

ROADWAY IMPROVEMENTS ALONG GOSNOLD STREET

TOWN OF BARNSTABLE, MA FINAL SUBMITTAL

THE MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DATED 2023, AS AMENDED, THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS WITH MASSACHUSETTS AMENDMENTS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, WILL GOVERN.

TOWN OF BARNSTABLE
DEPARTMENT OF PUBLIC WORKS

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MARCH 2023



VICINITY MAP
1" = 500'

ENVIRONMENTAL
 PARTNERS
— An Apex Company —

GENERAL SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		JERSEY BARRIER
		CATCH BASIN
		CATCH BASIN CURB INLET
		FLAG POLE
		GAS PUMP
		MAIL BOX
		POST SQUARE
		ELECTRIC HANDHOLE
		FENCE GATE POST
		GAS GATE
		BORING HOLE
		HYDRANT
		LIGHT POLE
		COUNTY BOUND
		GPS POINT
		CABLE MANHOLE
		DRAINAGE MANHOLE
		ELECTRIC MANHOLE
		GAS MANHOLE
		MISC MANHOLE
		SEWER MANHOLE
		TELEPHONE MANHOLE
		WATER MANHOLE
		MASSACHUSETTS HIGHWAY BOUND
		MONUMENT
		STONE BOUND
		TOWN OR CITY BOUND
		TRAVERSE OR TRIANGULATION STATION
		UTILITY POLE W/ FIREBOX
		UTILITY POLE WITH DOUBLE LIGHT
		UTILITY POLE W / 1 LIGHT
		UTILITY POLE
		BUSH
		TREE
		STUMP
		SWAMP / MARSH
		WATER GATE
		PARKING METER
		OVERHEAD CABLE/WIRE
		CURBING
		CONTOURS (ON-THE-GROUND SURVEY DATA)
		CONTOURS (PHOTOGRAMMETRIC DATA)
		UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER)
		BALANCED STONE WALL
		CHAIN LINK OR METAL FENCE
		WOOD FENCE
		HAY BALES/SILT FENCE
		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

TRAFFIC SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		CONTROLLER PHASE ACTUATED
		TRAFFIC SIGNAL HEAD (SIZE AS NOTED)
		WIRE LOOP DETECTOR (6' x 6' TYP UNLESS OTHERWISE SPECIFIED)
		VIDEO DETECTION CAMERA
		MICROWAVE DETECTOR
		PEDESTRIAN PUSH BUTTON, SIGN (DIRECTIONAL ARROW AS SHOWN) AND SADDLE
		EMERGENCY PREEMPTION CONFIRMATION STROBE LIGHT
		VEHICULAR SIGNAL HEAD
		VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED
		FLASHING BEACON
		PEDESTRIAN SIGNAL HEAD, (TYPE AS NOTED OR AS SPECIFIED)
		RAILROAD SIGNAL
		SIGNAL POST AND BASE (ALPHA-NUMERIC DESIGNATION NOTED)
		MAST ARM, SHAFT AND BASE (ARM LENGTH AS NOTED)
		HIGH MAST POLE OR TOWER
		SIGN AND POST
		SIGN AND POST (2 POSTS)
		MAST ARM WITH LUMINAIRE
		OPTICAL PRE-EMPTION DETECTOR
		CONTROL CABINET, GROUND MOUNTED
		CONTROL CABINET, POLE MOUNTED
		FLASHING BEACON CONTROL AND METER PEDESTAL
		LOAD CENTER ASSEMBLY
		PULL BOX 12"x12" (OR AS NOTED)
		ELECTRIC HANDHOLE 12"x24" (OR AS NOTED)
		TRAFFIC SIGNAL CONDUIT

PAVEMENT MARKINGS SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		PAVEMENT ARROW - WHITE
		LEGEND "ONLY" - WHITE
		STOP LINE
		CROSSWALK
		SOLID WHITE LINE
		SOLID YELLOW LINE
		BROKEN WHITE LINE (10' LINE SEGMENT WITH 30' GAPS)
		BROKEN YELLOW LINE (10' LINE SEGMENT WITH 30' GAPS)
		DOTTED WHITE LINE (3' LINE SEGMENT WITH 9' GAPS)
		DOTTED YELLOW LINE (3' LINE SEGMENT WITH 9' GAPS)
		DOTTED WHITE LINE EXTENSION (2' LINE SEGMENT WITH 6' GAPS)
		DOTTED YELLOW LINE EXTENSION (2' LINE SEGMENT WITH 6' GAPS)
		12" WIDE DOTTED WHITE ROUNDABOUT ENTRY LINE (2' LINE SEGMENT WITH 2' GAPS)
		DOUBLE WHITE LINE
		DOUBLE YELLOW LINE

ABBREVIATIONS - GENERAL

AADT	ANNUAL AVERAGE DAILY TRAFFIC
ABAN	ABANDON
ADJ	ADJUST
APPROX.	APPROXIMATE
BIT.	BITUMINOUS
BC	BOTTOM OF CURB
BD.	BOUND
BL	BASELINE
BLDG	BUILDING
BM	BENCHMARK
BO	BY OTHERS
BOS	BOTTOM OF SLOPE
BS	BARE STEEL
CB	CATCH BASIN
CBCI	CATCH BASIN WITH CURB INLET
CEM	CEMENT
CI	CURB INLET
CIP	CAST IRON PIPE
C.I.T.	CHANGE IN TYPE
CLF	CHAIN LINK FENCE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CRW	CONCRETE RETAINING WALL
CSP	CORRUGATED STEEL PIPE
CO.	COUNTY
CONC	CONCRETE
CONT	CONTINUOUS
CONST	CONSTRUCTION
CR GR	CROWN GRADE
DI	DROP INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DSMH	DEEP SUMP MANHOLE
DW	STEADY DON'T WALK
DWY	DRIVEWAY
ELEV (or EL.)	ELEVATION
EOP	EDGE OF PAVEMENT
EXIST (or EX)	EXISTING
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FLDSTN	FIELDSTONE
GAR	GARAGE
GD	GROUND
GG	GAS GATE
GI	GUTTER INLET
HMA	HOT MIX ASPHALT
HOR	HORIZONTAL
HYD	HYDRANT
INV	INVERT
IP	INTERMEDIATE PRESSURE
L	LENGTH OF CURVE
LP	LIGHT POLE
LP	LOW PRESSURE
LT	LEFT
MAX	MAXIMUM
MB	MAILBOX
MH	MANHOLE
MHB	MASSACHUSETTS HIGHWAY BOUND
MIN	MINIMUM
NIC	NOT IN CONTRACT
NO.	NUMBER
PBS	PRINT BOTH SIDES
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PCR	PEDESTRIAN CURB RAMP
PD	ALDYL "A" PLASTIC
P.G.L.	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
PKF	PICKET FENCE
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CURVATURE
PRF	POST AND RAIL FENCE
PROJ	PROJECT

ABBREVIATIONS - GENERAL

PROP	PROPOSED
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PVMT	PAVEMENT
PWW	PAVED WATER WAY
PY	YELLOW PLASTIC
R	RADIUS OF CURVATURE
R&D	REMOVE AND DISPOSE
RCP	REINFORCED CONCRETE PIPE
REM	REMOVE
RET	RETAIN
RET WALL	RETAINING WALL
ROW	RIGHT OF WAY
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
RT	RIGHT
SB	STONE BOUND
SHLDR	SHOULDER
SMH	SEWER MANHOLE
ST	STEEL
ST	STREET
STA	STATION
SSD	STOPPING SIGHT DISTANCE
SHLO	STATE HIGHWAY LAYOUT LINE
SMRW	STONE MASONRY RETAINING WALL
SRW	STONE RETAINING WALL
SW	SIDEWALK
T	TANGENT DISTANCE OF CURVE/TRUCK %
TAN	TANGENT
TEMP	TEMPORARY
TC	TOP OF CURB
TOS	TOP OF SLOPE
TYP	TYPICAL
UGE	UNDERGROUND ELECTRIC
UP	UTILITY POLE
VAR	VARIES
VERT	VERTICAL
VC	VERTICAL CURVE
VCC	VERTICAL CONCRETE CURB
VGC	VERTICAL GRANITE CURB
WG	WATER GATE
WI	WROUGHT IRON
WIF	WROUGHT IRON FENCE
WIP	WROUGHT IRON PIPE
WM	WATER METER/WATER MAIN

