

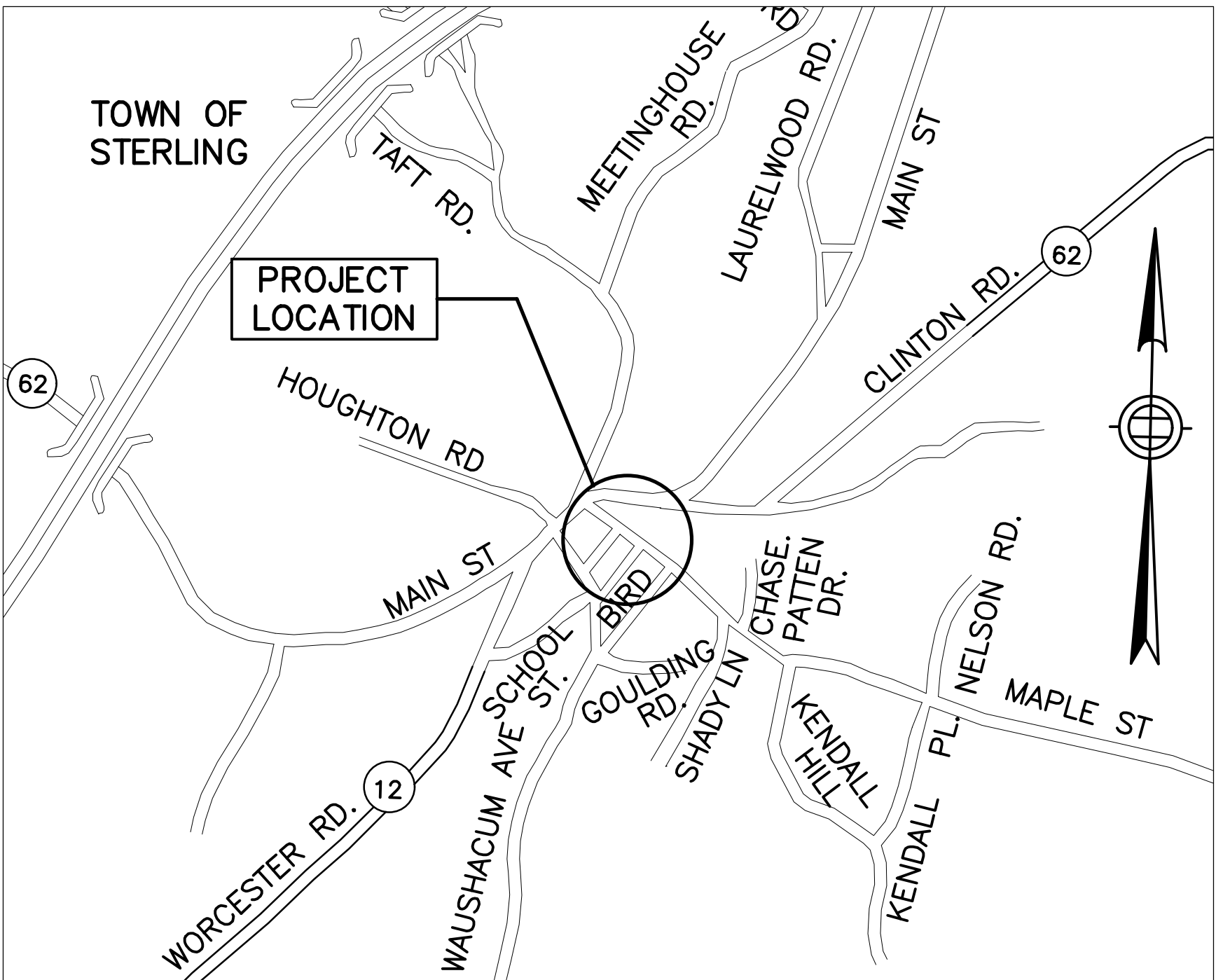
TOWN OF STERLING, MASSACHUSETTS

MAPLE STREET SIDEWALK IMPROVEMENTS



Weston & Sampson Engineers, Inc.
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Consultants:



LOCATION MAP
NOT TO SCALE

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Issued Date:

08/02/2023



Know what's below.
Call before you dig.

Issued For:

BIDDING

GENERAL NOTES:

1. TOPOGRAPHICAL INFORMATION BASED ON AN ON THE GROUND SURVEY PERFORMED BY CHAPPELL ENGINEERING SEPTEMBER 2022.
2. THE HORIZONTAL COORDINATES ARE BASED ON NAD 83, THE VERTICAL DATUM IS NAVD 88.
3. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL DIG TEST PITS WITH THE LOCATIONS BEING APPROVED BY THE ENGINEER PRIOR TO COMMENCEMENT OF WORK TO EXACTLY LOCATE EXISTING UTILITIES.
4. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
5. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY OWNER. ANY ALTERATIONS SHALL BE INCIDENTAL TO THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY SUPPORT OF ALL UTILITIES TO REMAIN IN PLACE AND SHALL DESCRIBE IN WRITING, TO THE SATISFACTION OF THE ENGINEER, HIS METHOD OF TEMPORARY SUPPORT.
6. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
7. THE TERM "PROPOSED (PROP)" INDICATES WORK TO BE CONSTRUCTED USING NEW MATERIALS OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE AND RESET (R&R)".
8. ALL EXISTING STATE, COUNTY AND TOWN LOCATION LINES AND PRIVATE PROPERTY LINES HAVE BEEN ESTABLISHED FROM AVAILABLE INFORMATION AND THEIR EXACT LOCATION ARE NOT GUARANTEED.
9. ALL EXCESS MATERIAL FROM ROADWAY RECONSTRUCTION OR THE EXCAVATION PROCESS SHALL BE REUSED ON SITE OR REMOVED FROM THE SITE AND DISPOSED OF IN A LEGAL AND PROPER MANNER.
10. THE CONTRACTOR SHALL CALL DIGSAFE AT 1-888-344-7233 AT LEAST 72 HOURS, SATURDAYS, AND HOLIDAYS EXCLUDED, PRIOR TO EXCAVATING AT ANY LOCATION. A COPY OF THE DIGSAFE PROJECT REFERENCE NUMBER(S) SHALL BE GIVEN TO THE TOWN PRIOR TO EXCAVATION.
11. JOINTS BETWEEN HOT MIX ASPHALT TRENCH PAVEMENT AND SAWCUT EXISTING PAVEMENT SHALL BE SEALED WITH BITUMEN AND BACKSANDED.
12. THE CONTRACTOR SHALL BE AWARE THAT ONLY TOWN PERSONNEL ARE ALLOWED TO OPERATE WATER GATES AND HYDRANTS. ANY REQUESTS TO OPERATE THE GATES SHALL BE COORDINATED THROUGH THE ENGINEER.
13. THE CONTRACTOR SHALL COORDINATE ANY WORK FOR THE PROJECT WITH ALL ADJACENT/CONCURRENT PROJECTS AND CONTRACTORS.
14. THE CONTRACTOR SHALL INSTALL PRIOR TO COMMENCEMENT OF WORK, MAINTAIN, AND REMOVE AT THE END OF THE PROJECT INLET SEDIMENT CONTROL BAGS IN ALL CATCH BASINS, WITHIN OR ADJACENT TO THE PROJECT LIMITS. THE CONTRACTOR SHALL ALSO MAINTAIN SILT FENCE AND COMPOST FILTER TUBES AS SHOWN ON THE PLANS THROUGHOUT THE DURATION OF THE PROJECT AND REMOVE AT THE END.
15. ANY GRASS AREAS DISTURBED BY THE WORK SHALL BE RESTORED WITH LOAM AND SEED.
16. CONTRACTOR TO COORDINATE WITH UTILITY POLE OWNERS IN AREAS WHERE UNDERGROUND UTILITY WORK IS WITHIN CLOSE PROXIMITY AND POSSIBLE UTILITY POLE SHORING IS REQUIRED WHILE INSTALLING PROPOSED UTILITIES.
17. THE CONTRACTOR SHALL RAISE AND ADJUST FRAMES AND GRATES, FRAMES AND COVERS AND GATE BOXES PRIOR TO PAVEMENT OVERLAY, IF REQUIRED.

GENERAL SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
CB	CB	CATCH BASIN
FP	FP	CATCH BASIN CURB INLET
GP	GP	FLAG POLE
MB	MB	GAS PUMP
		MAIL BOX
		POST SQUARE
WELL	WELL	POST CIRCULAR
EHH	EHH	WELL
GG	GG	ELECTRIC HANDHOLE
BHL #	BHL #	FENCE GATE POST
MW #	MW #	GAS GATE
TP #	TP #	BORING HOLE
		MONITORING WELL
		TEST PIT
CO.BD.		HYDRANT
		LIGHT POLE
		COUNTY BOUND
		GPS POINT
		CABLE MANHOLE
		DRAINAGE MANHOLE
		ELECTRIC MANHOLE
		GAS MANHOLE
		MISC MANHOLE
		SEWER MANHOLE
MHB	MHB	TELEPHONE MANHOLE
MON		WATER MANHOLE
SB		MASSACHUSETTS HIGHWAY BOUND
TB		MONUMENT
TPL or GUY	TPL or GUY	STONE BOUND
HTP	UFB	TOWN OR CITY BOUND
UPDL	UPDL	TRAVERSE OR TRIANGULATION STATION
ULT	ULT	TROLLEY POLE OR GUY POLE
UPL	UPL	TRANSMISSION POLE
		UTILITY POLE W/ FIREBOX
		UTILITY POLE WITH DOUBLE LIGHT
		UTILITY POLE W / 1 LIGHT
		UTILITY POLE
WG	WG	BUSH
PM	PM	TREE
		STUMP
		SWAMP / MARSH
		WATER GATE
		PARKING METER
		OVERHEAD CABLE/WIRE
		CURBING
		CONTOURS
		UNDERGROUND DRAIN PIPE
		UNDERGROUND ELECTRIC DUCT
		UNDERGROUND GAS MAIN
		UNDERGROUND SEWER MAIN
		UNDERGROUND TELEPHONE DUCT
		UNDERGROUND WATER MAIN
		BALANCED STONE WALL
		GUARD RAIL - STEEL POSTS
		GUARD RAIL - WOOD POSTS
		CHAIN LINK OR METAL FENCE
		WOOD FENCE
		COMPOST FILTER TUBE
		TREE LINE
		SAWCUT LINE
		TOP OR BOTTOM OF SLOPE
		LIMIT OF EDGE OF PAVEMENT OR COLD PLANE AND OVERLAY
		BANK OF RIVER OR STREAM
		BORDER OF WETLAND
		100 FT WETLAND BUFFER
		200 FT RIVERFRONT BUFFER
		STATE HIGHWAY LAYOUT
		TOWN OR CITY LAYOUT
		COUNTY LAYOUT
		RAILROAD SIDELINE
		TOWN OR CITY BOUNDARY LINE
		PROPERTY LINE OR APPROXIMATE PROPERTY LINE
		EASEMENT
		LIMIT OF WORK
		STOP LINE

GENERAL

ABAN
ADJ
ALT.
APPROX.
B
BIT
B.M.
BO
BWL
CEM
CLF
CONC
CTE
EOP
EQ
EXIST.(OR EX.)
FDN
FF
F.L. (OR F)
G.C.
GRAN. CURB
H.C.
HMA
L.O.W.
LSA
MB
M.H.B.
MSRW
NIC
N.T.S
R
PROP
PROT
PVMT
P.W.W.
RC
REM
REMOD
RET
R.O.W.
R&D
R&R
R,R&R
R&S
RRFB
SB
SB/DH
SGC
SW
SWL
SYL
TBM
TEMP.
TYP.
VGC
VIF
WCR

ABANDON
ADJUST
ALTERNATE
APPROXIMATE
BASELINE
BITUMINOUS
BENCH MARK
BY OTHERS
BROKEN WHITE LINE
CEMENT
CHAIN LINK FENCE
CONCRETE
CONNECT TO EXISTING
EDGE OF PAVEMENT
EQUIPMENT
EXISTING
FOUNDATION
FINISHED FLOOR
FLOW LINE
GENERAL CONTRACTOR
GRANITE CURB
HANDICAP
HOT MIX ASPHALT
LIMIT OF WORK
LANDSCAPED AREA
MAIL BOX
MASSACHUSETTS HIGHWAY BOUND
MASONRY RETAINING WALL
NOT IN CONTRACT
NOT TO SCALE
PROPERTY LINE
PROPOSED
PROTECT
PAVEMENT
PAVED WATERWAY
REINFORCED CONCRETE
REMOVE
REMODEL
RETAIN
RIGHT-OF-WAY
REMOVE AND DISPOSE
REMOVE AND RESET
REMOVE, RELOCATED AND RESET
REMOVE AND STACK
RECTANGULAR RAPID FLASHING BEACON
STONE BOUND
STONE BOUND/ DRILL HOLE
SLOPED GRANITE CURB
SIDEWALK
SOLID WHITE LINE
SOLID YELLOW LINE
TEMPORARY BENCHMARK
TEMPORARY
TYPICAL
VERTICAL GRANITE CURB
VERIFY IN FIELD
WHEELCHAIR RAMP

ABBREVIATIONS

BC
BW
CC
ELEV
H.P.
L.P.
PC
PCC
PI
PT
PRC
PVC
PVI
PVT
R
STA
S.S.D.
TC
TW

BOTTOM OF CURB
BOTTOM OF WALL
CENTER OF CURVE
ELEVATION
HIGH POINT
LOW POINT
POINT OF CURVATURE
POINT OF COMPOUND CURVATURE
POINT OF INTERSECTION
POINT OF TANGENCY
POINT OF REVERSE CURVATURE
POINT OF VERTICAL CURVATURE
POINT OF VERTICAL INTERSECTION
POINT OF VERTICAL TANGENCY
RADIUS OF CURVATURE
STATION
STOPPING SIGHT DISTANCE
TOP OF CURB
TOP OF WALL

UTILITIES

ACCM PIPE
BGS
GICI
CB
CBCI
CI
CI
CIP
C.I.T.
CMP
CO
CTE
DI
DMH
DS
F&C
F&G
F&I
GALV.
GI
GV
GW
HDPE
HH
HYD
INV. ELEV.
LB
LC
LG
LP
OCS
OGT
OHW
PVC
RCP
SMH
SWTU
UP
ULT
VC
WG

ASPHALT COATED CORRUGATED METAL PIPE
BELOW GRADE SURFACE
GUTTER INLET W/ CURB INLET
CATCH BASIN
CATCH BASIN W/ CURB INLET
CURB INLET
CAST IRON
CAST IRON PIPE
CHANGE IN TYPE
CORRUGATED METAL PIPE
CLEANOUT
CONNECT TO EXISTING
DUCTILE IRON PIPE
DRAIN MANHOLE
DOWN SPOUT
FRAME AND COVER
FRAME AND GRATE
FURNISH & INSTALL
GALVANIZED
GUTTER INLET
GATE VALVE
GARAGE WASTE
HIGH DENSITY POLYETHYLENE PIPE
HANDHOLE
HYDRANT
INVERT ELEVATION
LEACHING BASIN
LEACHING CHAMBER
LEACHING GALLEY
LIGHT POLE
OUTLET CONTROL STRUCTURE
OIL AND GRIT TRAP
OVERHEAD WIRE
POLYVINYL CHLORIDE
REINFORCED CONCRETE PIPE
SEWER MANHOLE
STORM WATER TREATMENT UNIT
UTILITY POLE
UTILITY POLE WITH LIGHT
VITRIFIED CLAY PIPE
WATER GATE

