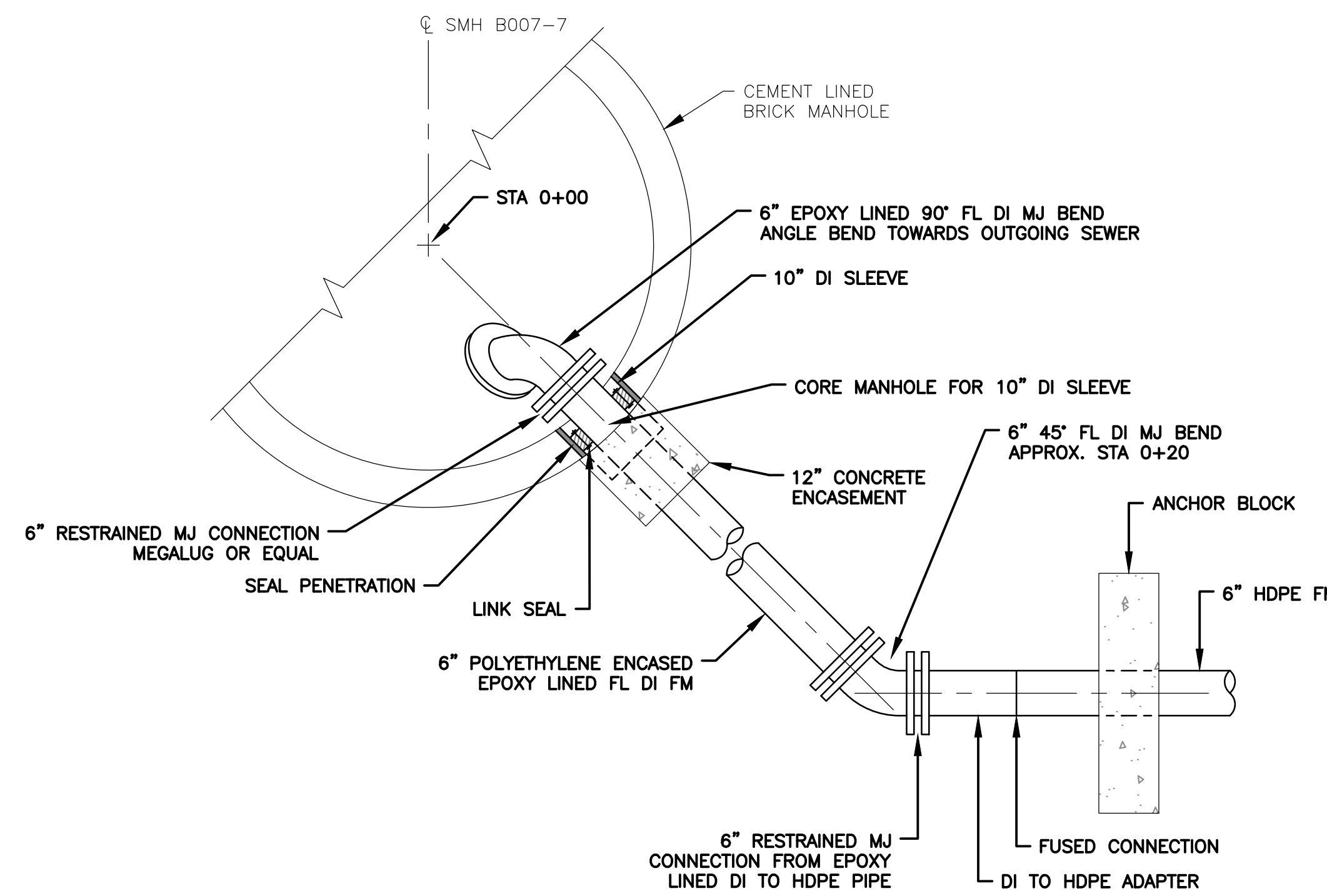
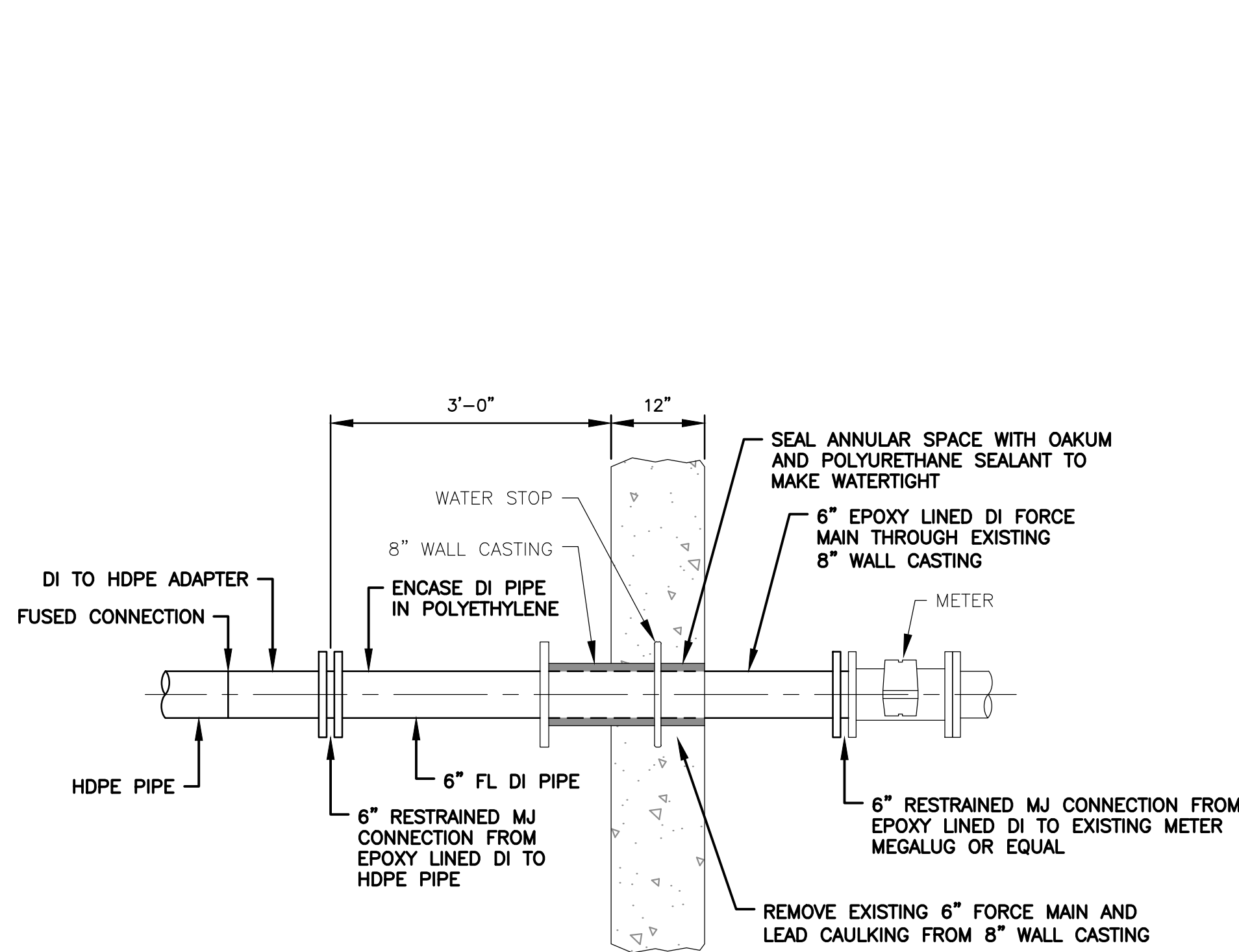
BENTONITE DAM DETAIL
N.T.S.