ABBREVIATIONS - TRAFFIC SIGNAL

CAB.	CABINET
CCVE	CLOSED CIRCUIT VIDEO EQUIPMENT
DW	STEADY DON'T WALK
FDW	FLASHING DON'T WALK
FR	FLASHING CIRCULAR RED
FRL	FLASHING RED LEFT ARROW
FRR	FLASHING RED RIGHT ARROW
FY	FLASHING CIRCULAR AMBER
FYL	FLASHING AMBER LEFT ARROW
FYR	FLASHING AMBER RIGHT ARROW
G	STEADY CIRCULAR GREEN
GL	STEADY GREEN LEFT ARROW
GR	STEADY GREEN RIGHT ARROW
GSL	STEADY GREEN SLASH LEFT ARROW
GSR	STEADY GREEN SLASH RIGHT ARROW
GV	STEADY GREEN VERTICAL ARROW
OL	OVERLAP
PED	PEDESTRIAN
PTZ	PAN, TILE, ZOOM
R	STEADY CIRCULAR RED
RL	STEADY RED LEFT ARROW
RR	STEADY RED RIGHT ARROW
TR SIG	TRAFFIC SIGNAL
TSC	TRAFFIC SIGNAL CONDUIT
W	STEADY WALK
Y	STEADY CIRCULAR AMBER
YL	STEADY AMBER LEFT ARROW



Scale	AS NOTED	
Date	MAR 2023	
Job No.	22010758	
Designed by	JM	
Drawn by	JM	
Checked by	BLH	
Approved by	JDF	
MARK	DATE	DESCRIPTION

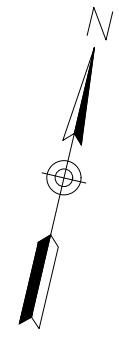
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ROADWAY IMPROVEMENTS ALONG GOSNOLD STREET BARNSTABLE, MASSACHUSETTS

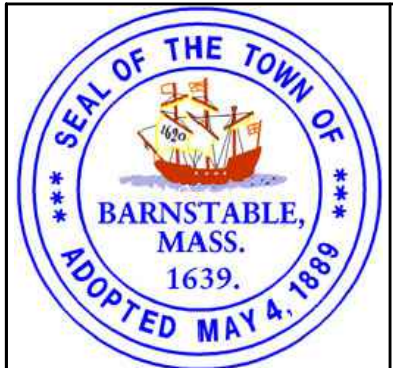
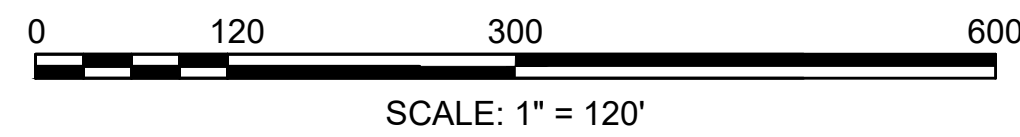
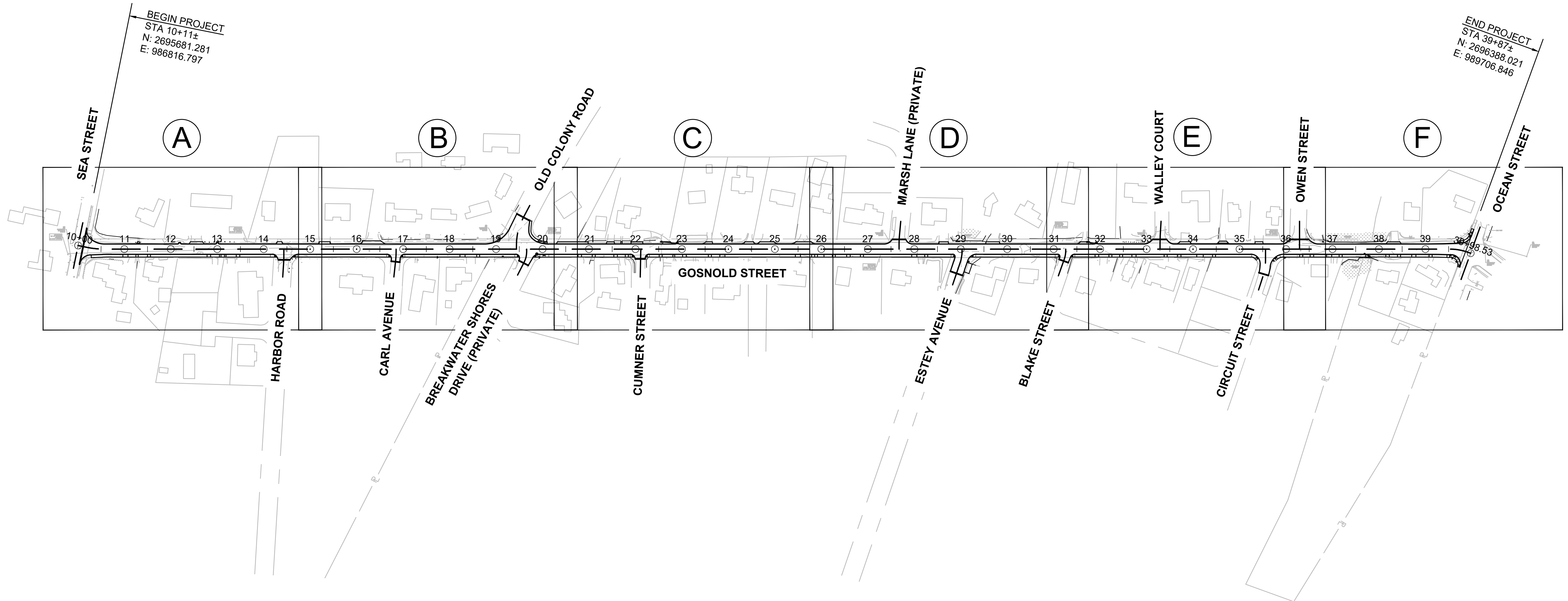
LEGEND & ABBREVIATIONS

Sheet No.

02



SHEET REFERENCE	A	B	C	D	E	F
DRAWING TITLE:	DRAWING NUMBER:					
SURVEY CONTROL PLANS & EXISTING CONDITIONS	06	07	08	09	10	11
CONSTRUCTION PLANS	12	13	14	15	16	17
CURB TIE PLANS	18	19	20	21	22	23
TRAFFIC SIGNS & PAVEMENT MARKINGS PLANS	24	25	26	27	28	29



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ROADWAY IMPROVEMENTS ALONG GOSNOLD STREET
 BARNSTABLE, MASSACHUSETTS

KEY PLAN

Sheet No.