Project:
MAPLE STREET SIDEWALK
STERLING, MA 01564



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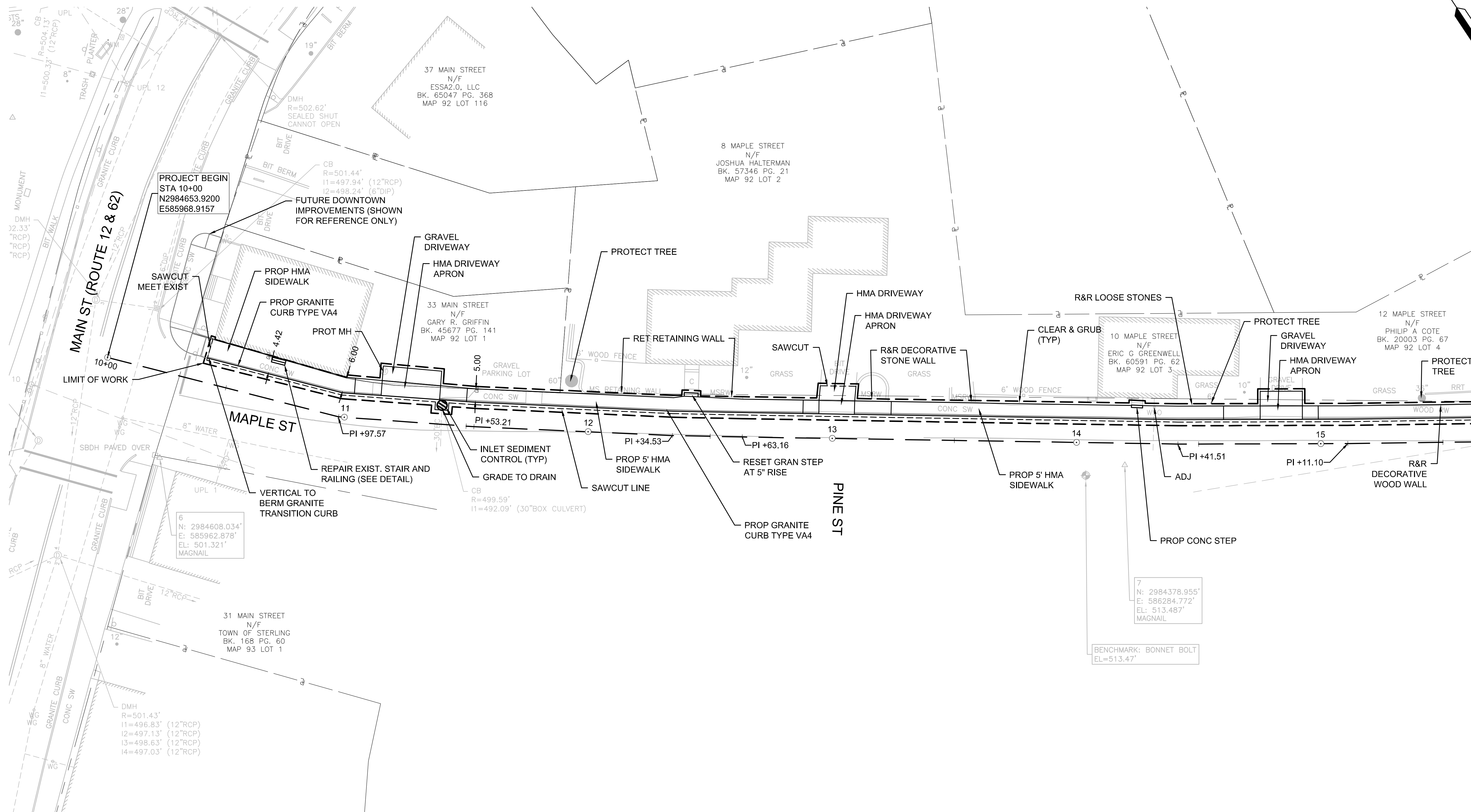
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Date: 08/02/2023
Drawn By: CC
Reviewed By: EC
Approved By: AKP

W&S Project No.: ENG22-0475
W&S File No.:

Drawing Title:
LEGEND & GENERAL NOTES

Sheet Number:
G001



Project: MAPLE STREET SIDEWALK
STERLING, MA 01564

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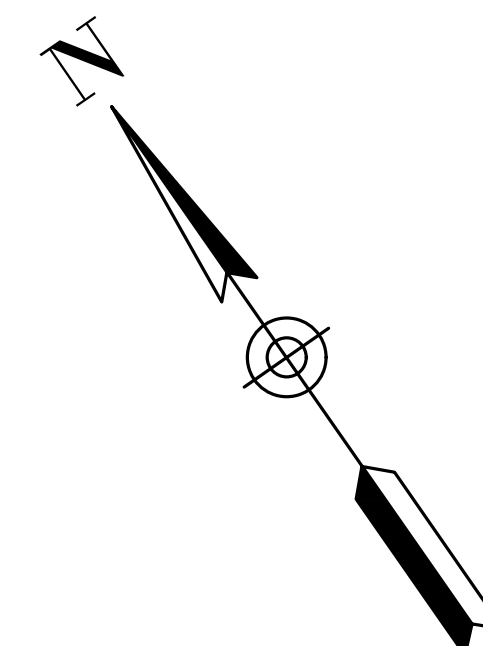
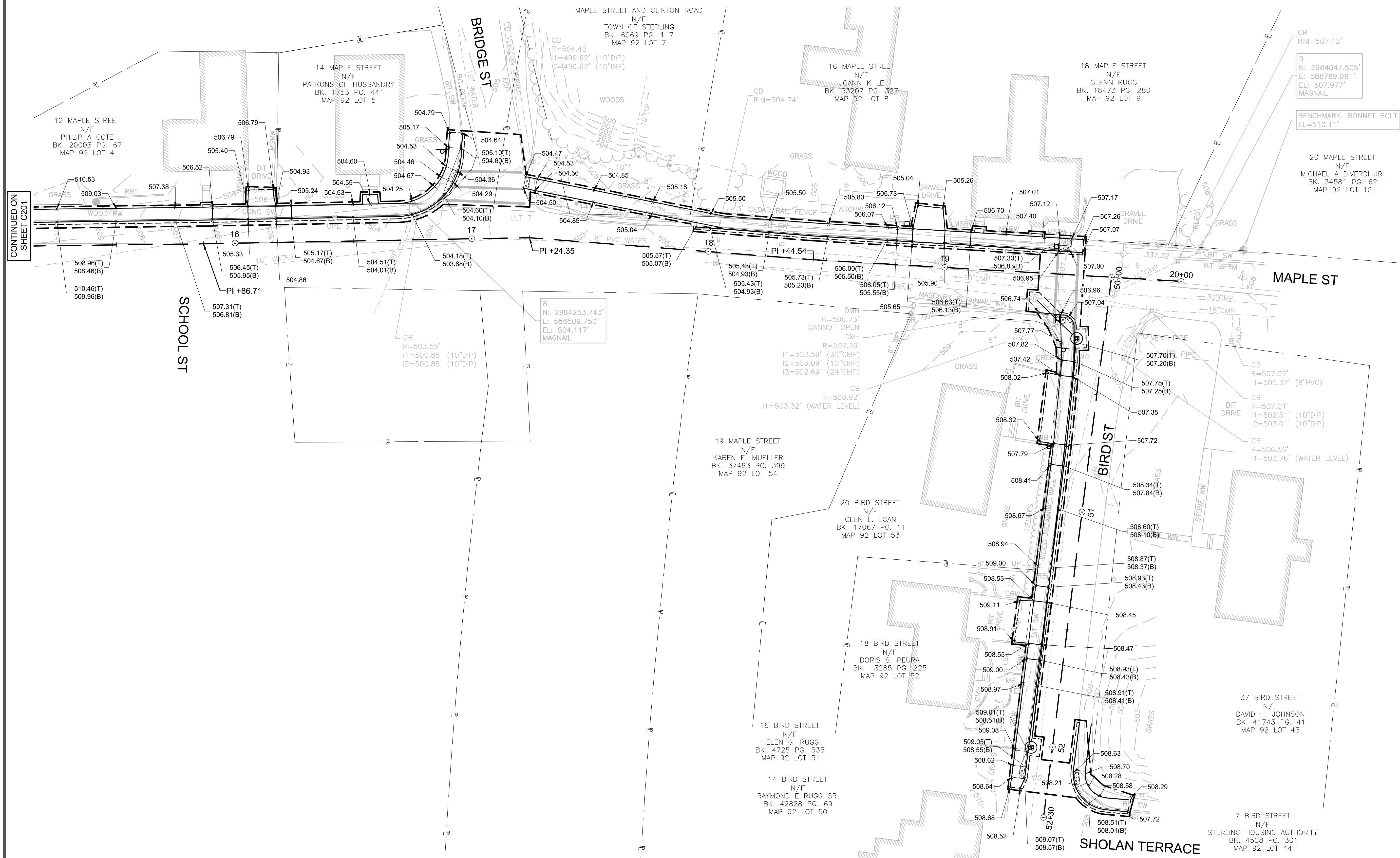
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W&S Project No.:	ENG22-0475
W&S File No.:	

CONSTRUCTION
PLAN 1

C101

Weston & SampsonSM

Consultants:

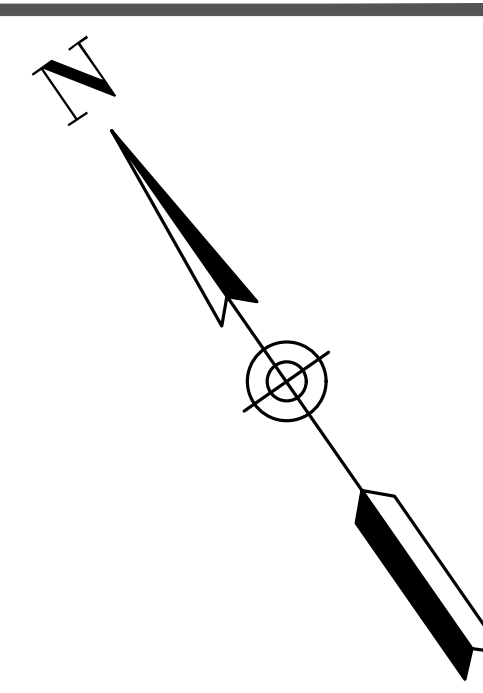
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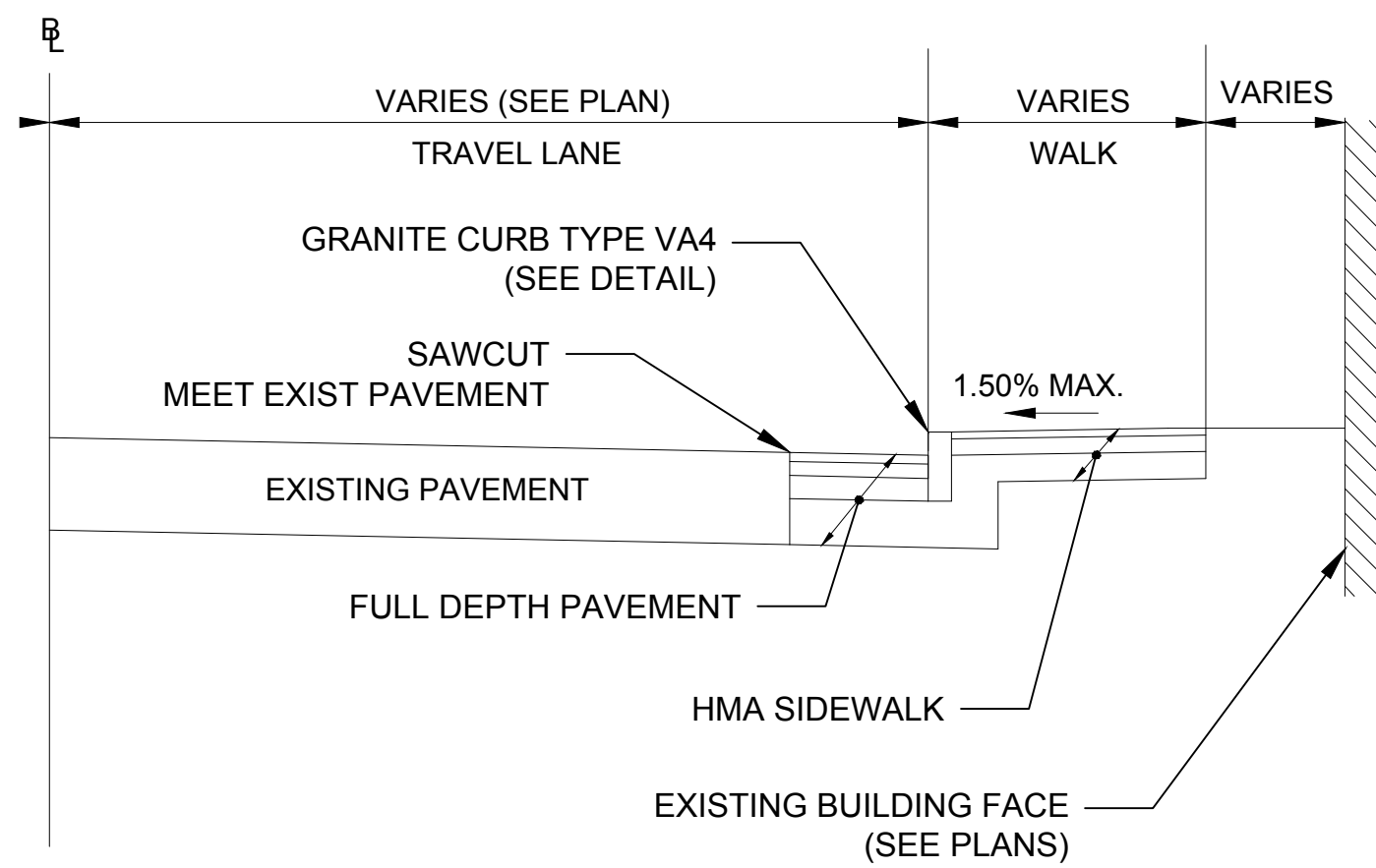
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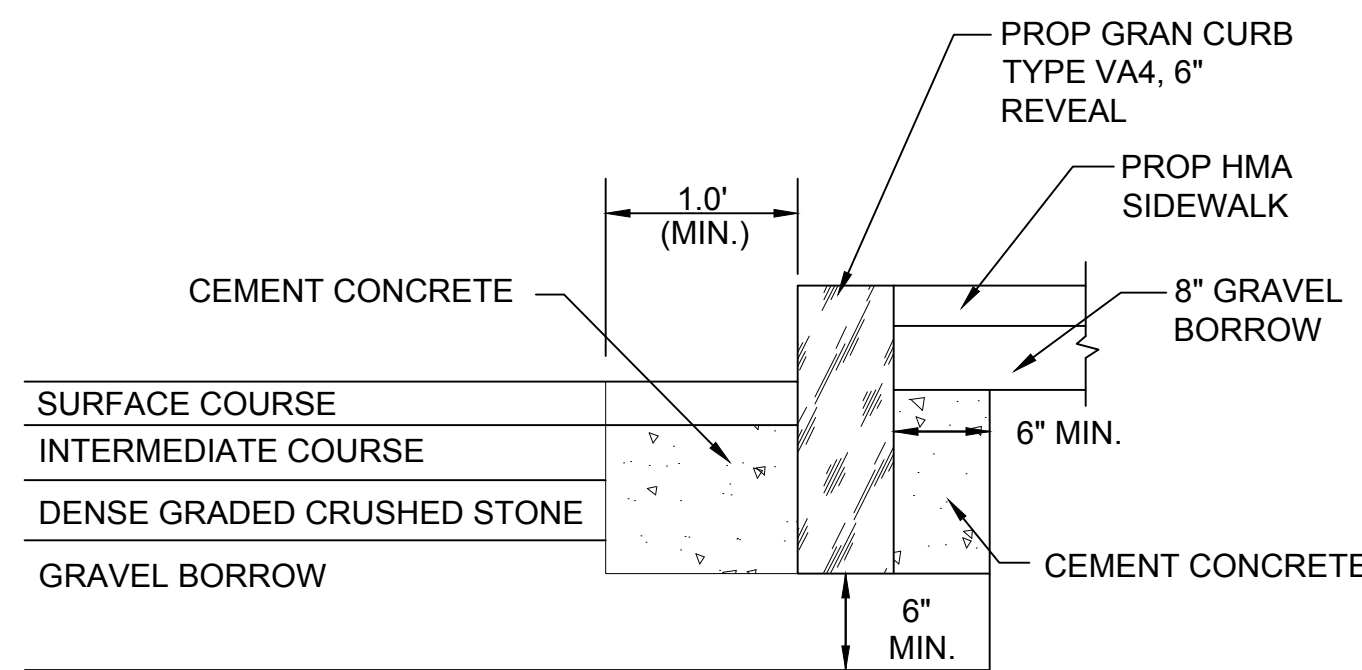