NOTES:

- SELECT THE THICKNESS OF THE BLOCK TO AVOID THE NEED FOR SHEAR REINFORCEMENT.
- USE REINFORCEMENT ON BOTH FACES OF THE BLOCK TO ALLOW FOR POSSIBLE THRUST REVERSALS DURING TESTING AND/OR FUTURE OPERATION.
- HORIZONTAL REINFORCEMENT TO BE LOCATED OUTSIDE OF THE VERTICAL REINFORCEMENT.
- REINFORCEMENT BARS CLOSEST TO THE PIPE TO BE LOCATED 3" FROM THE PIPE.
- GENERAL COVER TO REINFORCEMENT TO BE 3".

ANCHOR BLOCK FOR HDPE MAIN
N.T.S.

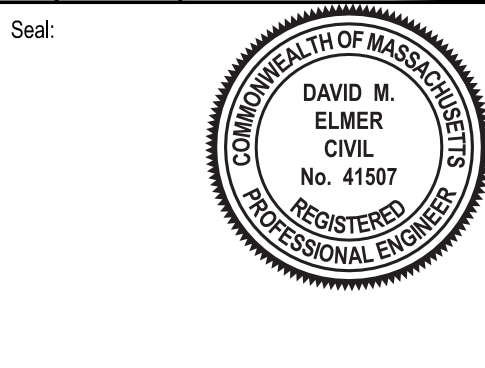


Consultants:

No.	Date	Description

Revisions:

No.	Date	Description



Issued For:

BIDDING

Scale: AS NOTED

Date: JANUARY 2022

Drawn By: RWS

Reviewed By: PAT

Approved By: DME

W&S Project No.: ENG21-0512

W&S File No.: 247-80

Drawing Title:

DETAILS I

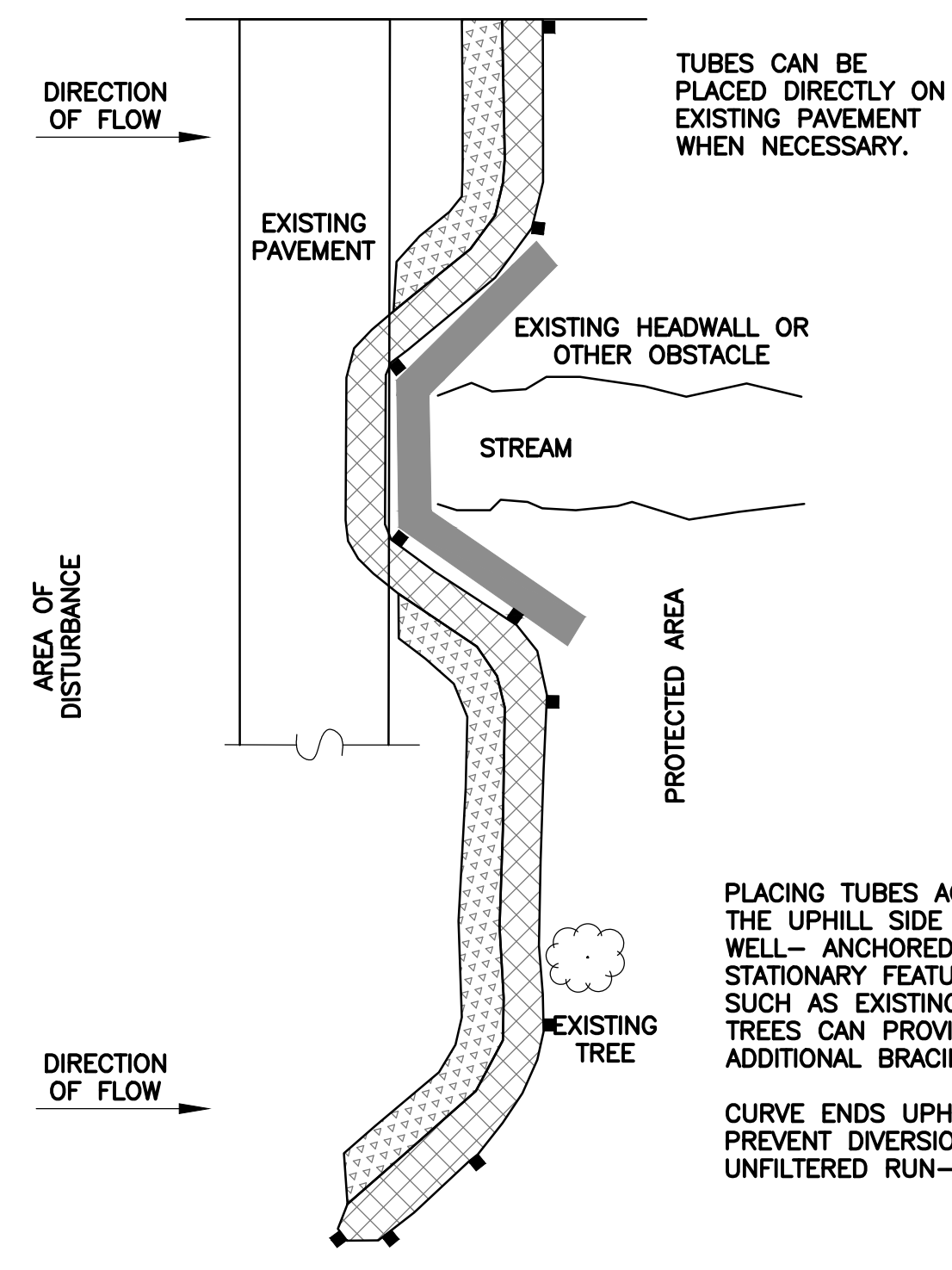