03

SURVEY NOTES:

1. THE TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED ON A GROUND SURVEY PERFORMED BY MERRILL ENGINEERS AND LAND SURVEYORS BETWEEN NOVEMBER 2022 AND JANUARY 2023.
2. ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
3. THE HORIZONTAL DATUM OF THIS SURVEY IS MA MAINLAND STATE PLANE GRID NAD 1983.
4. WETLAND RESOURCE AREAS SHOWN HAVE BEEN COMPILED BASED ON OBSERVED FIELD EVIDENCE AND MASS GIS INFORMATION AND SHOULD BE CONSIDERED APPROXIMATE ONLY.
5. SUBJECT AREA IS IN THE "RB" RESIDENCE B DISTRICT AND THE AQUIFER PROTECTION DISTRICT AS DEPICTED ON THE TOWN OF BARNSTABLE ZONING MAP.
6. EXISTING UTILITIES HAVE BEEN COMPILED BASED ON OBSERVED ABOVE GROUND EVIDENCE AND AVAILABLE RECORD PLANS AND ARE TO BE CONSIDERED APPROXIMATE. MERRILL ENGINEERS AND LAND SURVEYORS DOES NOT GUARANTEE THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN OR THAT ALL EXISTING UTILITIES AND/OR SUBSURFACE STRUCTURES ARE SHOWN.
7. BUILDINGS AND PROPERTY BOUNDARIES SHOWN ARE BASED ON MASS GIS AND TOWN OF BARNSTABLE ASSESSORS RECORDS. THIS INFORMATION IS APPROXIMATE AND SHOULD BE USED AS REFERENCE ONLY.

GENERAL CONSTRUCTION NOTES:

1. CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE FOLLOWING: THE MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DATED 2023, AS AMENDED, THE 2017 CONSTRUCTION STANDARD DETAILS, THE 1996 CONSTRUCTION AND TRAFFIC STANDARD DETAILS (AS RELATES TO TRAFFIC STANDARD DETAILS ONLY), THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS WITH LATEST REVISIONS AND MASSACHUSETTS AMENDMENTS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK.
2. IT IS THE INTENT OF THE DESIGN TO PROVIDE A MINIMUM CONSTRUCTED SIDEWALK WIDTH FOR A PATH OF TRAVEL PAST ALL OBSTRUCTIONS OF 3'-0" CLEARANCE FOR HANDICAP ACCESSIBILITY (IN ACCORDANCE WITH THE LATEST A.D.A. AND MASSDOT REQUIREMENTS). THE CONTRACTOR SHALL VERIFY THAT ALL POTENTIAL OBSTRUCTIONS HAVE BEEN ADDRESSED IN THE PLANS INCLUDING BUT NOT LIMITED TO FOUNDATIONS, SIGNS, MAILBOXES, UTILITY POLES, AND HYDRANTS SO THEY ARE LOCATED TO PROVIDE THIS MINIMUM PATH OF TRAVEL CLEARANCE AND A MINIMUM 18" TYPICAL CLEARANCE TO THE FACE OF CURB OR 12" MIN. CLEARANCE WHERE 18" IS NOT FEASIBLE OR PRACTICAL. NO UTILITY POLES OR OBSTRUCTIONS ARE PERMITTED WITHIN PEDESTRIAN CURB RAMPS.
3. THE TERM "PROPOSED" (PROP) MEANS WORK TO BE CONSTRUCTED HEREIN USING NEW MATERIALS OR WHERE APPLICABLE, REUSING EXISTING MATERIALS IDENTIFIED AS "REMOVE AND RESET" (R&R). ALL OTHER MATERIALS SHALL BE "REMOVED AND DISCARDED" (R&D) OR DISPOSED OF OFF SITE WITH THE EXCEPTION OF MATERIALS LABELED AS "REMOVED AND STACKED" (R&S) WHICH SHALL BE TRANSPORTED AND AND STACKED AT A LOCATION DESIGNATED BY THE TOWN AND OR ENGINEER.
4. MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL NECESSARY CONSTRUCTION PERMITS, PAY ALL FEES INCLUDING POLICE DETAILS AND POST ALL BONDS, IF NECESSARY, ASSOCIATED WITH THE SAME, AND COORDINATE WITH THE OWNER AND THE ENGINEER.
5. THE CONTRACTOR SHALL NOT STORE ANY APPARATUS, MATERIALS, SUPPLIES, OR EQUIPMENT ON DRAINAGE STRUCTURES, PRIVATE PROPERTY OR WITHIN 100 FEET OF WETLANDS, UNLESS DIRECTED TO DO SO BY THE CONTRACT DOCUMENTS.
6. ALL EXISTING CONDITIONS SHOWN ARE APPROXIMATE AND ARE BASED ON THE BEST INFORMATION AVAILABLE. PRIOR TO THE START CONSTRUCTION VERIFY THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, NOTIFY THE OWNER AND THE ENGINEER PRIOR TO INSTALLING ANY PORTION OF THE SITE WORK WHICH WOULD BE AFFECTED.
7. THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS INDICATED ON THE DRAWINGS ARE BASED ON RECORDS OF VARIOUS UTILITY COMPANIES, AND WHEREVER POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY IN THE TOWN, AND "DIGSAFE" (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK IN PREVIOUSLY UNALTERED AREAS TO REQUEST EXACT FIELD LOCATION OF UTILITIES. THE CONTRACTOR MUST RESOLVE CONFLICTS BETWEEN THE PROPOSED UTILITIES AND FIELD-LOCATED UTILITIES AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED, INCOMPLETELY OR INACCURATELY SHOWN. THE CONTRACTOR MUST MAINTAIN ACCURATE RECORDS OF THE LOCATION AND ELEVATION OF ALL WORK INSTALLED AND EXISTING UTILITIES FOUND DURING CONSTRUCTION FOR THE PREPARATION OF THE AS-BUILT PLAN.
8. THE CONTRACTOR SHALL COORDINATE ALL ARRANGEMENTS FOR THE ALTERATION AND OR ADJUSTMENT OF ELECTRIC, TELEPHONE, GAS AND ANY OTHER PRIVATE UTILITY.
9. SHOULD AN EXISTING UTILITY BE FOUND TO BE IN CONFLICT WITH THE PROPOSED WORK, THE LOCATION, SIZE AND TYPE SHALL BE ACCURATELY DETERMINED WITHOUT DELAY, BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE TOWN AND OR ENGINEER FOR RESOLUTION OF THE CONFLICT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING OR REMODELING ALL DRAINAGE, WATER, OR SEWER STRUCTURES TO THE FINISHED ELEVATION, WITHIN THE LIMITS OF THE PROJECT, UNLESS OTHERWISE NOTED.
11. THE CONTRACTOR SHALL PERFORM TEST PITS AT LOCATIONS SHOWN ON PLAN AND AS DIRECTED BY THE TOWN AND OR ENGINEER.
12. ALL WORK TO COMPLETE THIS PROJECT AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
13. THE CONTRACTOR MUST MAINTAIN ALL EXISTING UTILITIES IN WORKING ORDER AND FREE FROM DAMAGE DURING THE ENTIRE DURATION OF THE PROJECT. REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ALL COST RELATED TO THE REPAIR OF UTILITIES. EXCAVATION REQUIRED WITHIN THE PROXIMITY OF EXISTING UTILITY LINES MUST BE DONE BY HAND
14. COORDINATE ALL TRENCHING WORK WITHIN ROADWAYS WITH THE PROPER LOCAL & STATE AGENCY. THE CONTRACTOR IS RESPONSIBLE FOR ALL TRENCH SAFETY INCLUDING ANY LOCAL AND/OR STATE PERMITS REQUIRED FOR THE TRENCH WORK. IF THIS WORK IS REQUIRED TO OCCUR OUTSIDE THE AGREED UPON HOURS OF OPERATION FOR THE FACILITY, THE CONTRACTOR MUST PLAN ACCORDINGLY.
15. INSTALL ALL UTILITY TRENCH WORK PRIOR TO INSTALLING NEW PAVEMENT AS INDICATED ON THE DRAWINGS.
16. IMPORT ONLY CLEAN MATERIAL. MATERIAL FROM AN EXISTING OR FORMER 21E SITE AS DEFINED BY THE MASSACHUSETTS CONTINGENCY PLAN 310 CMR 40.0000 WILL NOT BE ACCEPTED.
17. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH AND MAINTAIN ALL CONTROL POINTS AND BENCHMARKS DURING CONSTRUCTION INCLUDING BENCHMARK LOCATIONS AND ELEVATIONS AT CRITICAL AREAS. COORDINATE WITH THE ENGINEER THE LOCATION OF ALL CONTROL POINTS AND BENCHMARKS.
18. SITE LAYOUT SURVEY REQUIRED FOR CONSTRUCTION MUST BE PROVIDED BY THE CONTRACTOR AND PERFORMED BY A MASSACHUSETTS REGISTERED PROFESSIONAL LAND SURVEYOR. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE SURVEYOR FOR ALL SITE SURVEY WORK.
19. MAINTAIN ALL GRADE STAKES SET BY THE SURVEYOR. GRADE STAKES ARE TO REMAIN UNTIL A FINAL INSPECTION OF THE ITEM HAS BEEN COMPLETED BY THE ENGINEER. RE-STAKING OF PREVIOUSLY SURVEYED SITE FEATURES IS THE RESPONSIBILITY (INCLUDING COST) OF THE CONTRACTOR.
20. PROVIDE ALL CONSTRUCTION SERVICE IN ACCORDANCE WITH APPLICABLE LAWS AND REGULATIONS REGARDING NOISE, VIBRATION, DUST, SEDIMENTATION CONTAINMENT, AND TRENCH WORK.
21. COLLECT SOLID WASTES AND STORE IN A SECURED DUMPSTER. THE DUMPSTER MUST MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS.