MAPLE ST CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	LINE DATA	ENDING STATION	NORTHING	EASTING
L1	10+00.00	2984653.920	585968.916	S40°34'33"E 97.57'	10+97.57	2984579.812	586032.380
L2	10+97.57	2984579.812	586032.380	S50°49'39"E 55.64'	11+53.21	2984544.663	586075.519
L3	11+53.21	2984544.663	586075.519	S52°26'23"E 81.32'	12+34.53	2984495.091	586139.982
L4	12+34.53	2984495.091	586139.982	S53°49'45"E 28.63'	12+63.16	2984478.196	586163.091
L5	12+63.16	2984478.196	586163.091	S54°04'11"E 178.35'	14+41.51	2984373.538	586307.509
L6	14+41.51	2984373.538	586307.509	S55°09'06"E 69.58'	15+11.10	2984333.777	586364.615
L7	15+11.10	2984333.777	586364.615	S55°45'13"E 75.61'	15+86.71	2984291.227	586427.117
L8	15+86.71	2984291.227	586427.117	S56°04'18"E 137.64'	17+24.35	2984214.402	586541.322
L9	17+24.35	2984214.402	586541.322	S50°33'37"E 120.19'	18+44.54	2984138.052	586634.141
L10	18+44.54	2984138.052	586634.141	S51°38'36"E 155.46'	20+00.00	2984041.577	586756.050





1 TYPICAL SECTION
SCALE: N.T.S.



2 GRANITE CURB TYPE VA4
SCALE: N.T.S.

PAVEMENT NOTES

PROPOSED FULL DEPTH PAVEMENT:

- 1 1/2" SUPERPAVE SURFACE COURSE - 12.5 (SSC-12.5) OVER ASPHALT EMULSION FOR TACK COAT OVER
- 2 1/2" SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC-19.0) OVER
- 4" DENSE GRADED CRUSHED STONE OVER
- 8" GRAVEL BORROW, TYPE B

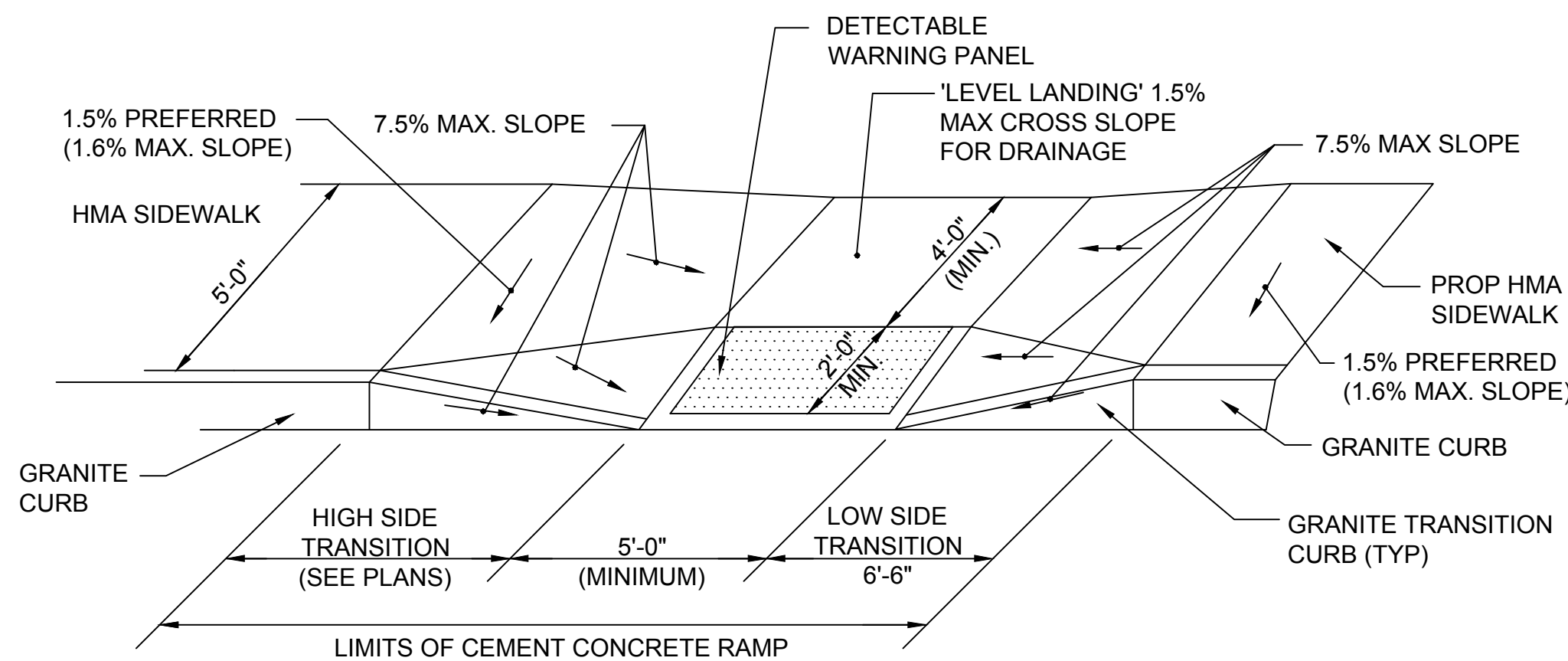
PROPOSED HMA SIDEWALK:

- 1 1/2" SUPERPAVE SURFACE COURSE - 12.5 (SSC-12.5) OVER ASPHALT EMULSION FOR TACK COAT OVER
- 2 1/2" SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC-19.0) OVER
- 8" GRAVEL BORROW, TYPE B

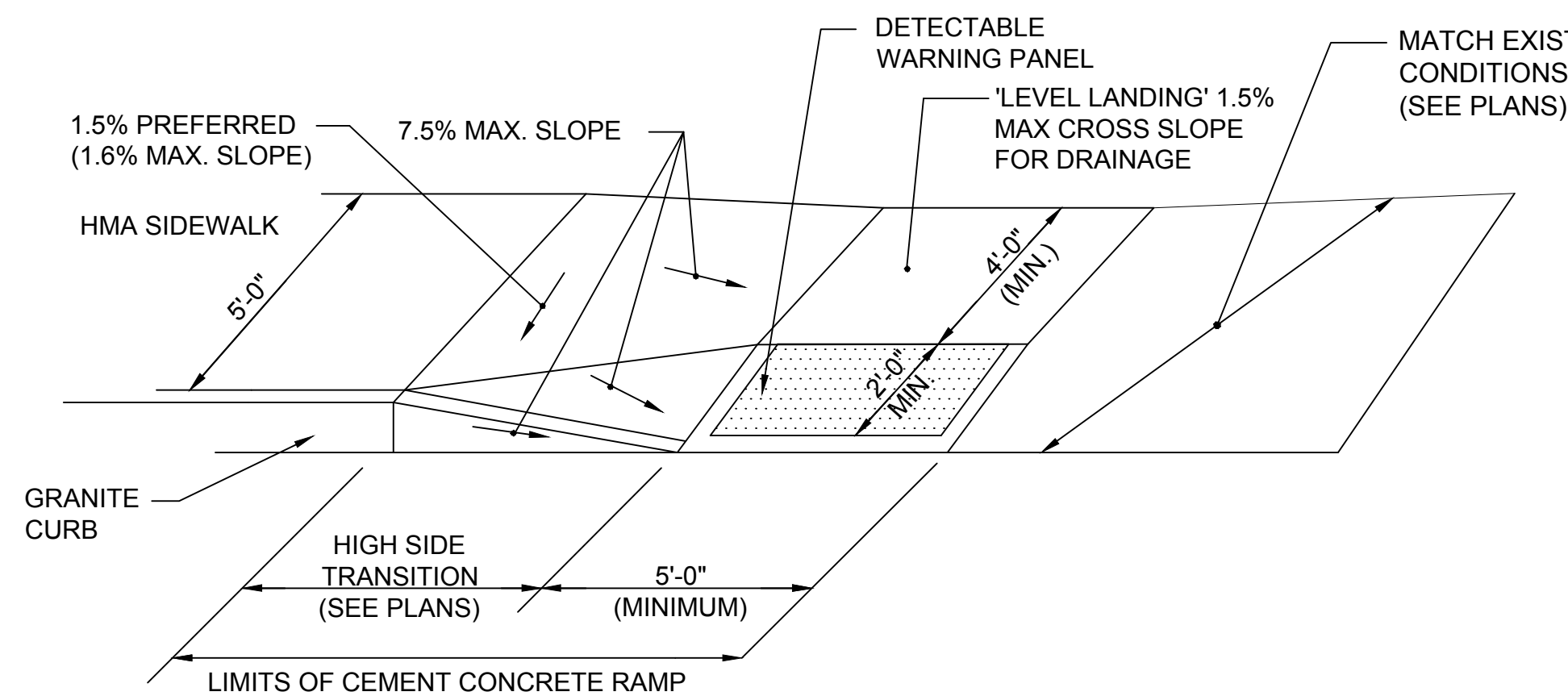
PROPOSED CONCRETE WCR RAMP:

- 4" CEMENT CONCRETE (4000PSI) OVER
- 8" GRAVEL BORROW, TYPE B

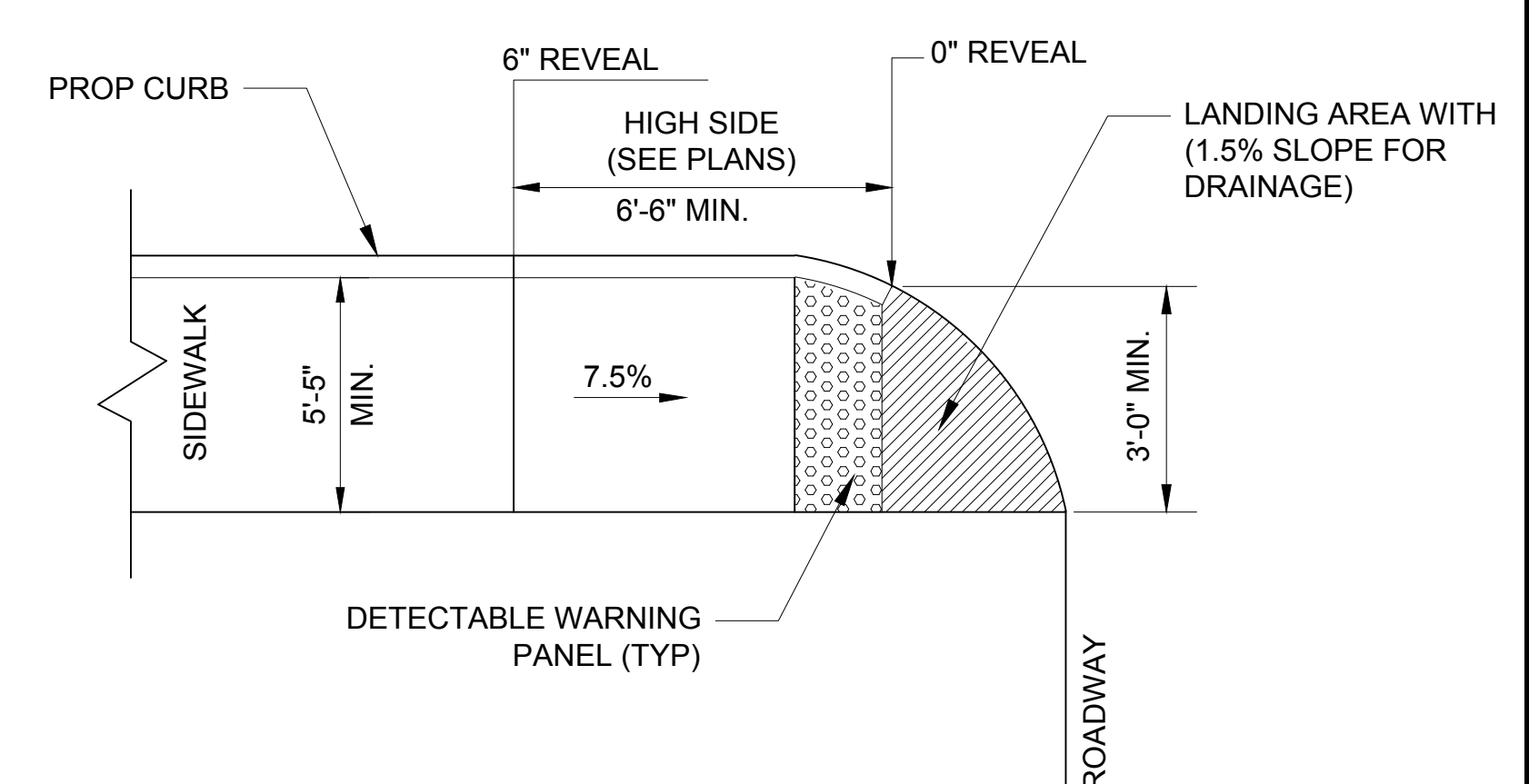
TACK COAT SHALL BE APPLIED AT A RATE OF 0.06-0.08 GALLONS PER SQUARE YARD OVER SMOOTH PAVED SURFACES.