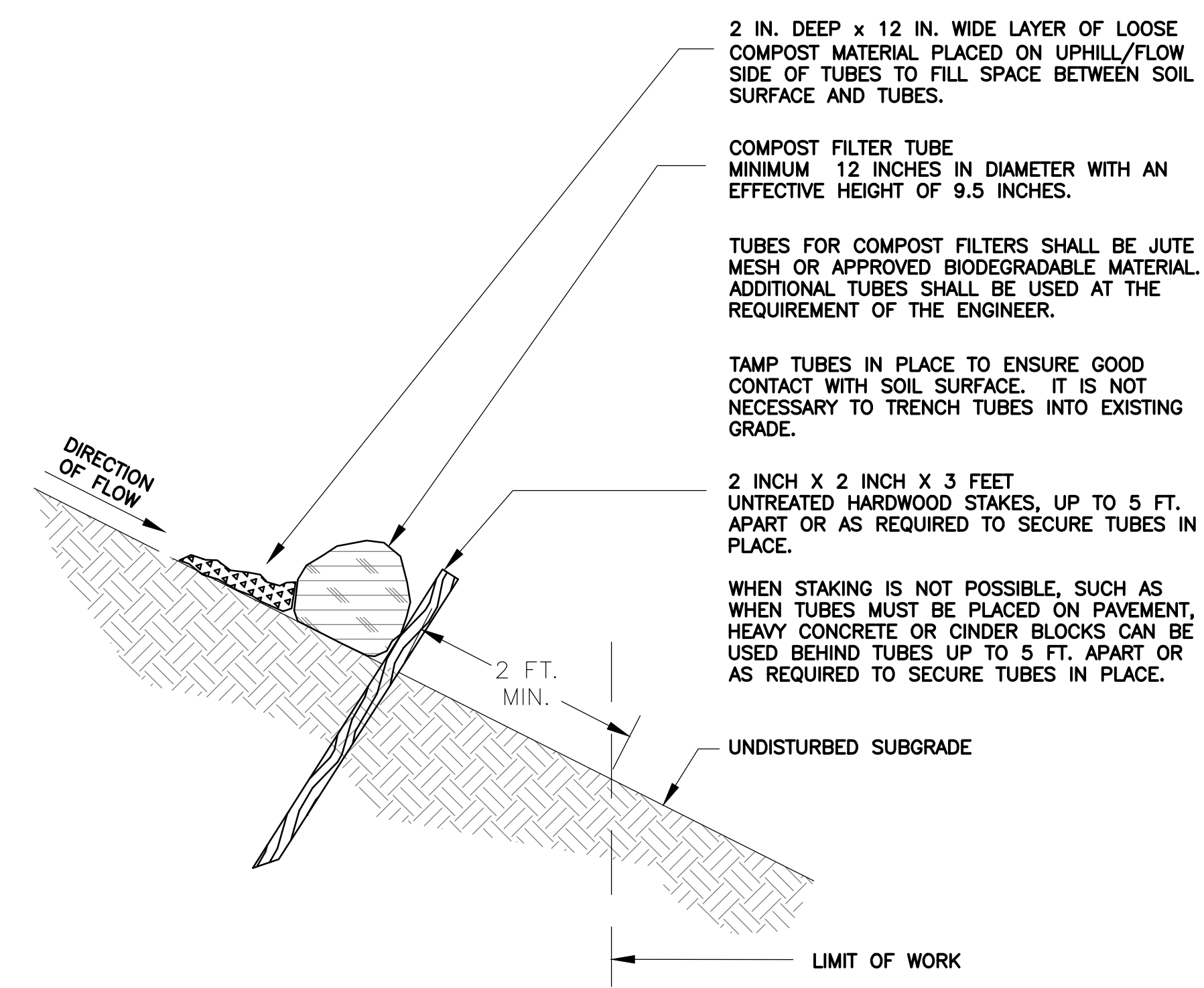
Sheet Number:

D501

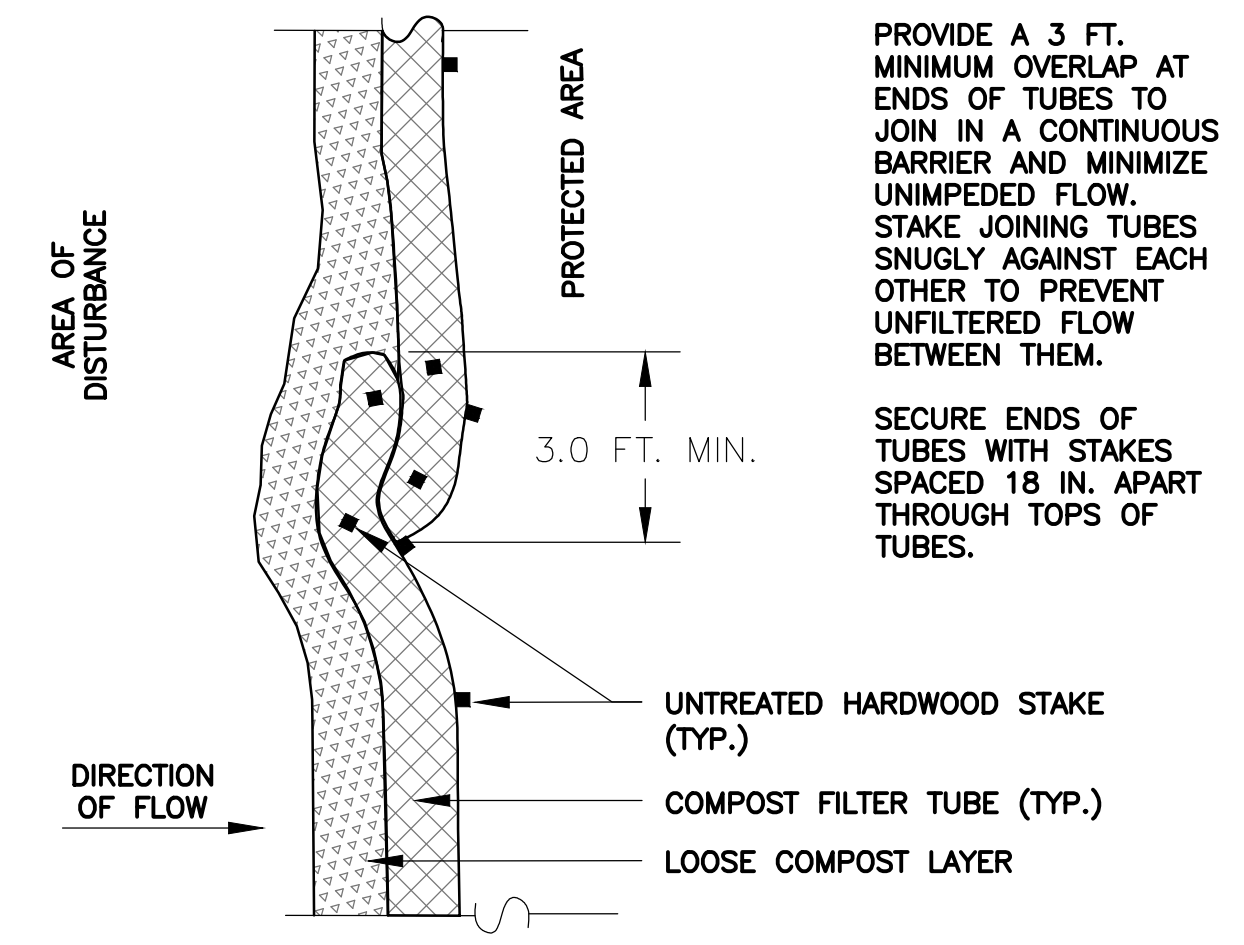
Rev. 2.0 Date: July 2020

GENERAL NOTES:

1. PROVIDE A MINIMUM TUBE DIAMETER OF 12 INCHES FOR SLOPES UP TO 50 FEET IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER TUBE DIAMETER OR ADDITIONAL COURSING OF FILTER TUBES TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATIONS WITH LONGER OR STEEPER SLOPES.
2. INSTALL TUBES ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
3. DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
4. CONFIGURE TUBES AROUND EXISTING SITE FEATURES TO MINIMIZE SITE DISTURBANCE AND MAXIMIZE CAPTURE AREA OF STORMWATER RUN-OFF.