GENERAL NOTES CONTINUED:

22. REGULARLY INSPECT THE PERIMETER OF THE PROPERTY TO CLEAN UP AND REMOVE LOOSE CONSTRUCTION DEBRIS BEFORE IT LEAVES THE SITE. PROMPTLY REMOVE ALL DEMOLITION DEBRIS FROM THE SITE TO AN APPROVED DUMP SITE.
23. ALL TRUCKS LEAVING THE SITE MUST BE COVERED.
24. DO NOT WASH ANY CONCRETE TRUCKS ONSITE. REMOVE BY HAND ANY CEMENT OR CONCRETE DEBRIS LEFT IN THE DISTURBED AREA.
25. BURIAL OF ANY STUMPS, SOLID DEBRIS, AND/OR STONES/BOULDERS ONSITE IS PROHIBITED.
26. IMMEDIATELY CONTACT AND COORDINATE WITH THE ENGINEER AND OWNER IF ANY DEVIATION OR ALTERATION OF THE WORK PROPOSED ON THESE DRAWINGS IS REQUIRED.
27. AT THE END OF CONSTRUCTION, REMOVE ALL CONSTRUCTION DEBRIS AND SURPLUS MATERIALS FROM THE SITE PERFORM A THOROUGH INSPECTION OF THE WORK PERIMETER. COLLECT AND REMOVE ALL MATERIALS AND BLOWN OR WATER CARRIED DEBRIS FROM THE SITE.
28. SUBSURFACE UTILITY INFORMATION SHOWN HEREON IS APPROXIMATE AND IS BASED ON A COMPILATION OF RECORD INFORMATION AND OBSERVABLE EVIDENCE. A SUBSURFACE INVESTIGATION WAS NOT PERFORMED.
29. THE CONTRACTOR SHALL PROVIDE FOR THE SAFE AND ORDERLY PASSAGE OF VEHICULAR AND PEDESTRIAN TRAFFIC IN AREAS UNDER CONSTRUCTION.
30. SHOP DRAWINGS OF ALL CASTINGS, PRECAST CONCRETE STRUCTURES, PIPE AND MANUFACTURED COMPONENTS SHALL BE SUBMITTED FOR APPROVAL BEFORE ORDERING.
31. ALL PROPOSED PAVEMENT MARKINGS SHALL MEET EXISTING MARKINGS AT THE LIMITS OF WORK.
32. DETECTABLE WARNING PANELS SHALL BE INSTALLED ON ALL PEDESTRIAN CURB RAMPS AND SHALL COMPLY WITH CONSTRUCTION STANDARD E 107.6.5. PAYMENT FOR DETECTABLE WARNING PANELS SHALL BE CONSIDERED INCIDENTAL TO THE CONSTRUCTION OF THE PEDESTRIAN CURB RAMPS OR SIDEWALKS IN WHICH THEY ARE BEING INSTALLED. THE COLOR OF DETECTABLE WARNING PANELS SHALL BE FEDERAL YELLOW OR AT THE DIRECTION OF THE TOWN.
33. SEE SIGNS AND PAVEMENT MARKING PLANS FOR PROPOSED SIGNS AND DISPOSITION OF THE EXISTING SIGNS WITHIN THE PROJECT LIMITS OR AS DIRECTED BY THE TOWN.
34. DO NOT SCALE DRAWINGS UNLESS OTHERWISE NOTED. WRITTEN DIMENSIONS SHALL PREVAIL. REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.
35. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA). THE CONTRACTOR SHALL RESTORE ALL PUBLIC AND PRIVATE PROPERTY TO ITS PRE-CONSTRUCTION CONDITION AT NO ADDITIONAL COST TO THE TOWN.
36. THE CONTRACTOR SHALL RESTORE ALL PUBLIC AND PRIVATE PROPERTY TO ITS PRE-CONSTRUCTION CONDITION AT NO ADDITIONAL COST TO THE TOWN.
37. ALL EXISTING UTILITIES LINES ENCOUNTERED DURING CONSTRUCTION ARE TO REMAIN IN SERVICE. THE CONTRACTOR, AT NO ADDITIONAL COST TO THE TOWN, SHALL REPAIR ANY EXISTING SEWERS, GAS LINE, WATER MAINS, STORM DRAIN LINES, OR CULVERTS DAMAGED DURING CONSTRUCTION.
38. IN THOSE INSTANCES WHERE POWER OR TELEPHONE POLE SUPPORT IS REQUIRED, THE CONTRACTOR SHALL PROVIDE A MINIMUM 48-HOUR NOTIFICATION TO THE RESPECTIVE UTILITY COMPANY. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR TEMPORARY BRACING OF UTILITIES.
39. ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO THE TRENCH EXCAVATION SHALL BE PROTECTED AND FIRMLY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. INJURY TO ANY SUCH STRUCTURE CAUSED BY, OR RESULTING FROM, THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ALL UTILITIES REQUIRING REPAIR, RELOCATION OR ADJUSTMENT AS A RESULT OF THE PROJECT SHALL BE COORDINATED THROUGH THE RESPECTIVE UTILITY AND THE TOWN.
40. THE CONTRACTOR IS TO TAKE SPECIAL CARE NOT TO DAMAGE TREES, BUSHES, PLANTS, FLOWERS, STONEWALLS, FENCES, ETC. WITHIN THE CONSTRUCTION AREA UNLESS THEY ARE NOTED TO BE REMOVED. CONTRACTOR SHALL REPLACE AT NO COST TO OWNER, ALL DAMAGED ITEMS.
41. CONTRACTOR SHALL REMOVE AND REPLACE, OR REPAIR, ALL CURBS, SIDEWALKS, PAVEMENT AND OTHER ITEMS DAMAGED BY HIS CONSTRUCTION ACTIVITIES TO AT LEAST THEIR ORIGINAL CONDITION, AND TO THE SATISFACTION OF THE TOWN AND ENGINEER.
42. ANY TRAFFIC SIGNAL EQUIPMENT (LIGHTS, CONDUITS, LOOP DETECTORS) DISTURBED SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AS DIRECTED BY THE TOWN AT THE CONTRACTOR'S EXPENSE.
43. THE CONTRACTOR SHALL INSTALL AND MAINTAIN TRAFFIC CONTROL DEVICES AS NECESSARY AND IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
44. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A TELEPHONE NUMBER WHERE THE CONTRACTOR CAN BE REACHED 24 HOURS A DAY, 7 DAYS A WEEK.
45. THE LOCATION AND LIMITS OF ALL ON-SITE WORK AND STORAGE AREAS SHALL BE REVIEWED/COORDINATED WITH, AND ACCEPTABLE TO THE TOWN. THE CONTRACTOR SHALL LIMIT ACTIVITIES TO THESE AREAS.
46. THE CONTRACTOR SHALL BE REQUIRED TO TEMPORARILY PAVE ALL DISTURBED TRAVEL WAYS, SIDEWALKS & DRIVEWAYS NOT UNDER CONSTRUCTION OR IF LEFT DURING NON WORKING HOURS AND AS REQUIRED BY THE TOWN.