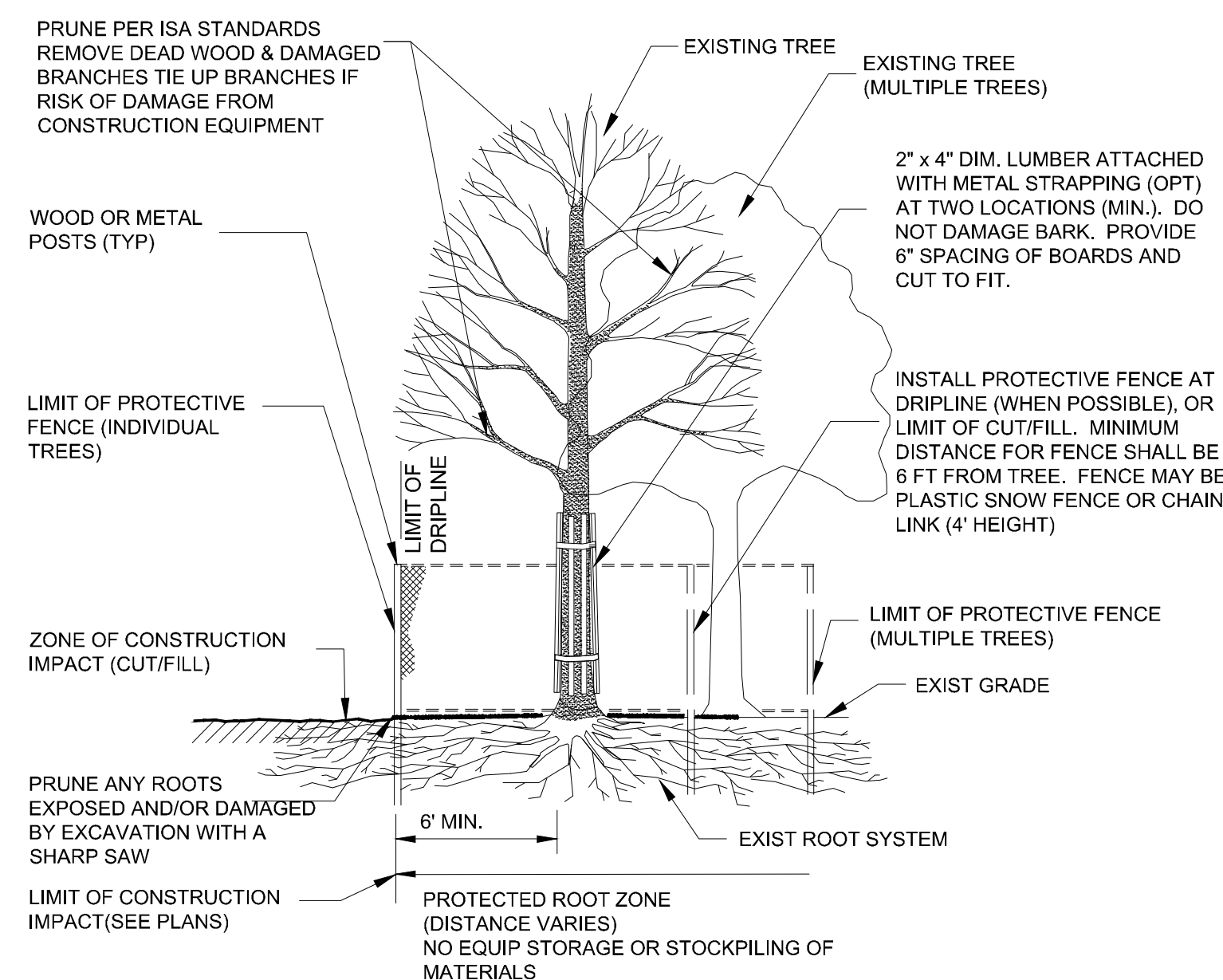
3 CEMENT CONCRETE WHEELCHAIR RAMP - TYPE 1
SCALE: N.T.S.



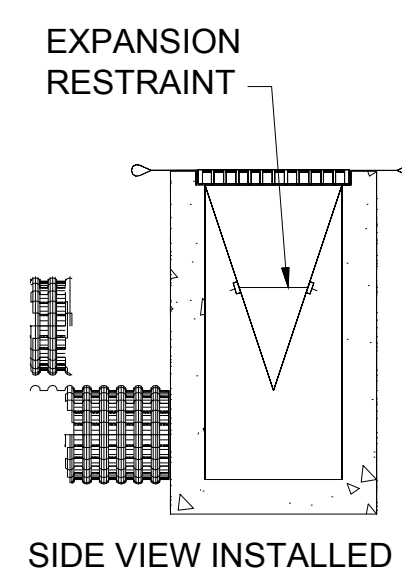
4 CEMENT CONCRETE WHEELCHAIR RAMP - TYPE 1 MODIFIED
SCALE: N.T.S.



5 CEMENT CONCRETE WHEELCHAIR RAMP - TYPE 2
SCALE: N.T.S.

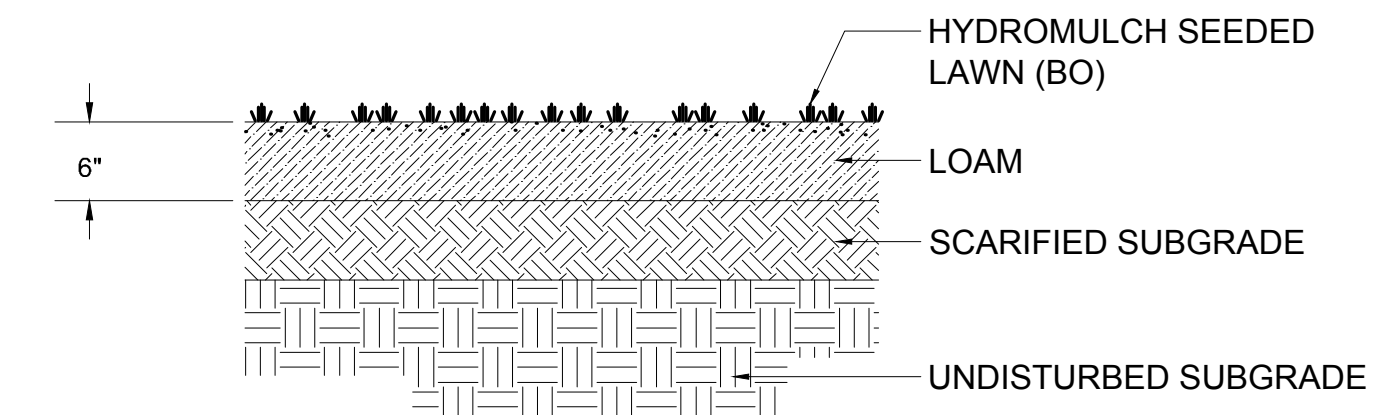
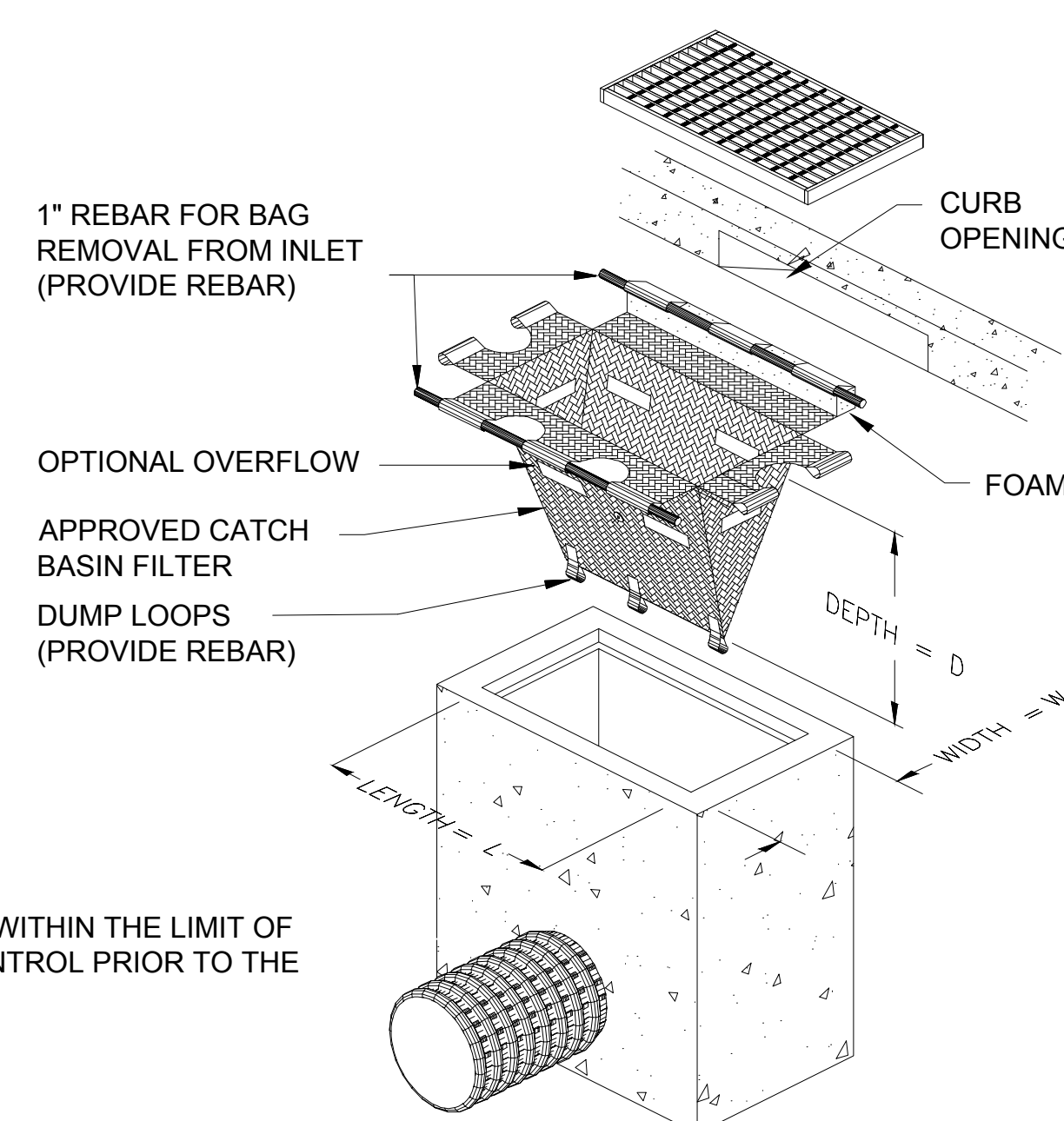


6 EXISTING TREE PROTECTION
SCALE: N.T.S.



NOTE:
ALL EXISTING CATCH BASINS WITHIN THE LIMIT OF WORK SHALL HAVE INLET CONTROL PRIOR TO THE START OF CONSTRUCTION.

7 INLET SEDIMENT CONTROL (SILT SACK)
SCALE: N.T.S.



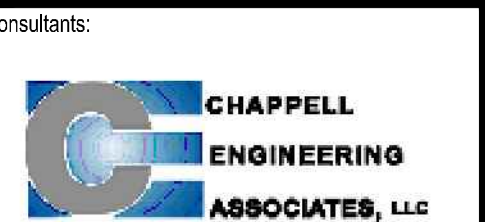
8 LOAM & SEED
SCALE: N.T.S.

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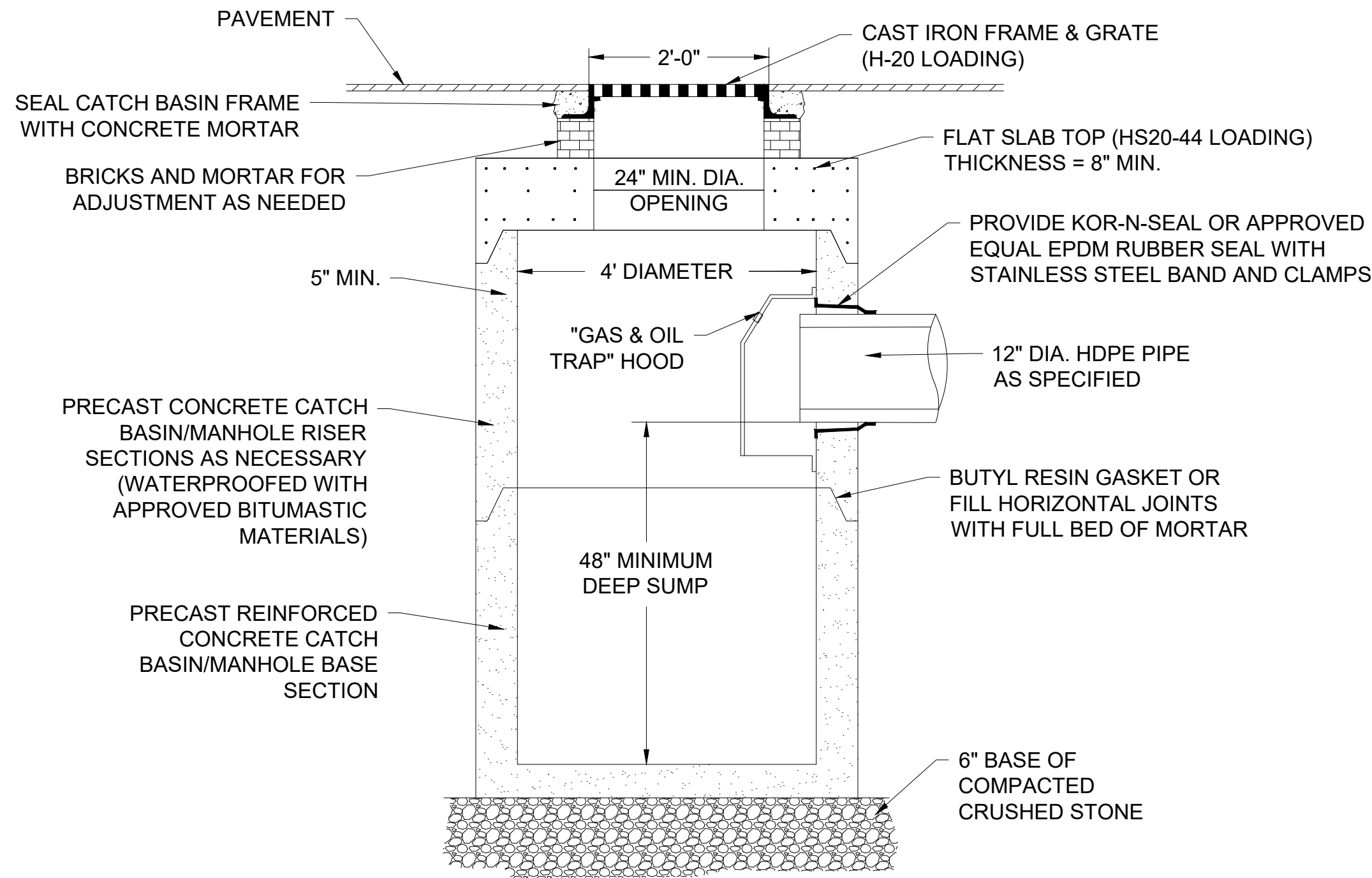
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W&S File No.:

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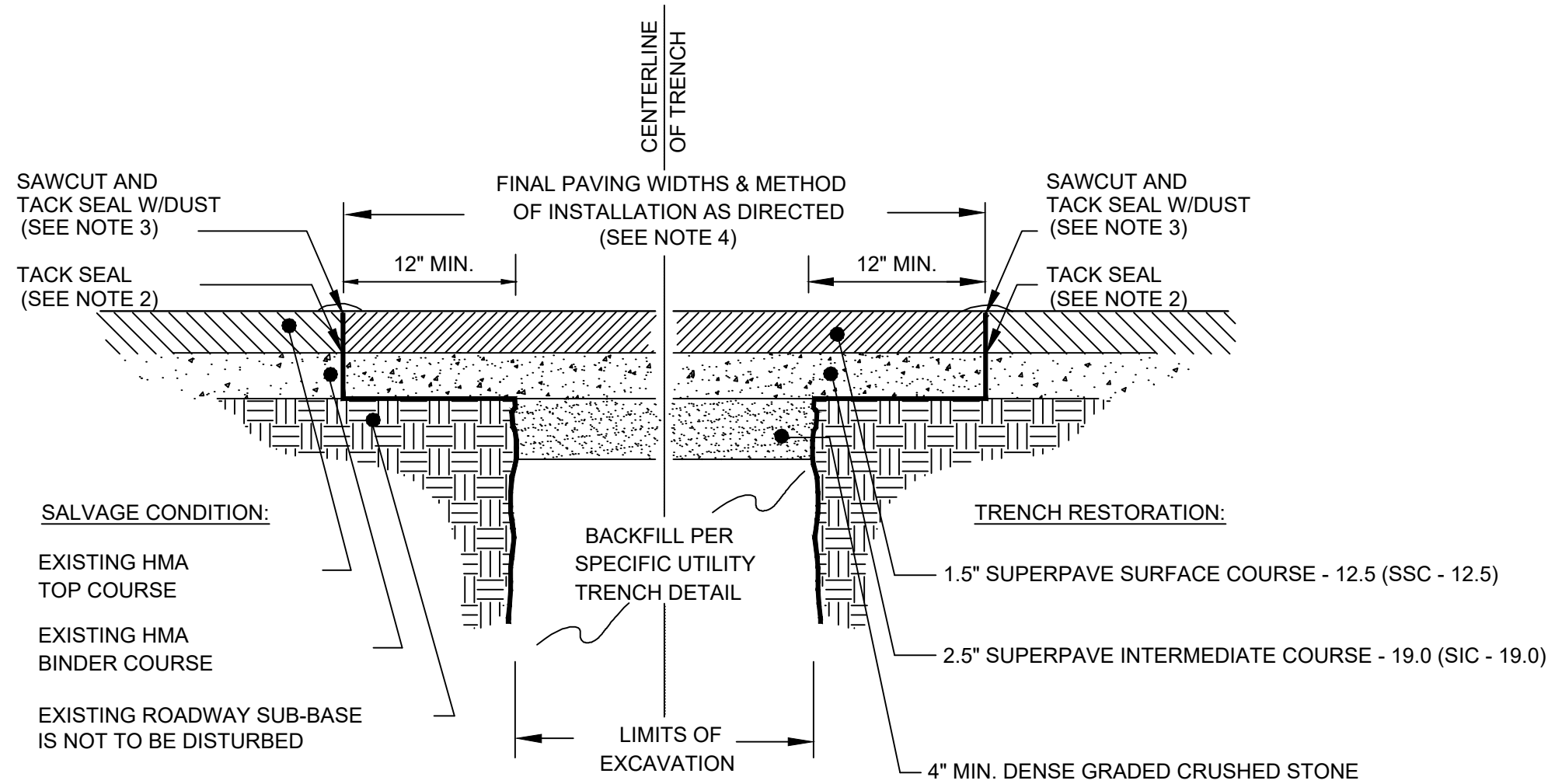
CONSTRUCTION
DETAILS 1

Sheet Number:

C401

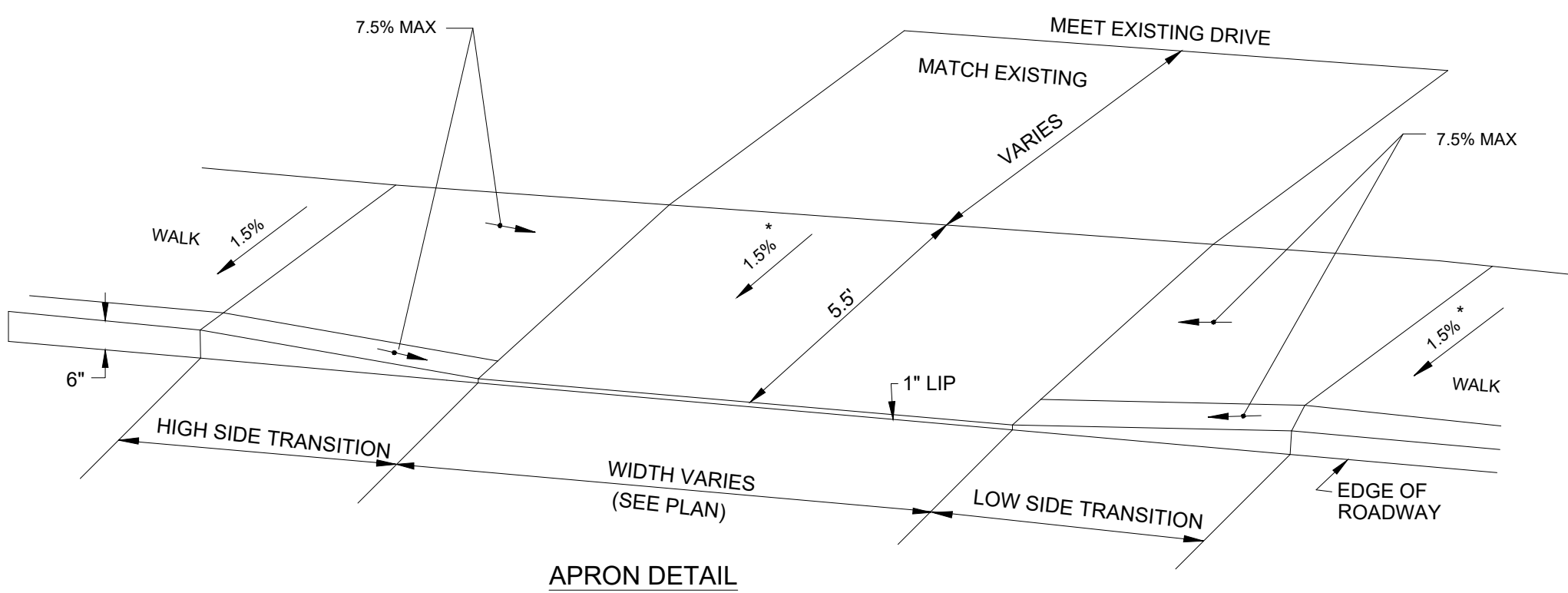


9 CATCH BASIN
SCALE: N.T.S.

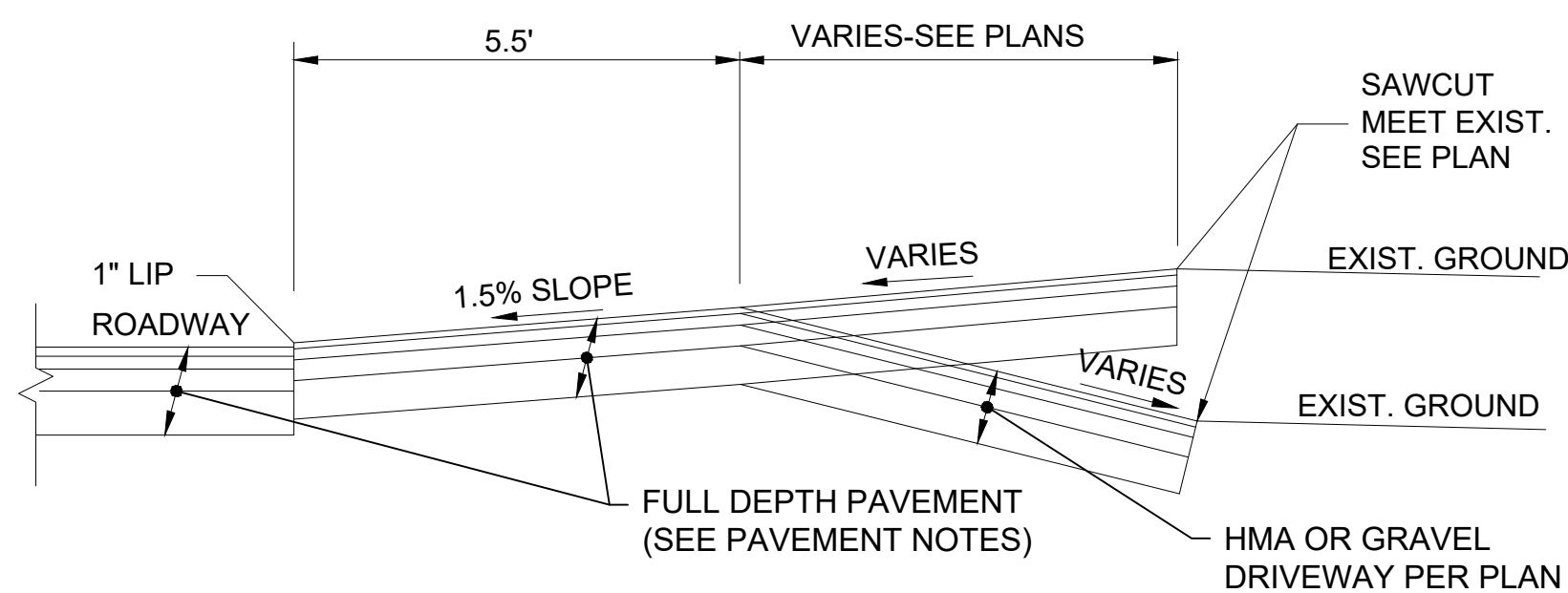


1. ALL INSTALLATION AND MATERIAL SPECIFICATIONS PER MASSDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, 1988 AS AMENDED.
2. ALL EXPOSED HMA IS TO BE TACKED PER MASSDOT PRIOR TO NEW BITUMINOUS CONCRETE INSTALLATION.
3. ALL EXPOSED JOINTS ARE TO BE SEALED WITH TACK AND STONE DUST.
4. ANY TOP COURSE APPLIED AT A WIDTH OF 6' WIDE OR GREATER IS TO BE PLACED BY MACHINE/BOX SPREADER WHEN & AS DIRECTED BY THE TOWN.

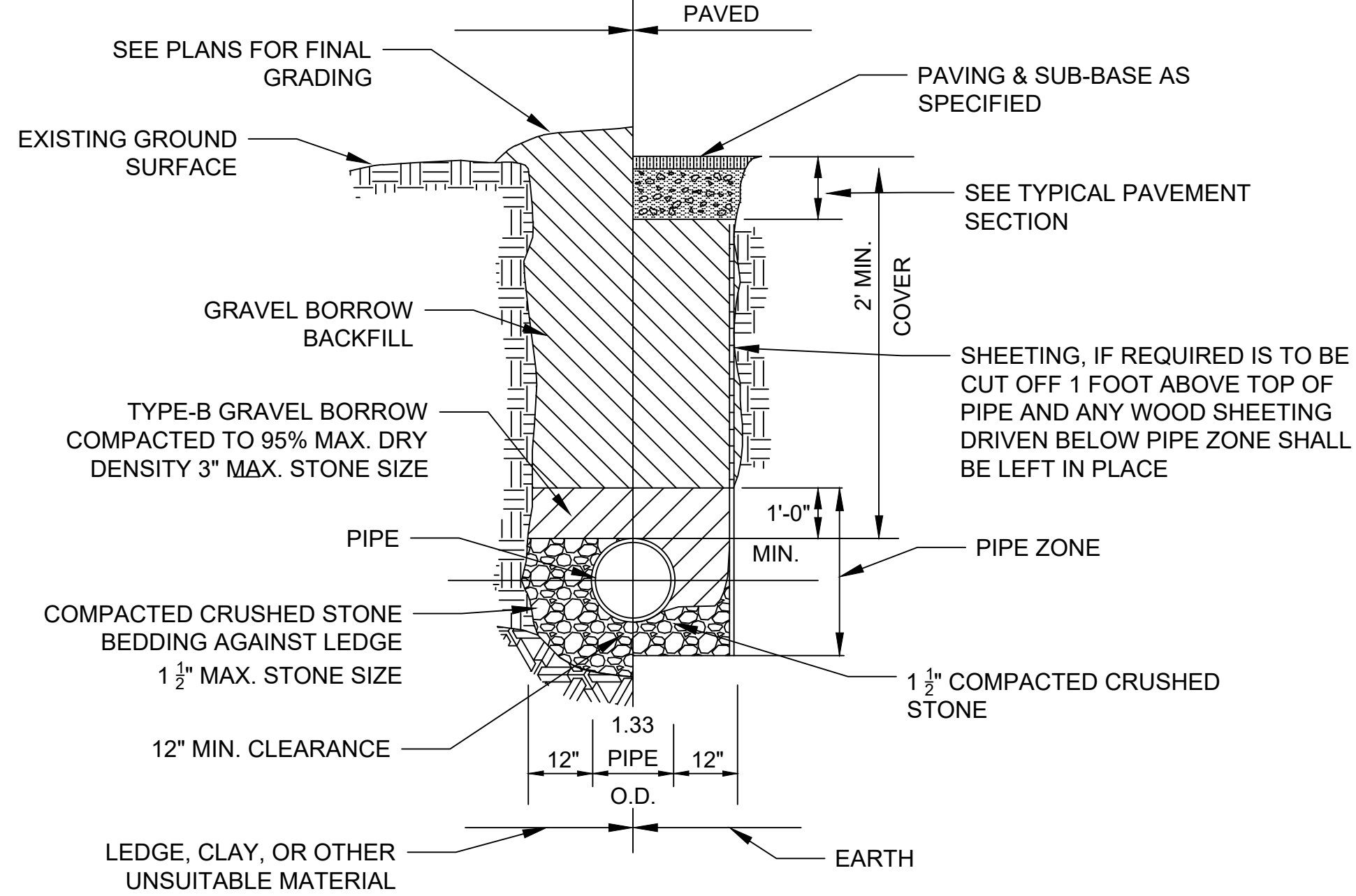
11 TYPICAL TRENCH REPAIR & PAVEMENT SECTION
SCALE: N.T.S.