PLAN VIEW
SINGLE COMPOST FILTER TUBE DETAIL
NOT TO SCALE

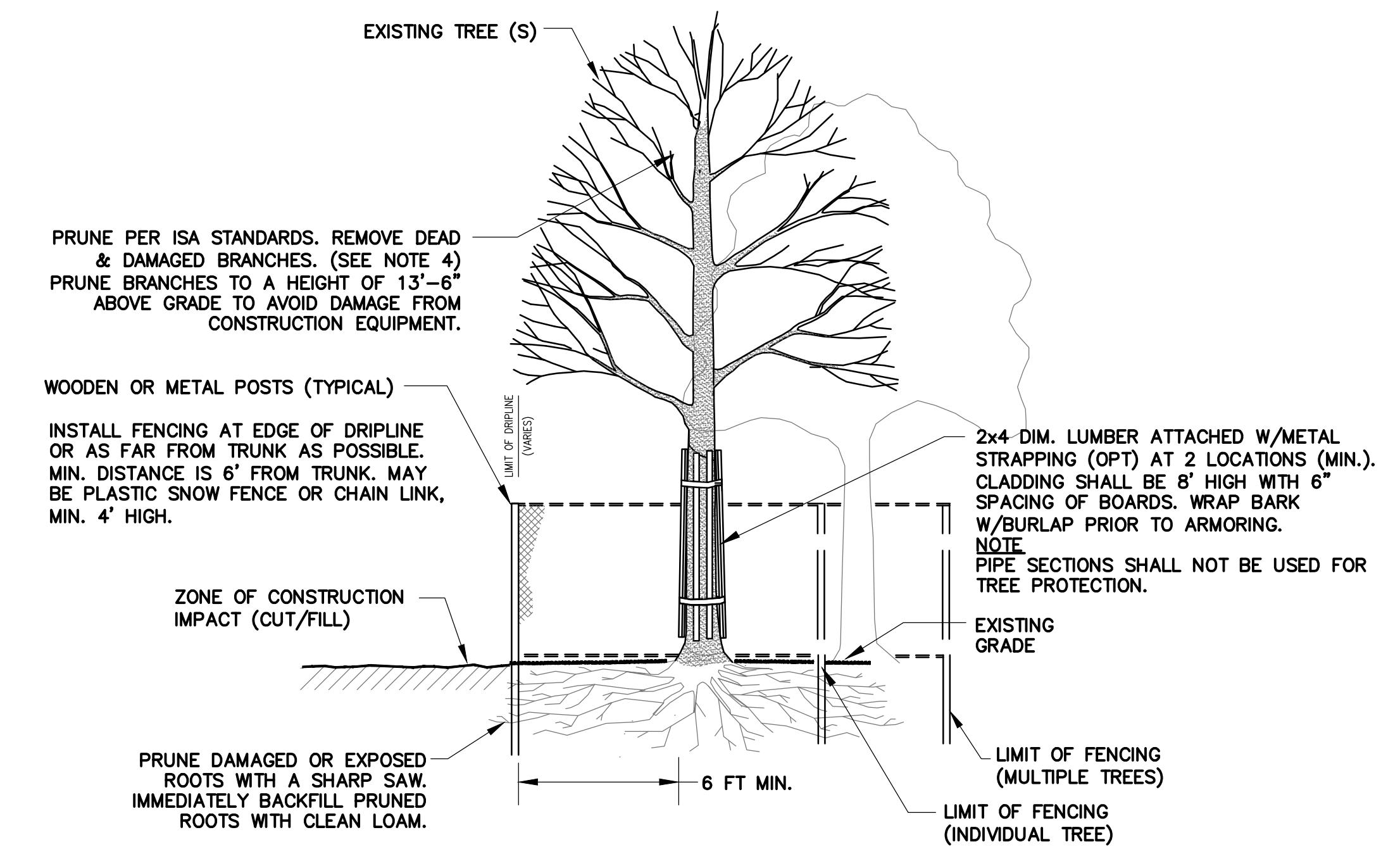


PLAN VIEW - JOIN DETAIL

EROSION CONTROL NOTES:

IT IS THE INTENT OF THE CONTRACT PLANS AND DETAILS TO CONTROL EROSION AND SEDIMENTATION IN ALL PORTIONS OF THE SITE. THE CONTRACTOR IS ALERTED THAT CONTROL OF EROSION AND SEDIMENTATION IS CONSIDERED TO BE ESPECIALLY IMPORTANT IN AND AROUND THE AREAS SHOWN ON THE PLANS AND DELINEATED AS WETLANDS AND WATERCOURSES. THE CONTRACTOR IS TO IMPLEMENT THE EROSION AND SEDIMENTATION CONTROLS INDICATED ON THE PLANS IN ACCORDANCE WITH THE FOLLOWING NOTES, BUT IS ALERTED TO THE FACT THAT ADDITIONAL MEASURES MAY BE REQUIRED TO COMPLY WITH THIS INTENT, AS FIELD CONDITIONS MAY WARRANT. SHOULD SUCH MEASURES BE DETERMINED TO BE REQUIRED OR ORDERED BY THE ENGINEER, THEY ARE TO BE IMPLEMENTED IMMEDIATELY. ANY AND ALL REQUIREMENTS FOR ANY TYPE OF EROSION CONTROL MEASURES SHALL BE INCIDENTAL TO THE PROJECT.