STORMWATER FACILITY OPERATION & MAINTENANCE (IF APPLICABLE):

THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER INSPECTION AND MAINTENANCE OF ALL STORMWATER MANAGEMENT FACILITIES AS OUTLINED BELOW UNTIL SUCH TIME THAT THE ROADWAYS AND ASSOCIATED UTILITIES ARE ACCEPTED BY THE OWNER AND THE ENGINEER.

1. INSPECT AND RESTORE/CLEAN ALL FACILITIES (INLETS, MANHOLES, INFILTRATION BASINS, ETC.) OF SEDIMENT AND DEBRIS PRIOR TO THE OWNER'S ACCEPTANCE.
2. REMOVE AND DISPOSE ALL SEDIMENT AND DEBRIS AT A PRE-APPROVED LOCATION AS APPROVED BY THE TOWN.
3. REFER TO THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR ADDITIONAL INFORMATION PERTAINING TO STORMWATER FACILITY OPERATION AND MAINTENANCE REQUIREMENTS. MAINTAIN A WORKING COPY OF THE SWPPP ON SITE AT ALL TIMES.
4. INSPECT AFTER EVERY MAJOR RAINFALL EVENT FOR THE ENTIRE DURATION OF THE CONSTRUCTION PROJECT AND THE FIRST 3 MONTHS AFTER CONSTRUCTION TO ENSURE PROPER STABILIZATION AND CONSTRUCTION.
5. MAINTENANCE REQUIRED FOR DRAINAGE STRUCTURES (INLETS, MANHOLES & CATCHBASINS): ALL DRAINAGE STRUCTURES WILL BE INSPECTED BY THE CONTRACTOR TO MONITOR FOR PROPER OPERATION, COLLECTION OF LITTER OR TRASH, AND STRUCTURAL DETERIORATION. THE BASINS WILL BE CLEANED OF SEDIMENT (INCLUDING SUMPS) AS NECESSARY, AND REPAIRED WHEN REQUIRED.
6. OPERATION AND MAINTENANCE CHECKLIST AVAILABLE UPON REQUEST

EROSION & SEDIMENT CONTROL (ESC) NOTES:

1. REFER TO THE STORMWATER AND POLLUTION PREVENTION PLAN (SWPPP) REGARDING ALL EROSION CONTROL MATTERS. MAINTAIN A WORKING COPY OF THE SWPPP ONSITE AT ALL TIMES. FOLLOW THE SWPPP PROTOCOL FOR SITE MAINTENANCE, INSPECTIONS AND PROPER DOCUMENTATION UNTIL THE SITE HAS BEEN ACCEPTED BY THE OWNER. AT THE COMPLETION OF THE PROJECT THE CONTRACTOR OR OWNER MUST FILE A NOTICE OF TERMINATION WITH NPDES. IN ACCORDANCE WITH NPDES REGULATIONS, THE COMPLETED SWPPP MUST INCLUDE ALL OF THE SITE EROSION CONTROL DOCUMENTATION, WEEKLY EROSION INSPECTION REPORTS COMPLETED BY THE DESIGNATED SITE PERSONNEL, AND ANY OTHER PERTINENT SITE DOCUMENTATION MUST BE RETAINED FOR A MINIMUM OF 3 YEARS FROM THE DATE OF TERMINATION.
2. THE CONTRACTOR SHALL DESIGNATE ON-SITE PERSONNEL RESPONSIBLE FOR THE DAILY INSPECTION AND MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROLS AND IMPLEMENTATION OF ALL NECESSARY MEASURES TO CONTROL EROSION AND PREVENT SEDIMENT FROM LEAVING THE SITE.
3. INSTALL ALL EROSION AND SEDIMENT CONTROL (ESC) MEASURES AS INDICATED ON DRAWINGS IN CONSULTATION WITH THE ENGINEER BEFORE ANY CONSTRUCTION ACTIVITIES BEGIN. INSPECT, MAINTAIN, REPAIR AND REPLACE EROSION CONTROL MEASURES, AS NECESSARY, DURING THE ENTIRE CONSTRUCTION PERIOD OF THE PROJECT. THE SITE PERIMETER EROSION CONTROLS ARE THE DESIGNATED LIMIT OF WORK. INFORM ALL PERSONNEL WORKING ON THE PROJECT SITE THAT NO CONSTRUCTION ACTIVITY IS TO OCCUR BEYOND THE LIMIT OF WORK AT ANY TIME THROUGHOUT THE CONSTRUCTION PERIOD.
4. PROTECT THE ADJACENT RESOURCE AREA FROM SEDIMENTATION DURING PROJECT CONSTRUCTION UNTIL ACCEPTANCE BY THE OWNER & IN CONFORMANCE WITH THE ORDER OF CONDITIONS.
5. KEEP THE LIMIT OF CLEARING, GRADING AND DISTURBANCES TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. PHASE THE SITE WORK IN A MANNER TO MINIMIZE AREAS OF EXPOSED SOIL. IF TREES ARE TO BE CUT, CLEAR AND GRUB ONLY THOSE AREAS WHICH ARE ACTIVELY UNDER CONSTRUCTION. PROPERLY INSTALL THE SEDIMENTATION CONTROLS PRIOR TO BEGINNING ANY LAND CLEARING ACTIVITY AND/OR OTHER CONSTRUCTION RELATED WORK.
6. MONITOR LOCAL WEATHER REPORTS DURING CONSTRUCTION AND PRIOR TO SCHEDULING EARTHMOVING OR OTHER CONSTRUCTION ACTIVITIES WHICH LEAVE LARGE DISTURBED AREAS UNSTABILIZED. IF INCLEMENT WEATHER IS PREDICTED, USE BEST PROFESSIONAL JUDGEMENT AND GOOD CONSTRUCTION PRACTICES WHEN SCHEDULING CONSTRUCTION ACTIVITIES AND ENSURE THE NECESSARY EROSION CONTROL DEVICES ARE INSTALLED AND FUNCTIONING PROPERLY TO MINIMIZE EROSION FROM ANY IMPENDING WEATHER EVENTS.
7. INSPECT EROSION AND SEDIMENT CONTROL DEVICES AND STABILIZED SLOPES ON A WEEKLY BASIS AND AFTER EACH RAINFALL EVENT OF .25 INCH OR GREATER. REPAIR IDENTIFIED PROBLEMS WITHIN 24 HOURS TO ENSURE EROSION AND SEDIMENT CONTROLS ARE IN GOOD WORKING ORDER. RESET OR REPLACE MATERIALS AS REQUIRED.
8. SURROUND THE PERIMETER OF SOIL STOCKPILES WITH SILT SOCK, SILT FENCE, STRAWBALES, OR A COMBINATION OF SILT FENCE WITH STRAWBALE, AS DETERMINED NECESSARY.
9. DISTURBED AREAS AND SLOPES MUST NOT BE LEFT UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON. PROVIDE APPROPRIATE STABILIZATION PRACTICES ON ALL DISTURBED AREAS AS SOON AS POSSIBLE BUT NOT MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS TEMPORARILY OR PERMANENTLY CEASED. REINFORCE TEMPORARY AREAS HAVING A SLOPE GREATER THAN 4:1 WITH EROSION BLANKETS OR APPROVED EQUAL UNTIL THE SITE IS PROPERLY STABILIZED. TEMPORARY SWALES MAY ALSO BE REQUIRED IF DETERMINED NECESSARY IN THE FIELD BY THE ENGINEER.
10. INSTALL A CATCH BASIN SILT SACK OR APPROVED EQUIVALENT IN EACH EXISTING CATCH BASIN RECEIVING RUNOFF FROM THE SITE. UPON THE INSTALLATION OF EACH CATCH BASIN, INSTALL SILT SACK OR APPROVED EQUIVALENT. INSPECT SILT SACKS, AFTER EACH SIGNIFICANT STORM EVENT AND REMOVE AND EMPTY AS NEEDED FOR THE DURATION OF THE CONSTRUCTION PERIOD.
11. SMALL SEDIMENTATION BASINS MAY BE CONSTRUCTED ON AN AS-NEEDED BASIS DURING CONSTRUCTION TO AID IN THE CAPTURE OF SITE RUNOFF AND SEDIMENT. IT WILL BE THE RESPONSIBILITY OF THE SITE CONTRACTOR, IN CONSULTATION WITH THE ENGINEER, TO SIZE AND CREATE THESE BASINS IN APPROPRIATE LOCATIONS.
12. CONTAIN ALL SEDIMENT ON SITE. SWEEP ALL EXITS FROM THE SITE AS NECESSARY INCLUDING ANY SEDIMENT TRACKING. SWEEP PAVED AREAS AS NEEDED TO REMOVE SEDIMENT AND POTENTIAL POLLUTANTS ACCUMULATED DURING SITE CONSTRUCTION.
13. REMOVE ACCUMULATED SEDIMENT FROM ALL TEMPORARY PRACTICES AND DISPOSE OF IN A PRE-APPROVED LOCATION.
14. TO ENSURE ALL EROSION AND SEDIMENTATION CONTROL DEVICES ARE PROPERLY MAINTAINED AND REPAIRED IN A TIMELY AND RESPONSIBLE MANNER, PROVIDE ON SITE OR MAKE READILY AVAILABLE, THE NECESSARY EQUIPMENT AND SITE PERSONNEL DURING CONSTRUCTION HOURS FOR THE DURATION OF THE PROJECT. IF SITE WORK IS SUSPENDED DURING THE WINTER MONTHS THE CONTRACTOR MUST CONTINUE TO PROVIDE PERSONNEL AND EQUIPMENT ON SITE OR READILY AVAILABLE.
15. CONTROL DUST BY WATERING OR OTHER APPROVED METHODS AS NECESSARY, OR AS DIRECTED BY THE ENGINEER.