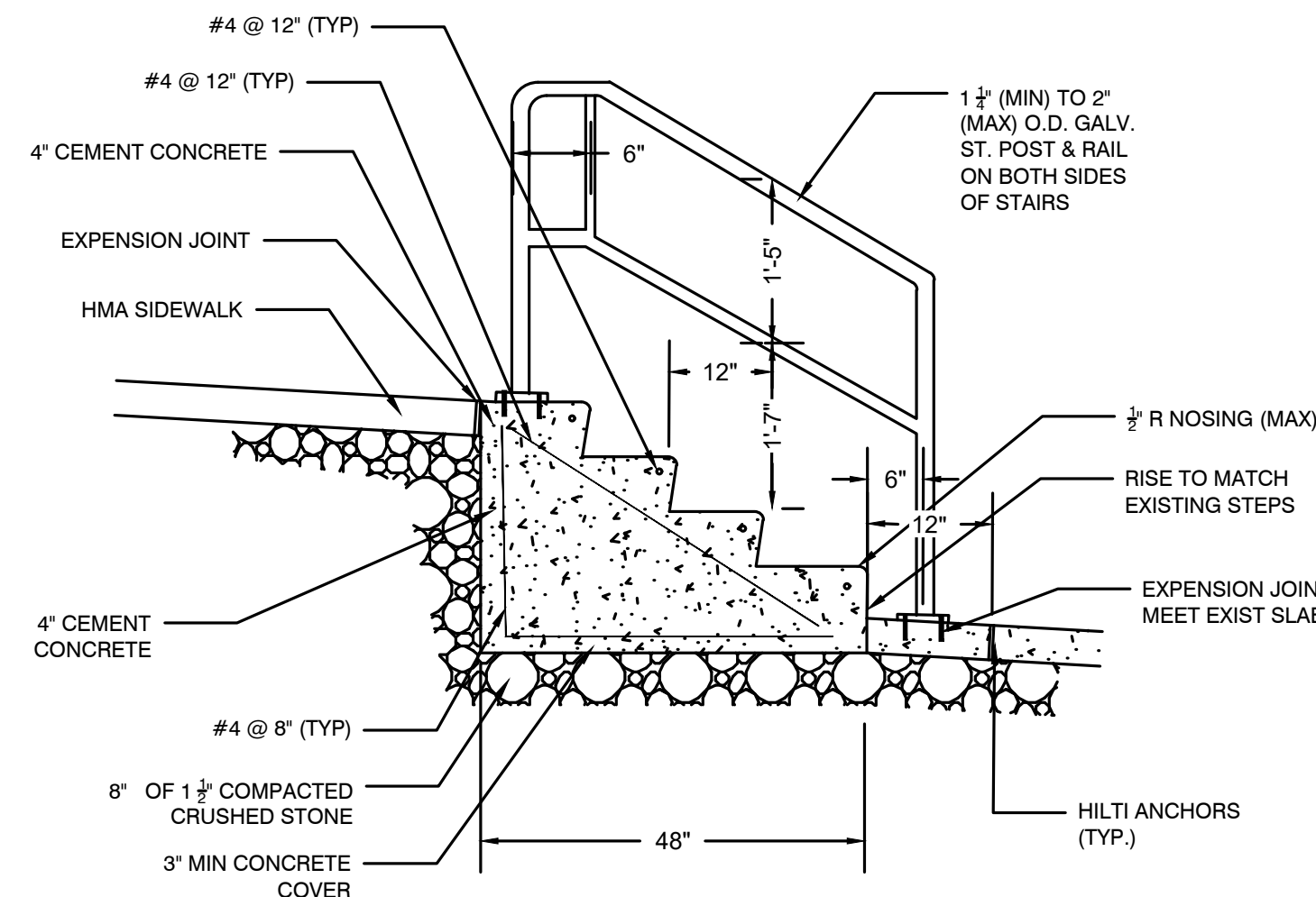
12 HOT MIX ASPHALT DRIVE
SCALE: N.T.S.



SECTION VIEW



10 TYPICAL DRAINAGE PIPE TRENCH
SCALE: N.T.S.



- NOTES:
1. PROVIDE BROOM FINISH IN DIRECTION PERPENDICULAR TO SIDEWALK.
 2. CEMENT CONCRETE SHALL BE 4,000 PSI
 3. WIDTH OF STEPS SHALL BE TO MATCH EXISTING STEPS

13 REPAIR OF CONCRETE STAIR AND RAILING
SCALE: N.T.S.

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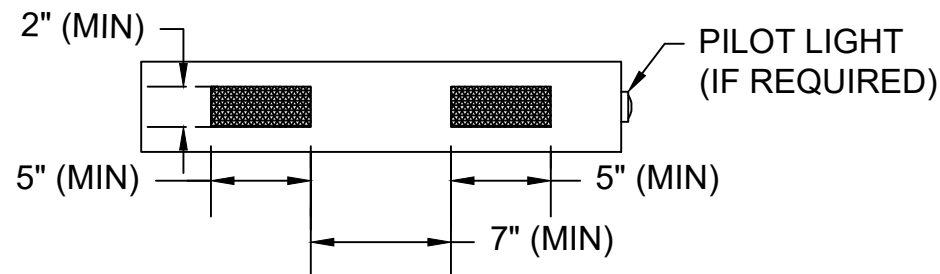
Date: 08/02/2023
Drawn By: CC
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Approved By: AKP
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W&S File No.:

Drawing Title:
**CONSTRUCTION
DETAILS 2**

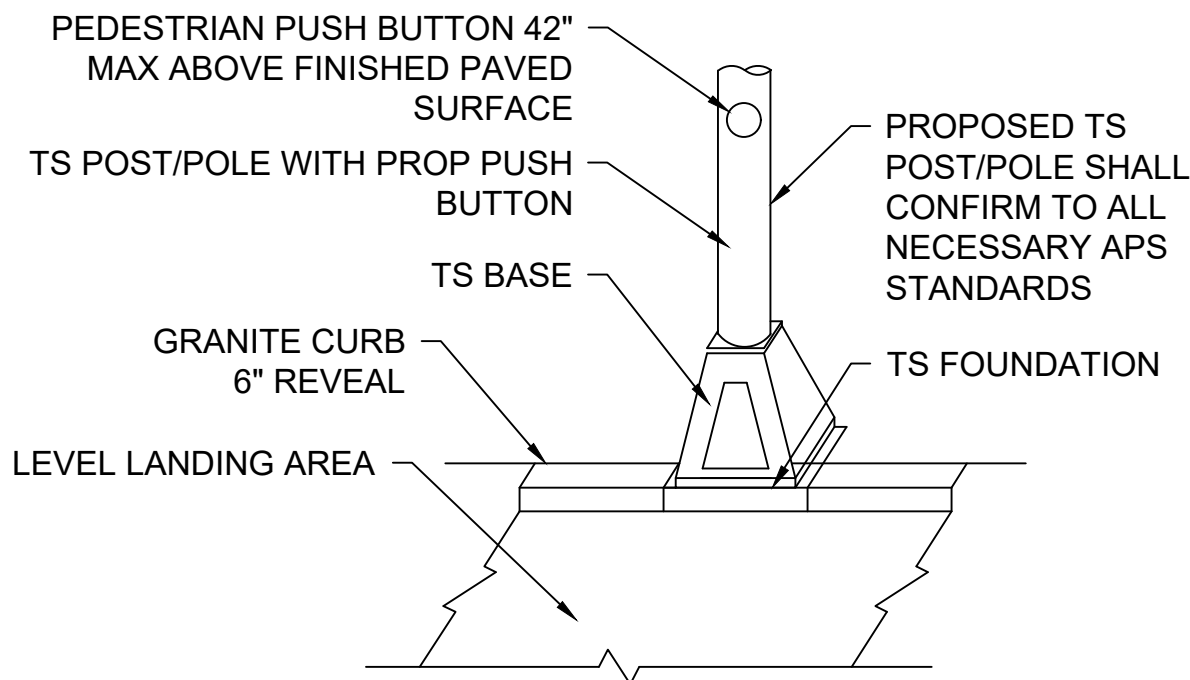
Sheet Number:
C402

NOTES:

- CROSSWALK AND ADA-COMPLIANT RAMPS NOT SHOWN. SEE PLANS FOR LOCATIONS
- REFER TO THE SPECIAL PROVISIONS FOR SIGN DIMENSIONS.
- ALL CONDUIT, PULL BOXES, SERVICE CONNECTIONS, AND EQUIPMENT GROUNDING REQUIRED FOR AC POWER IS NOT SHOWN IN THIS DETAIL AND SHALL BE PAID FOR SEPARATELY UNDER THEIR RESPECTIVE PAY ITEMS.
- ACCESS TO ALL PEDESTRIAN ACTUATED CONTROLS SHALL BE ADA/AAB COMPLIANT.
- *0.5% CONSTRUCTION TOLERANCE FOR CROSS-SLOPE.



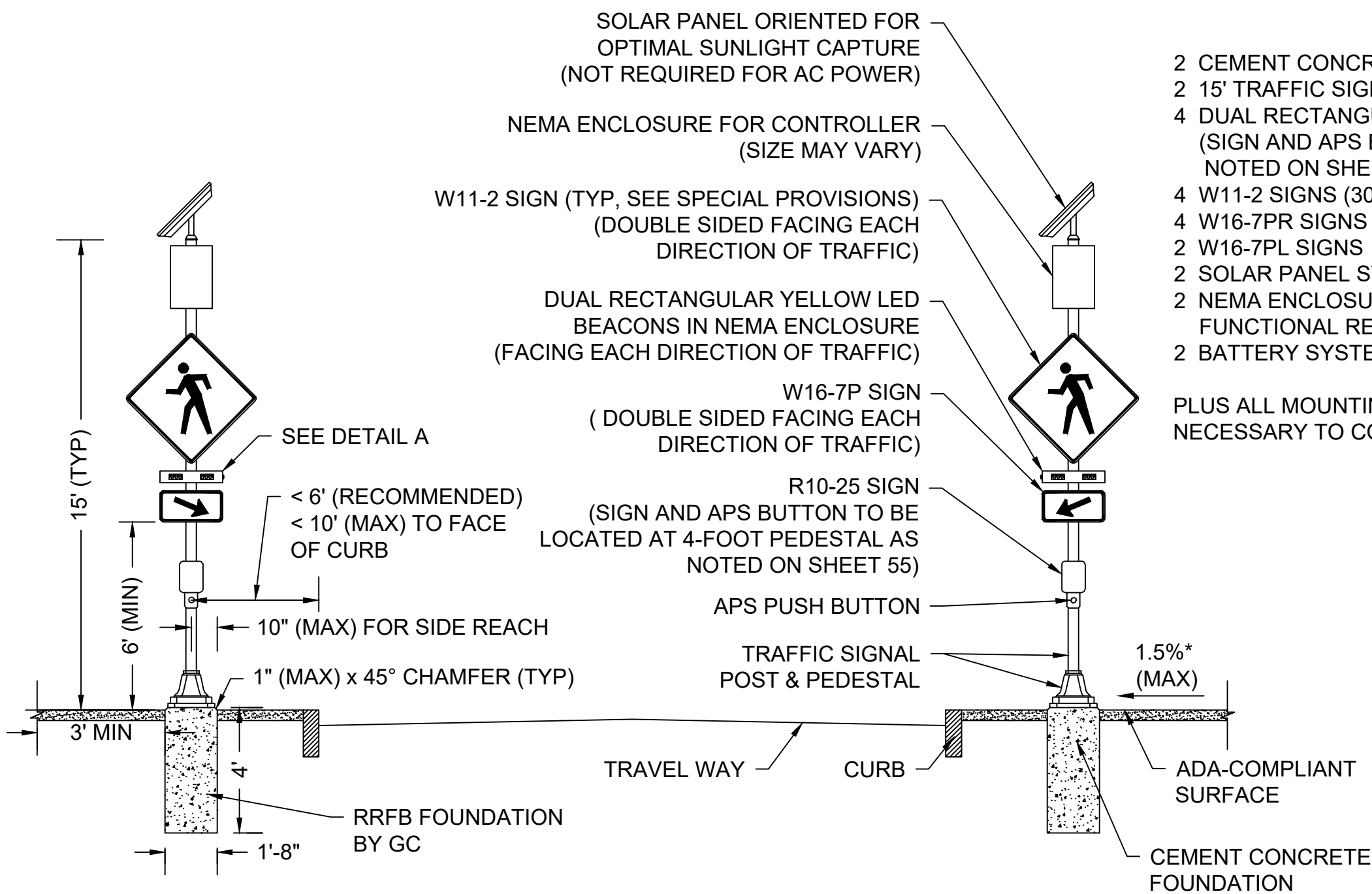
DETAIL A: DUAL YELLOW BEACON



MAJOR ITEMS LIST:

- 2 CEMENT CONCRETE FOUNDATIONS PER 812.30.1
- 2 15' TRAFFIC SIGNAL POSTS & PEDESTALS
- 4 DUAL RECTANGULAR YELLOW LED BEACONS IN NEMA ENCLOSURES (SIGN AND APS BUTTON TO BE LOCATED AT 4-FOOT PEDESTAL AS NOTED ON SHEET 55)
- 4 W11-2 SIGNS (30" X 30")
- 4 W16-7PR SIGNS
- 2 W16-7PL SIGNS
- 2 SOLAR PANEL SYSTEMS (NOT REQUIRED FOR AC POWER)
- 2 NEMA ENCLOSURES FOR ALL COMPONENTS NEEDED TO MEET FUNCTIONAL REQUIREMENTS PER SPECIAL PROVISIONS
- 2 BATTERY SYSTEMS (NOT REQUIRED FOR AC POWER)

PLUS ALL MOUNTING AND SUPPORTING HARDWARE AND WIRING NECESSARY TO COMPLETE A WORKING SYSTEM.