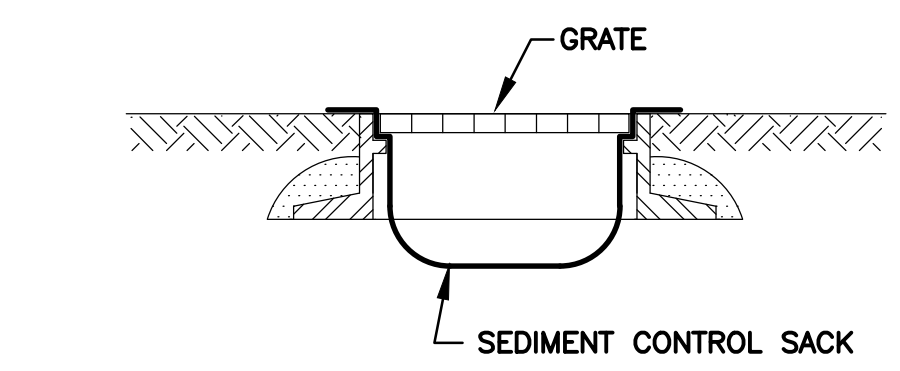
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE PROVISIONS OF ALL APPLICABLE PERMITS AND APPROVALS ISSUED BY LOCAL AND STATE REGULATION FOR ACTIVITIES INVOLVING WETLANDS, WATERCOURSES AND/OR EROSION CONTROLS, AND AS REQUIRED BY THE ENGINEER. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MASS DEP'S EROSION AND SEDIMENTATION CONTROL GUIDELINES, AUGUST, 1983 AND THE U.S.D.A. SCS'S EROSION AND SEDIMENT CONTROL IN SITE DEVELOPMENT, MASSACHUSETTS CONSERVATION GUIDE, SEPTEMBER 1983.
2. TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY SITEWORK, SHALL BE MAINTAINED DURING CONSTRUCTION, AND SHALL REMAIN IN PLACE UNTIL ALL SITEWORK IS COMPLETED AND GROUND COVER IS ESTABLISHED (AT LEAST 75% UNIFORM COVERAGE BY NEW SEEDLINGS).
3. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE MAINTAINED IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL INSPECT THE EROSION CONTROLS DAILY AND CLEAN ACCUMULATED MATERIALS FROM BEHIND THEM, AS NECESSARY. ALL EROSION AND SEDIMENTATION CONTROL MEASURES FOUND TO BE IN NEED OF REPAIR OR REPLACEMENT SHALL BE IMMEDIATELY CORRECTED, SO AS TO MAINTAIN THE INTEGRITY OF THE EROSION AND SEDIMENTATION CONTROL SYSTEM.
4. SEDIMENT REMOVED FROM CONTROL STRUCTURES SHALL BE DISPOSED OF IN A MANNER WHICH IS CONSISTENT WITH THE INTENT OF THESE PLANS. NO EQUIPMENT OR MATERIAL OF ANY KIND SHALL BE STOCKPILED OR DEPOSITED IN ANY REGULATED AREA UNLESS SPECIFICALLY SHOWN ON THE CONTRACT PLANS OR AUTHORIZED BY PROJECT PERMITS/APPROVALS.
5. STOCKPILED SOIL SHALL BE SURROUNDED WITH COMPOST FILTER TUBES TO PREVENT AND CONTROL SILTATION AND EROSION. STOCKPILES THAT WILL REMAIN EXPOSED FOR MORE THAN 30 DAYS SHALL BE STABILIZED WITH MULCH OR SEEDED FOR TEMPORARY VEGETATIVE COVER.
6. ALL DISTURBED AREAS THAT WILL REMAIN EXPOSED OR UNDISTURBED FOR A PERIOD OF FOURTEEN (14) DAYS OR LONGER, SHALL BE STABILIZED WITH MULCH OR SEEDED FOR TEMPORARY VEGETATIVE COVER.
7. THE CONTRACTOR SHALL INSPECT ALL PORTIONS OF THE SITE IN ANTICIPATION OF RAINFALL EVENTS TO DETERMINE IF SITE GRADING IS SUFFICIENT TO PREVENT EROSION OF SLOPES OR WATERCOURSES WITHIN THE PROJECT LIMITS. SHOULD ADDITIONAL MEASURES BE REQUIRED, THEY ARE TO BE IMPLEMENTED IMMEDIATELY. IN NO CASE SHALL THE INSTALLATION OF ADDITIONAL MEASURES NECESSARY TO PROTECT SLOPES WITHIN THE PROJECT LIMITS BE DELAYED BEYOND THE COMMENCEMENT OF PRECIPITATION.
8. ALL DISTURBED EARTH SLOPES SHALL BE STABILIZED WITH PERMANENT VEGETATIVE COVER AS SOON AS POSSIBLE. DISTURBED AREAS THAT ARE NOT SUBJECT TO CONSTRUCTION TRAFFIC SHALL RECEIVE A PERMANENT OR TEMPORARY VEGETATIVE COVER AS SOON AS FINAL CONTOURS ARE ESTABLISHED. IF THE SEASON PREVENTS THE ESTABLISHMENT OF A VEGETATIVE COVER, DISTURBED AREAS SHALL BE THOROUGHLY MULCHED. MULCHED AREAS SHALL BE SEEDED AS SOON AS WEATHER CONDITIONS ALLOW.
9. A STOCKPILE OF ADDITIONAL COMPOST SOCKS, SILTATION FENCE AND CRUSHED STONE SHALL BE KEPT ON SITE THROUGHOUT THE CONSTRUCTION WORK. THIS MATERIAL SHALL BE INSTALLED AS REQUIRED BY THE ENGINEER TO MITIGATE ANY EROSION/SEDIMENTATION CONDITIONS WHICH MAY ARISE.
10. FOR LOCATION OF PROPOSED EROSION CONTROL MEASURES, SEE PLANS. AREAS DISTURBED BY EROSION BARRIERS SHALL BE LOADED AND SEEDED, OR OTHERWISE RESTORED TO ORIGINAL CONDITION.
11. THE CONTRACTOR SHALL REMOVE ALL SEDIMENTATION CONTROL SYSTEMS, REMOVE ALL ACCUMULATED SEDIMENTS, AND SEED THE DISTURBED AREAS WHEN THE CONTROL SYSTEMS ARE NO LONGER REQUIRED. THE CONTRACTOR SHALL REQUEST AND RECEIVE PERMISSION FROM THE ENGINEER PRIOR TO REMOVING ANY CONTROL SYSTEM.
12. ALL WORK ASSOCIATED WITH TEMPORARY EROSION CONTROL MEASURES AND ACTIVITIES NOT INCLUDED UNDER A SPECIFIC PAY ITEM SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.