DEWATERING (IF APPLICABLE):

1. IF THE WATER TABLE IS ENCOUNTERED DURING EXCAVATION, TEMPORARILY LOWER THE WATER TABLE BY PUMPING AS INDICATED IN THE DEWATERING SUMP DETAIL. INSTALL A DEWATERING BASIN AS INDICATED IN THE DEWATERING BAG DETAIL AND PROVIDE A DEWATERING PLAN DEPICTING PROPOSED DEWATERING LOCATION. DIRECT THE PUMP DISCHARGE TO THIS BASIN TO PREVENT SEDIMENTS FROM LEAVING THE CONSTRUCTION AREA. INSTALL ADDITIONAL BASINS IF REQUIRED. INSTALL THE BASIN AS INDICATED ON DRAWINGS IF SO NOTED, OTHERWISE INSTALL THE BASIN(S) WITHIN THE LIMIT OF DISTURBANCE INDICATED BY THE SILT FENCE OR STRAWBALES.
2. PRIOR TO ANY DEWATERING, THE DEWATERING PLAN MUST BE APPROVED BY THE ENGINEER.
3. IF DEWATERING IS NECESSARY DURING CONSTRUCTION, IMPLEMENT THE PROPER ESC MEASURES ON SITE TO PREVENT EROSION OR SEDIMENT RUNOFF. THESE MEASURES CAN INCLUDE DEWATERING BAGS, TEMPORARY STRAWBALES, SILT FENCES, SILT SOCKS AND/OR OTHER APPROVED DEVICES AS INDICATED IN THE DETAILS.



MARK	DATE	DESCRIPTION

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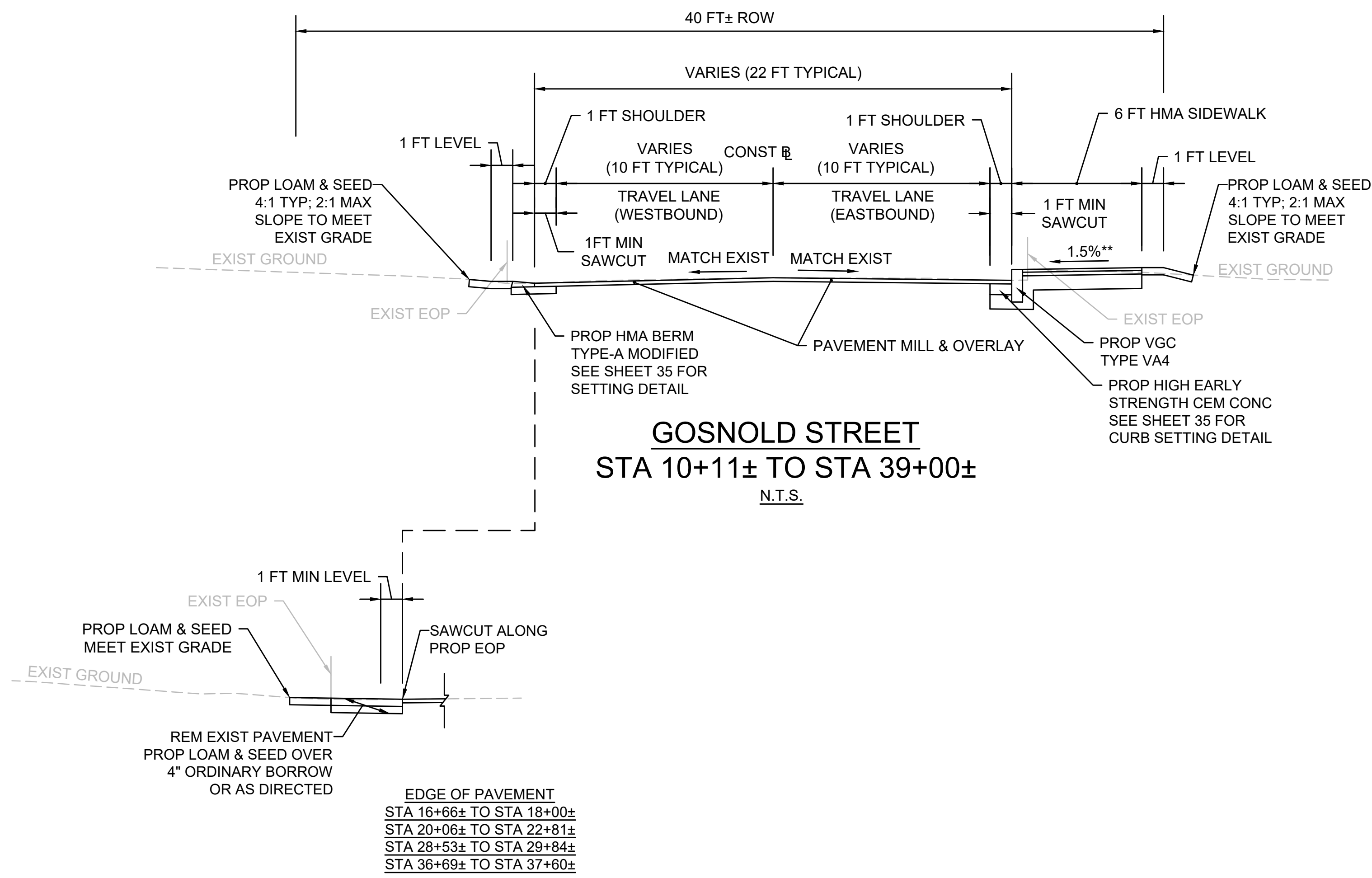
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ROADWAY IMPROVEMENTS ALONG GOSNOLD STREET BARNSTABLE, MASSACHUSETTS

GENERAL NOTES

Sheet No.