14 RECTANGULAR RAPID FLASHING BEACON (RRFB) (PROVIDED BY TOWN, INSTALLED BY GC)
SCALE: N.T.S.

Project:
MAPLE STREET SIDEWALK
STERLING, MA 01564



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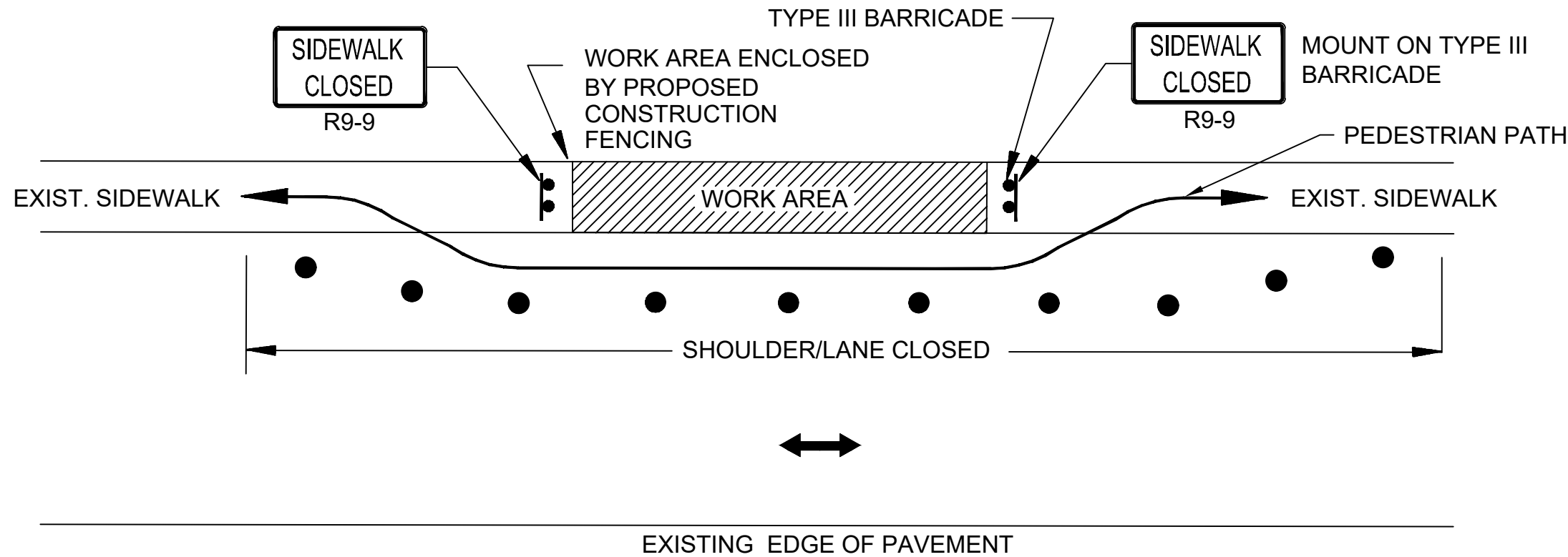
CONSTRUCTION
DETAILS 3

Sheet Number:

C403

NOTES:

- ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS, UNLESS SUPERCEDED BY THESE PLANS.
- ALL SIGN LEGENDS, BORDERS, AND MOUNTING SHALL BE IN ACCORDANCE WITH THE MUTCD.
- PLACEMENT OF ALL CONSTRUCTION SIGNS, DRUMS, BARRICADES, TRAFFIC DEVICES AND THE SHAPE, SIZE & COLOR, LEGENDS, BORDERS, AND MOUNTING OF ALL TEMPORARY TRAFFIC SIGNS SHALL CONFORM WITH THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND AMENDMENTS.
- TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
- ADVANCE WARNING SIGN PLACEMENT AND TAPER LENGTH SHALL BE ADJUSTED ACCORDING TO STREET CONDITIONS AND DRIVEWAY OPENINGS. ALL DRUMS SHALL BE APPROXIMATELY PLACED AND RELOCATED AS NECESSARY TO MAINTAIN ADEQUATE ABUTTER ACCESS AT ALL TIMES.
- TEMPORARY CONSTRUCTION SIGNING, BARRICADES, AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE ROAD OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
- SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY, CHANNELIZING DEVICES, BARRIERS, AND CRASH ATTENUATORS MUST PASS THE CRITERIA SET FORTH IN NCHRP REPORT 350, "RECOMMENDED PROCEDURES FOR THE SAFETY PERFORMANCE EVALUATION OF HIGHWAY FEATURES" AND/OR "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH).
- CONTRACTORS 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 CONDUIT INSTALLATION, EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT, AND SIMILAR OPERATIONS.
- THE FIRST TEN PLASTIC DRUMS OF ANY TAPER SHALL BE EQUIPPED WITH SEQUENTIAL FLASHING LIGHTS.
- DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
- MAXIMUM SPACING OF TRAFFIC DEVICES IN A TAPER (DRUMS OR CONES) IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
- MINIMUM LANE WIDTH IS TO BE 11 FEET UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRUMS OR MEDIAN BARRIER.
- PEDESTRIANS SHALL BE PROVIDED WITH ACCESS AND SAFE PASSAGE THROUGH THE TEMPORARY TRAFFIC CONTROL ZONE AT ALL TIMES.
- NO DIFFERENCE IN ROADWAY LANE ELEVATION WILL BE ALLOWED AT THE END OF THE WORK DAY.
- THE CONTRACTOR SHALL SUBMIT ANY REVISIONS TO THE CONSTRUCTION ZONE SAFETY PLAN TO THE ENGINEER APPROVAL.
- THIS CONSTRUCTION ZONE SAFETY PLAN SHALL NOT RELIEVE THE CONTRACTOR OF HIS SOLE RESPONSIBILITY FOR CONSTRUCTION SITE SAFETY.



NOTES:

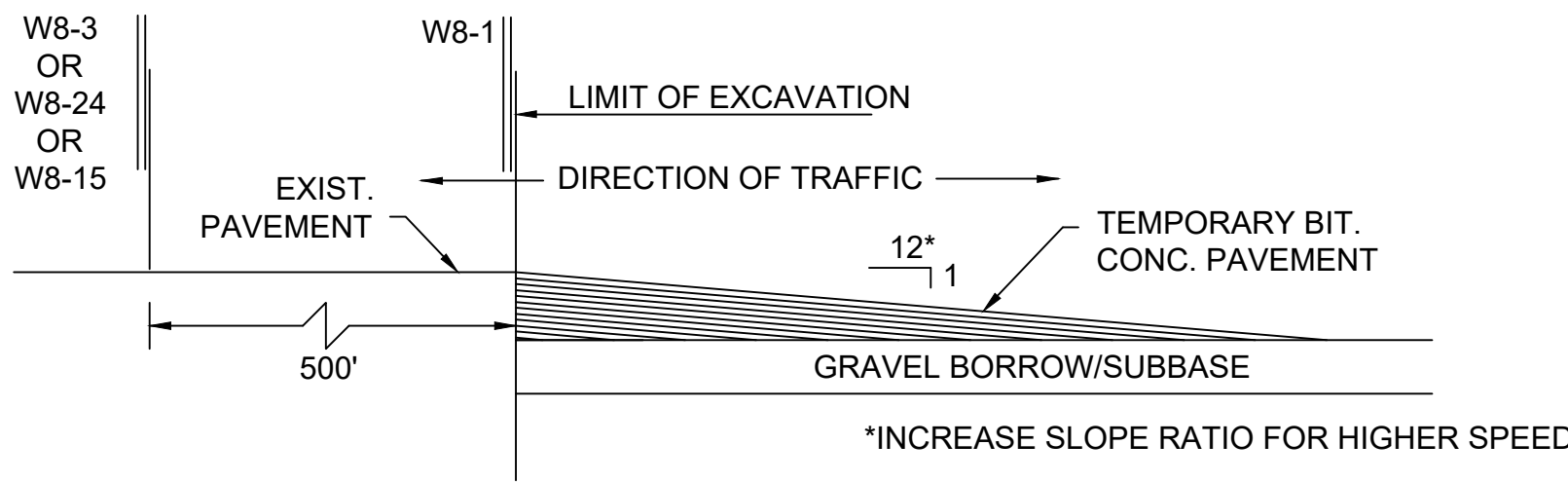
- ADDITIONAL ADVANCE WARNING MAY BE NECESSARY.
- CONTROLS ONLY FOR PEDESTRIAN TRAFFIC ARE SHOWN. VEHICULAR TRAFFIC SHOULD BE HANDLED AS SHOWN ELSEWHERE.
- STREET LIGHTING SHOULD BE CONSIDERED WHEN LOCATING CONTROL DEVICES.
- BYPASS IS TO BE USED IN CONJUNCTION WITH THE PROPOSED LANE CLOSURE DETAILS AND DURING CONSTRUCTION STAGING, AS DIRECTED BY THE ENGINEER.
- THE TEMPORARY SIDEWALK SHOULD BE A MINIMUM OF 4 FEET WIDE. IF THIS WALKWAY EXCEEDS 200 FEET THEN A 5 FOOT X 5 FOOT PASSING ZONE SHALL BE PROVIDED.

SIDEWALK CLOSURE – PEDESTRIAN BYPASS

N.T.S.

TEMPORARY TRAFFIC SIGN SUMMARY

IDENTIFI- CATION NUMBER	SIZE OF SIGN		TEXT	NOTES
	WIDTH	HEIGHT		
W20-1	48"	48"		
W20-4	48"	48"		
W20-7	48"	48"		
R9-9	30"	18"		

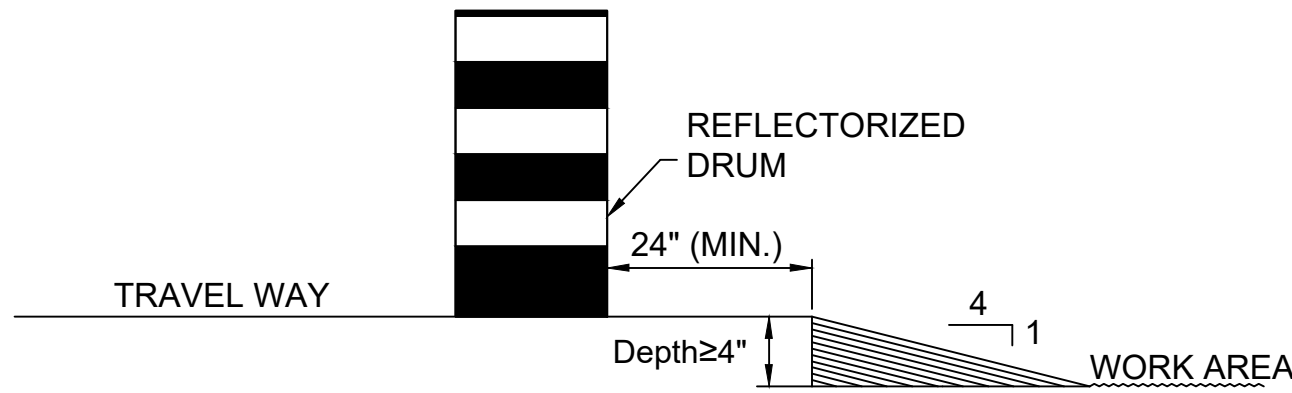


LONGITUDINAL DROP-OFF DETAIL

N.T.S.

TAPER LENGTH CRITERIA FOR TEMPORARY TRAFFIC CONTROL ZONES

TYPE OF TAPER	TAPER LENGTH (L)*
MERGING TAPER	AT LEAST L
SHIFTING TAPER	AT LEAST 0.5L
SHOULDER TAPER	AT LEAST 0.33L
ONE-LANE, TWO-WAY TRAFFIC TAPER	50 FT MIN.(15 m) 100 FT(30 m) MAX.
DOWNSTREAM TAPER	50 FT MIN.(15 m) 100 FT MAX.(30 m) PER LANE



LATERAL DROP-OFF DETAIL

N.T.S.

FORMULAS FOR DETERMINING TAPER LENGTHS

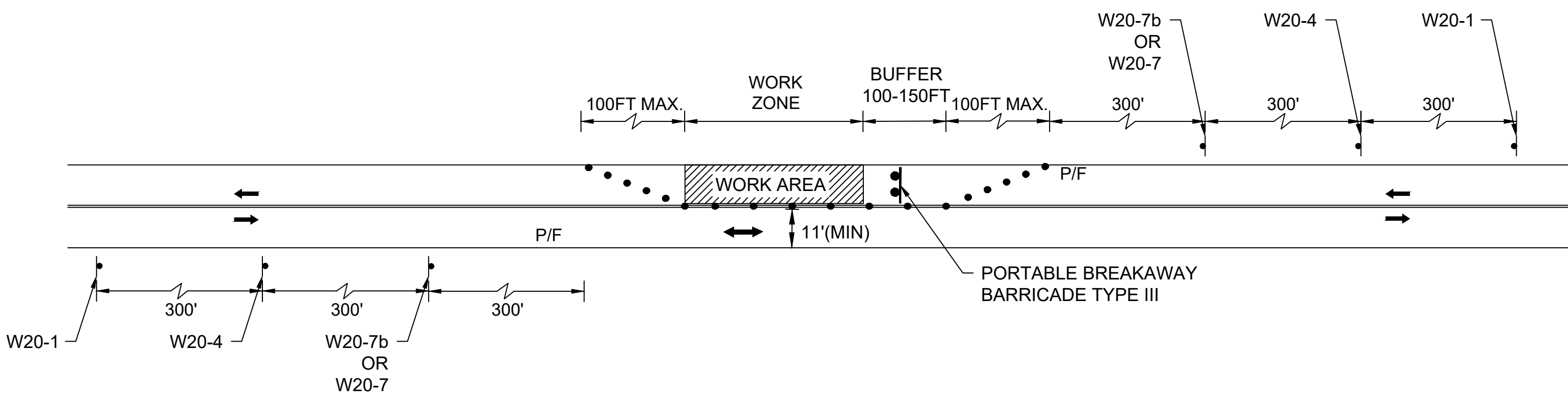
SPEED LIMIT (S)	TAPER LENGTH (L) FEET
40 MPH OR LESS	$L = \frac{WS^2}{60}$
45 MPH OR MORE	$L = WS$

WHERE:

L = TAPER LENGTH IN FEET

W = WIDTH OF OFFSET IN FEET

S = POSTED SPEED LIMIT, OR OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED IN MPH



TYPICAL TEMPORARY DAYTIME LANE CLOSURE – THROUGH ROADWAY

(ONE LANE– BI-DIRECTIONAL)

N.T.S.