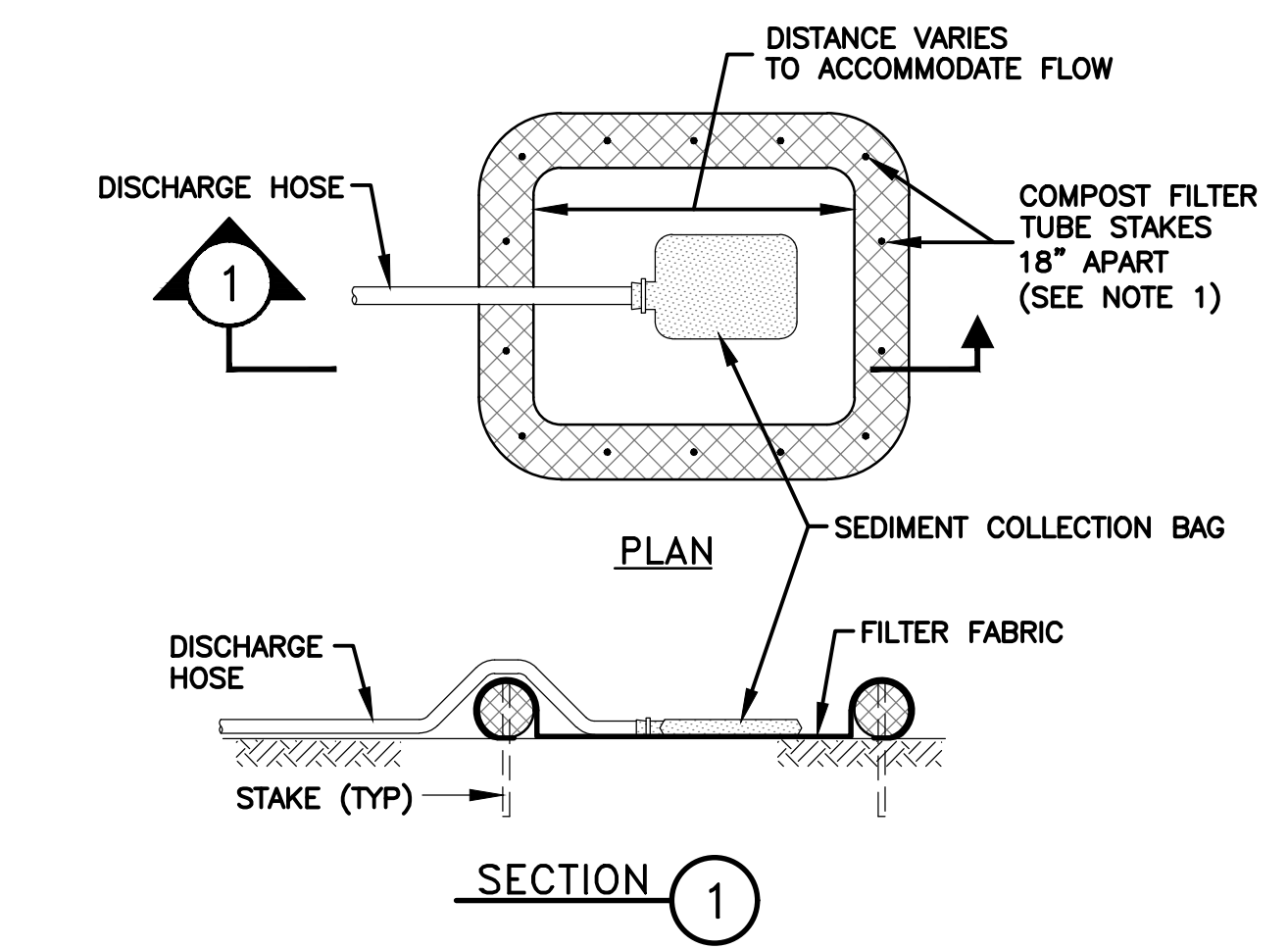
NOTES:

1. NO STORAGE OF EQUIPMENT OR STOCKPIILING OF MATERIALS WITHIN DRIPLINE
2. CONTRACTOR TO COORDINATE DIMENSIONS OF TREE PROTECTION WITH TREE WARDEN WHERE 6" IN NOT CONSTRUCTIBLE.
3. ROOTS MAY NOT BE LEFT UNCOVERED AT THE END OF DAY. COVER ROOTS WITH MULCH OR CLEAN LOAM.
4. PRIOR TO START OF SUBSURFACE WORK, CONTRACTOR SHALL CONDUCT A PROJECT-WIDE PRUNING OF EXISTING TREES WITHIN THE RIGHT-OF-WAY. CONTRACTOR, ARBORIST, AND CITY TREE WARDEN SHALL CONDUCT A SITE REVIEW OF THE EXISTING TREES TO REVIEW REQUIREMENTS PRIOR TO PRUNING BEING COMPLETED.

TREE PROTECTION DETAIL
N.T.S.



CATCH BASIN PROTECTION DETAIL
N.T.S.



NOTES:

1. DEWATERING POOL LOCATION ARE SHOWN ON SHEET C101 OR AS REQUIRED BY THE ENGINEER.
2. ALL EROSION CONTROL DEVICES, INCLUDING DEWATERING POOL SHALL BE IN PLACE PRIOR TO COMMENCEMENT OF ANY DEWATERING ACTIVITIES.
3. DEWATERING POOL SHALL BE MAINTAINED AND CLEANED ON A REGULAR BASIS. SEDIMENTS REMOVED FROM POOL SHALL BE DISPOSED ACCORDING TO DEP GUIDELINES AND ORDER OF CONDITIONS.
4. ANY DEWATERING OPERATIONS DEEMED NECESSARY BY THE CONTRACTOR OR REQUIRED BY THE ENGINEER SHALL BE INCIDENTAL TO THE PROJECT.
5. DEWATERING DISCHARGE AFTER TREATMENT SHALL BE LESS THAN 25 NEPHELOMETRIC TURBIDITY UNITS (NTU).

DEWATERING DISCHARGE DISPOSAL DETAIL
N.T.S.