04



PAVEMENT NOTES

PROPOSED PAVEMENT MILLING & OVERLAY

SURFACE: 2" SUPERPAVE SURFACE COURSE 12.5 (SSC - 12.5) OVER ASPHALT EMULSION FOR TACK COAT (RS-1H) @ 0.08 GAL/SY OVER

*LEVELING: VARIABLE DEPTH AS DIRECTED OVER

MILLING: VARIABLE DEPTH PAVEMENT MILLING

PROPOSED FULL DEPTH PATCHING

SURFACE: 2" SUPERPAVE SURFACE COURSE 12.5 (SSC - 12.5) OVER ASPHALT EMULSION FOR TACK COAT (RS-1H) @ 0.07 GAL/SY OVER

INTERMEDIATE: 2" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC - 12.5) OVER ASPHALT EMULSION FOR TACK COAT (RS-1H) @ 0.07 GAL/SY OVER

BASE: 3" SUPERPAVE BASE COURSE 37.5 (SBC - 37.5) OVER

SUBBASE: 4" DENSE GRADED CRUSHED STONE OVER 4" GRAVEL BORROW, TYPE B (SEE NOTE 3)

PROPOSED HOT MIX ASPHALT DRIVEWAY

SURFACE 1½" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5) OVER 2" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER

SUBBASE: 4" GRAVEL BORROW, TYPE B (SEE NOTE 3)

PROPOSED HOT MIX ASPHALT SIDEWALK

SURFACE: 1" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5) OVER 2" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER

SUBBASE: 4" GRAVEL BORROW, TYPE B (SEE NOTE 3)

PROPOSED CEMENT CONCRETE PEDESTRIAN CURB RAMP

SURFACE: 4" CEMENT CONCRETE AIR ENTRAINED (4000 PSI, ¾", 610LB) OVER

SUBBASE: 4" GRAVEL BORROW, TYPE B (SEE NOTE 3)

PROPOSED LOAM & SEED

SURFACE: 4" LOAM BORROW

SUBBASE: VARIABLE DEPTH SUITABLE EXCAVATED MATERIAL OR ORDINARY BORROW (AS DIRECTED)

NOTES:

- ALL SAWCUTS INCLUDING THOSE IN DRIVEWAYS SHALL BE SEALED WITH A LIQUID ASPHALT SEALER PAID FOR UNDER ITEM 453. HMA JOINT SEALANT.
- DURING EXCAVATION, MATERIALS DEEMED BY THE TOWN AND OR ENGINEER TO BE SUITABLE WILL BE RETAINED OR USED AS ORDINARY BORROW FOR FILL AREA. ANY UNSUITABLE SOILS DETERMINED BY THE CITY AND OR ENGINEER SHALL BE REMOVED AND REPLACED WITH SUITABLE SUBBASE AS IDENTIFIED ABOVE.
- GRAVEL BORROW TYPE B SHALL ONLY BE USED WHEN NO SUITABLE EXCAVATED MATERIAL CAN BE UTILIZED AS APPROVED BY THE TOWN AND/OR ENGINEER. IF THE TOWN DETERMINES THAT THE EXISTING MATERIAL UNDERNEATH THE LIMITS OF EXCAVATION IS NOT SUITABLE AS A SUBBASE, THE THICKNESS OF THE GRAVEL BORROW (TYPE B) SUBBASE SHALL BE INCREASED TO 8" AS DIRECTED.

* LEVELING COURSE TO BE PAID FOR UNDER ITEM 450.53. SUPERPAVE LEVELING COURSE - 12.5 (SLC - 12.5) AT THE DIRECTION OF THE TOWN AND OR ENGINEER

** 0.5%± CONSTRUCTION TOLERANCE



ENVIRONMENTAL PARTNERS
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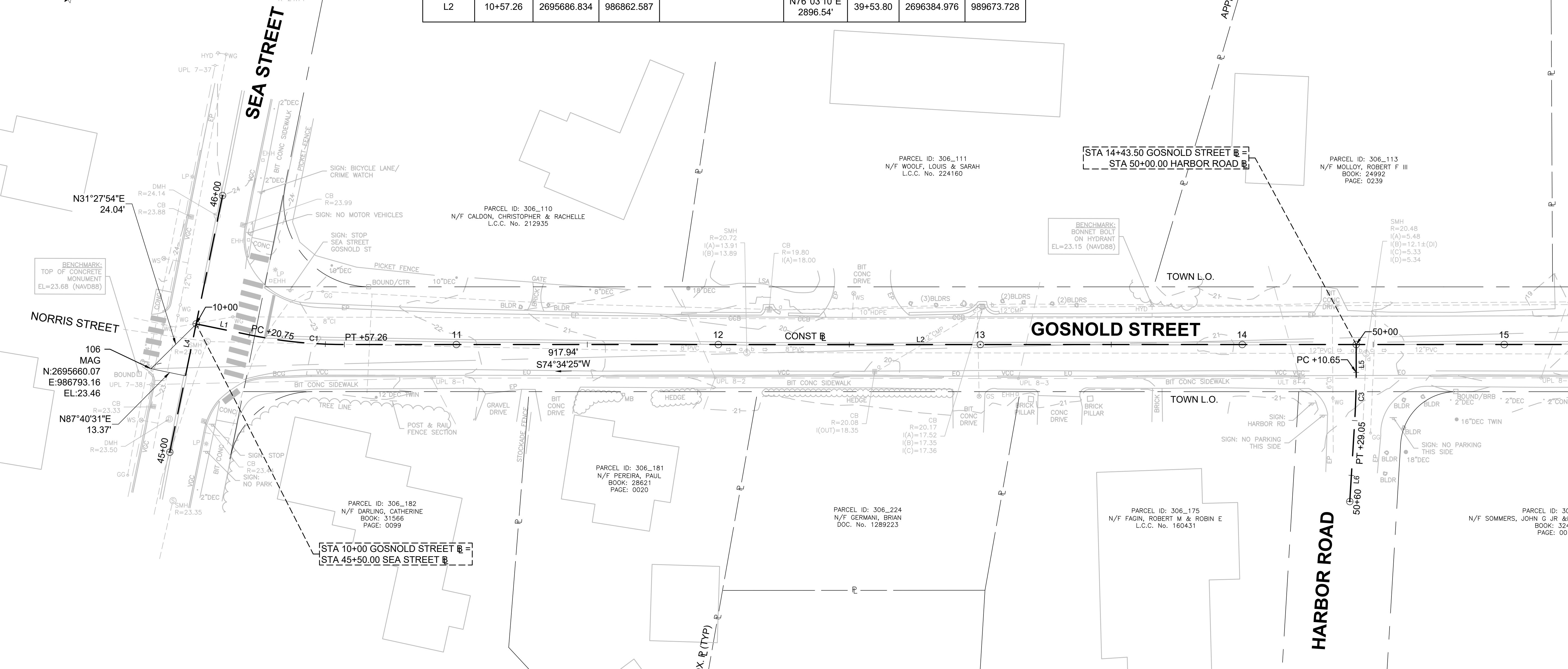
ROADWAY IMPROVEMENTS ALONG GOSNOLD STREET BARNSTABLE, MASSACHUSETTS

TYPICAL SECTIONS

Sheet No.