LEGEND

	REFLECTORIZED CHANNELIZING DEVICE		SIGN
	REFLECTORIZED DRUM		WORK AREA
	TRAFFIC FLOW DURING CONSTRUCTION		NOT TO SCALE
	NORMAL TRAFFIC FLOW		ARROW BOARD
	POLICE/FLAGGER DETAIL		TEMPORARY PRECAST PORTABLE CONCRETE BARRIER W/WARNING LIGHTS
	PORTABLE BREAKAWAY BARRICADE TYPE III		

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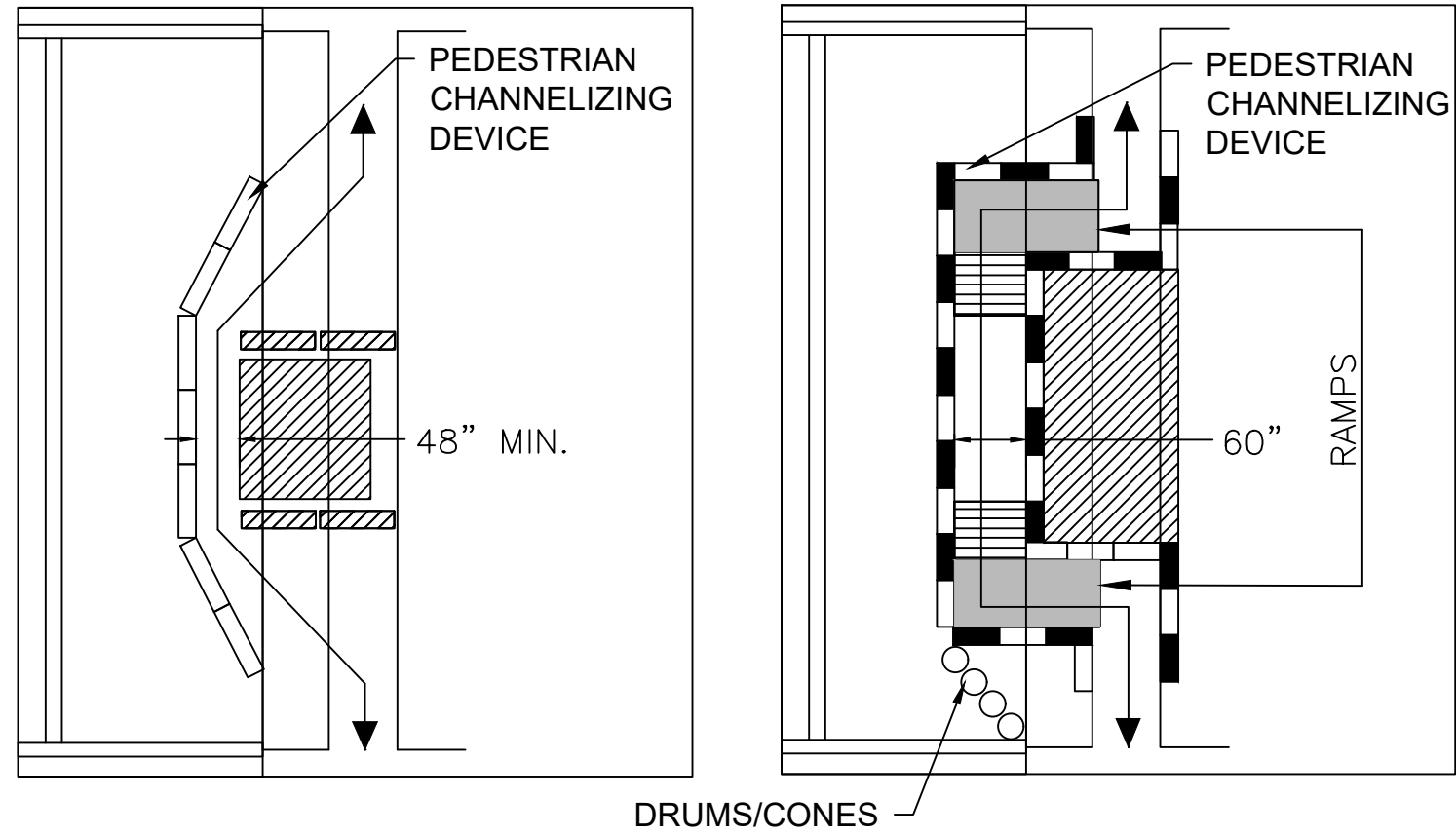
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TEMORARY TRAFFIC
CONTROL DETAILS 1

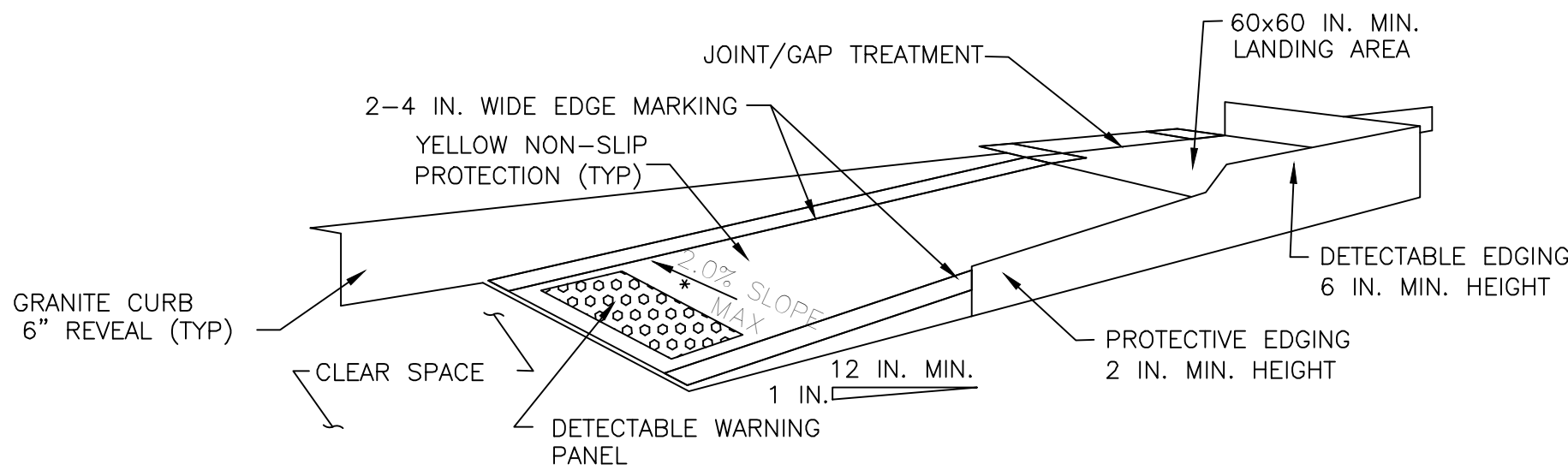
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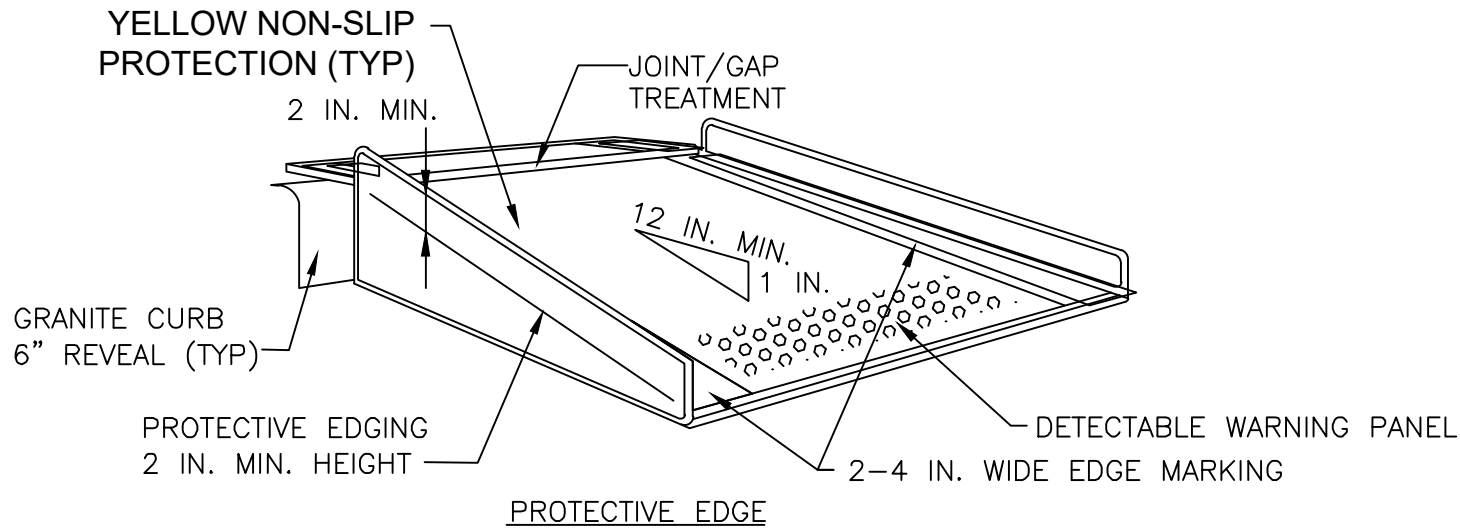
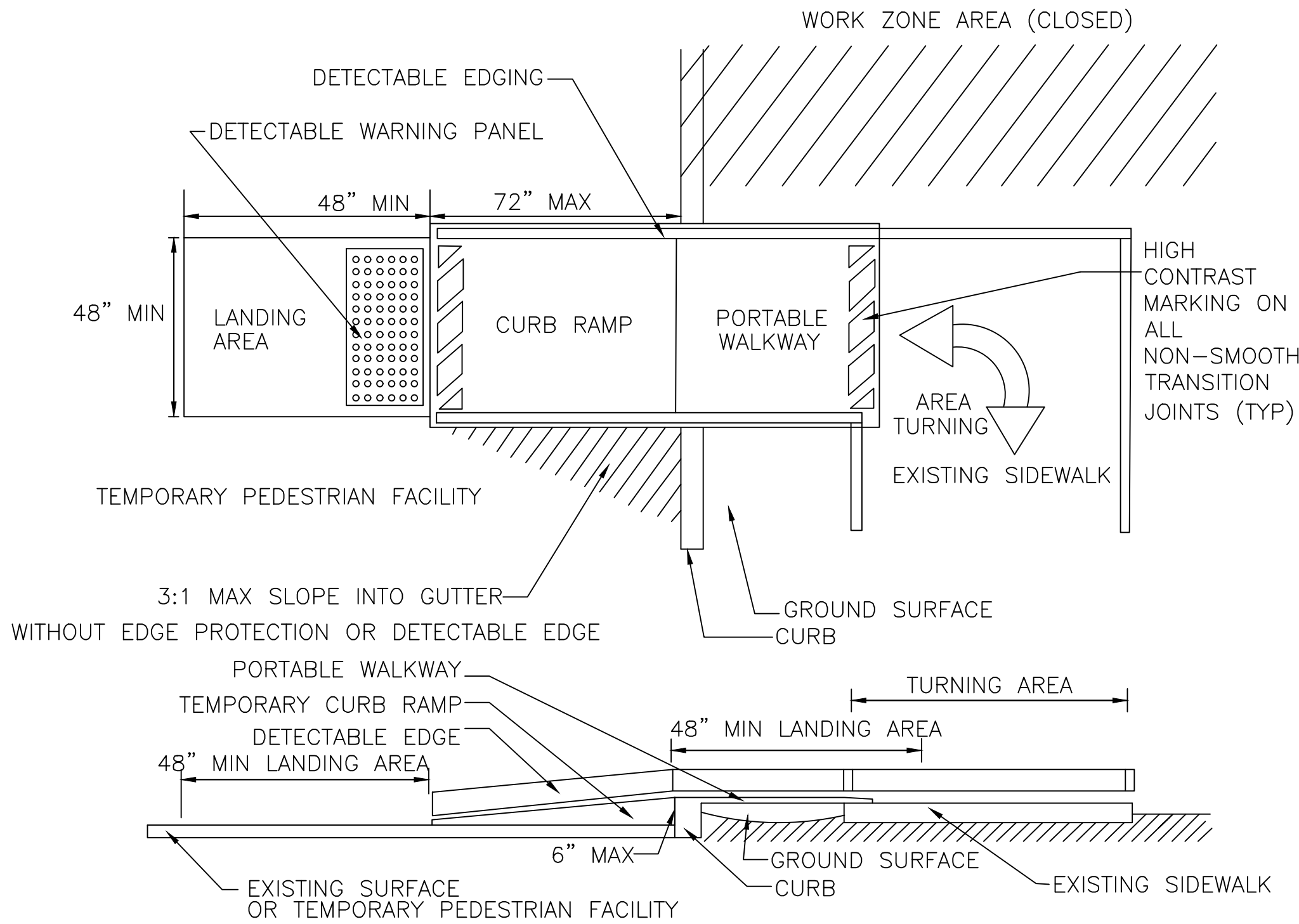


- WHEN EXISTING PEDESTRIAN FACILITIES ARE DISRUPTED, CLOSED, OR RELOCATED IN A TTC ZONE, TEMPORARY FACILITIES SHALL BE PROVIDED AND THEY SHALL BE DETECTABLE AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH THE FEATURES PRESENT IN THE EXISTING PEDESTRIAN FACILITY.
- A PEDESTRIAN CHANNELIZING DEVICE THAT IS DETECTABLE BY A PERSON WITH A VISUAL DISABILITY TRAVELING WITH THE AID OF A LONG CANE SHALL BE PLACED ACROSS THE FULL WIDTH OF THE CLOSED SIDEWALK.
- WHEN USED, TEMPORARY RAMPS SHALL COMPLY WITH AMERICANS WITH DISABILITIES ACT (SEE FIGURES PED-1 & PED-2).
- THE ALTERNATE PATHWAY SHOULD HAVE A SMOOTH CONTINUOUS HARD SURFACE FOR THE ENTIRE LENGTH OF THE TEMPORARY PEDESTRIAN FACILITY.
- THE PROTECTIVE REQUIREMENTS OF A TTC SITUATION HAVE PRIORITY IN DETERMINING THE NEED FOR TEMPORARY TRAFFIC BARRIERS AND THEIR USE IN THIS SITUATION SHOULD BE BASED ON ENGINEERING JUDGMENT.

PEDESTRIAN DETAILS
N.T.S.



TEMPORARY CURB RAMP-PARALLEL TO CURB
N.T.S.



TEMPORARY CURB RAMP-PERPENDICULAR TO CURB
N.T.S.

NOTES:

1. CURB RAMPS SHALL BE 60 IN. MINIMUM WIDTH WITH A FIRM, STABLE AND NON-SLIP SURFACE.
2. PROTECTIVE EDGING WITH A 2 IN. MINIMUM HEIGHT SHALL BE INSTALLED WHEN THE CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6 IN. OR GREATER OR HAS A SIDE APRON SLOP STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN THE CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3 IN. OR MORE.
3. DETECTABLE EDGING WITH 6 IN. MINIMUM HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
4. THE CURB RAMP WALKWAY AND LANDING AREA SURFACE SHALL BE OF A SOLID CONTINUOUS CONTRASTING COLOR ABUTTING UP TO THE EXISTING SIDEWALK.
5. CURB RAMPS AND LANDINGS SHOULD HAVE A 1:50 (2%) MAX CROSS-SLOPE.
6. CLEAR SPACE OF 48x48 IN. MINIMUM SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
7. WATER FLOW IN THE GUTTER SYSTEM SHALL HAVE MINIMAL RESTRICTION.
8. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 0.5 IN. WIDTH.
9. CHANGES BETWEEN SURFACE HEIGHTS SHOULD NOT EXCEED 0.5 IN. LATERAL EDGES SHOULD BE VERTICAL UP TO 0.25 IN. HIGH, AND BEVELED AT 1:2 BETWEEN 0.25 IN. AND 0.5 IN. HEIGHT.
10. IF A TEMPORARY PEDESTRIAN RAMP LEADS TO A CROSSWALK, THEN A DETECTABLE WARNING PAD MUST BE ADHERED TO THE BASE OF THE RAMP. IF IT LEADS TO A PROTECTED PEDESTRIAN BYPASS THAT DOES NOT CONFLICT WITH VEHICULAR TRAFFIC, THEN A PAD SHALL NOT BE INSTALLED ON THE RAMP.

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TEMORARY TRAFFIC
CONTROL DETAILS 2

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