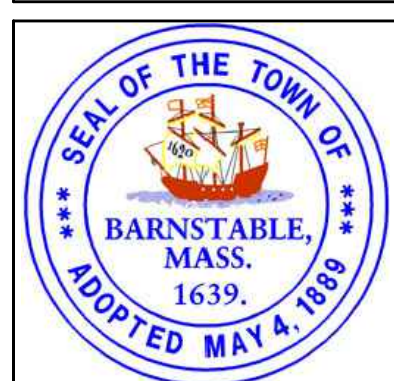
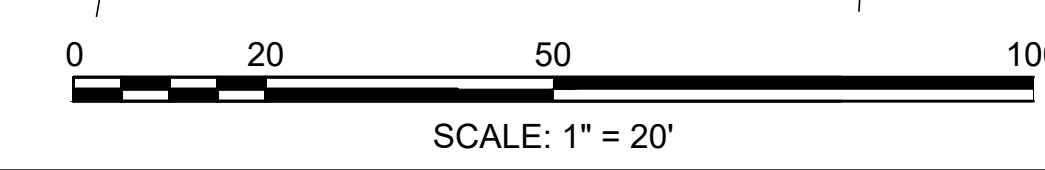
05

GOSNOLD STREET CONSTRUCTION BASELINE DATA								
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L1	10+00.00	2695680.834	986805.773		N87°40'31"E 20.75'	10+20.75	2695681.675	986826.504
C1	10+20.75	2695681.675	986826.504	R=180.00' Δ=11°37'20" L=36.51' T=18.32'		10+57.26	2695686.834	986862.587
L2	10+57.26	2695686.834	986862.587		N76°03'10"E 2896.54'	39+53.80	2696384.976	989673.728



SEA STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L4	45+00.00	2695630.875	986807.801		N2°19'29"W 100.00'	46+00.00	2695730.793	986803.744

HARBOR ROAD CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L5	50+00.00	2695779.928	987237.439		S13°56'50"E 10.65'	50+10.65	2695769.593	987240.006
C3	50+10.65	2695769.593	987240.006	R=300.00' Δ=3°30'50" L=18.40' T=9.20'		50+29.05	2695751.613	987243.890
L6	50+29.05	2695751.613	987243.890		S10°26'00"E 30.95'	50+60.00	2695721.173	987249.495



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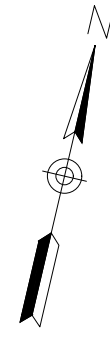
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ROADWAY IMPROVEMENTS ALONG GOSNOLD STREET BARNSTABLE, MASSACHUSETTS
SURVEY CONTROL PLANS - 01

Sheet No.
06

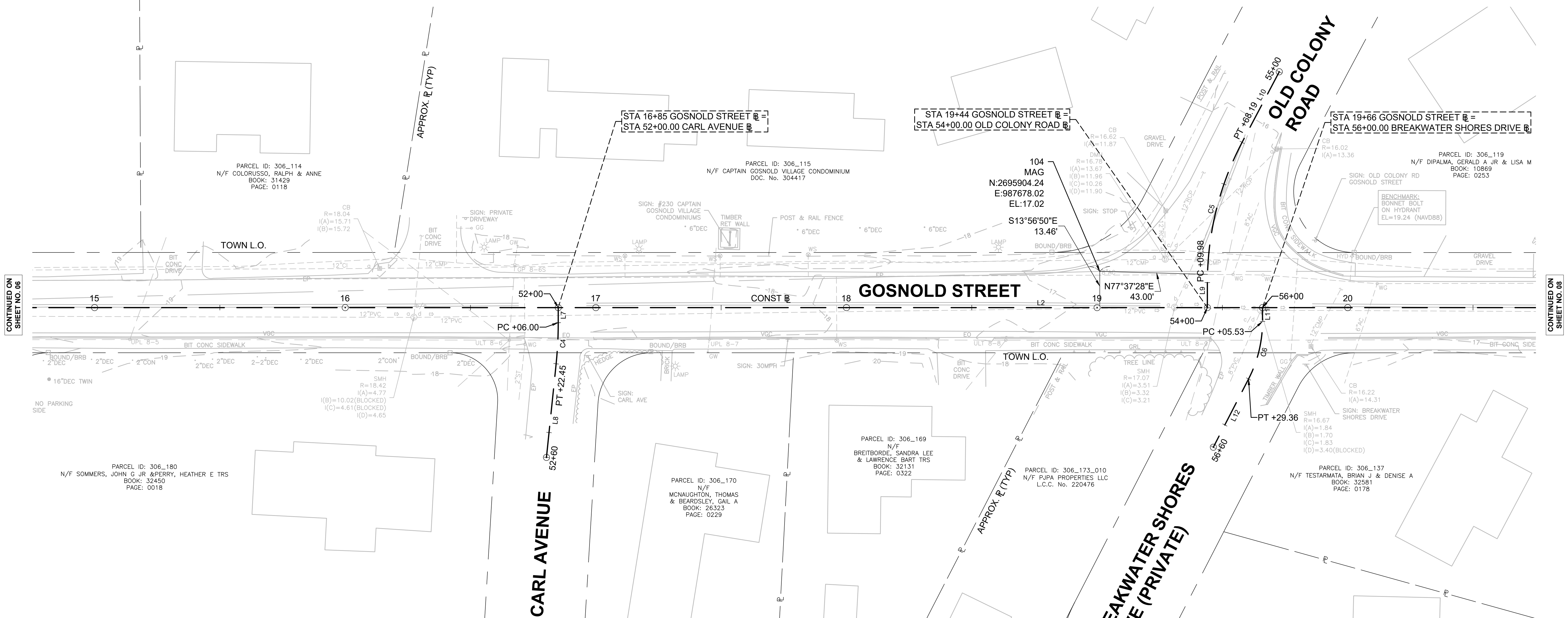
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CARL AVENUE CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L7	52+00.00	2695838.136	987471.819		S13°56'50"E 6.00'	52+06.00	2695832.314	987473.265
C4	52+06.00	2695832.314	987473.265	R=160.00' Δ=5°53'27" L=16.45' T=8.23'		52+22.45	2695816.173	987476.403
L8	52+22.45	2695816.173	987476.403		S8°03'22"E 37.55'	52+60.00	2695778.993	987481.666

OLD COLONY ROAD CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L9	54+00.00	2695900.562	987723.184		N13°56'50"W 9.98'	54+09.98	2695910.252	987720.777
C5	54+09.98	2695910.252	987720.777	R=120.00' Δ=27°47'30" L=58.21' T=29.69'		54+68.19	2695967.890	987720.726
L10	54+68.19	2695967.890	987720.726		N13°50'40"E 31.81'	55+00.00	2695998.774	987728.337

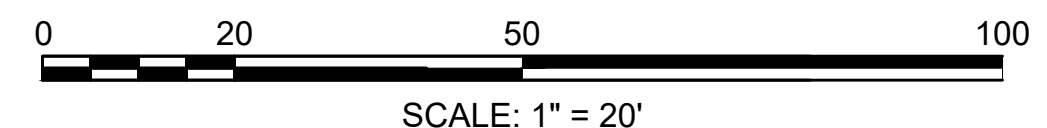


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BREAKWATER SHORES DRIVE CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L11	56+00.00	2695905.864	987744.535		S13°56'50"E 5.53'	56+05.53	2695900.494	987745.869
C6	56+05.53	2695900.494	987745.869	R=50.00' Δ=27°18'08" L=23.83' T=12.14'		56+29.36	2695876.893	987745.991
L12	56+29.36	2695876.893	987745.991		S13°21'19"W 30.64'	56+60.00	2695847.081	987738.913

GOSNOLD STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L2	10+57.26	2695686.834	986862.587		N76°03'10"E 2896.54'	39+53.80	2696384.976	989673.728



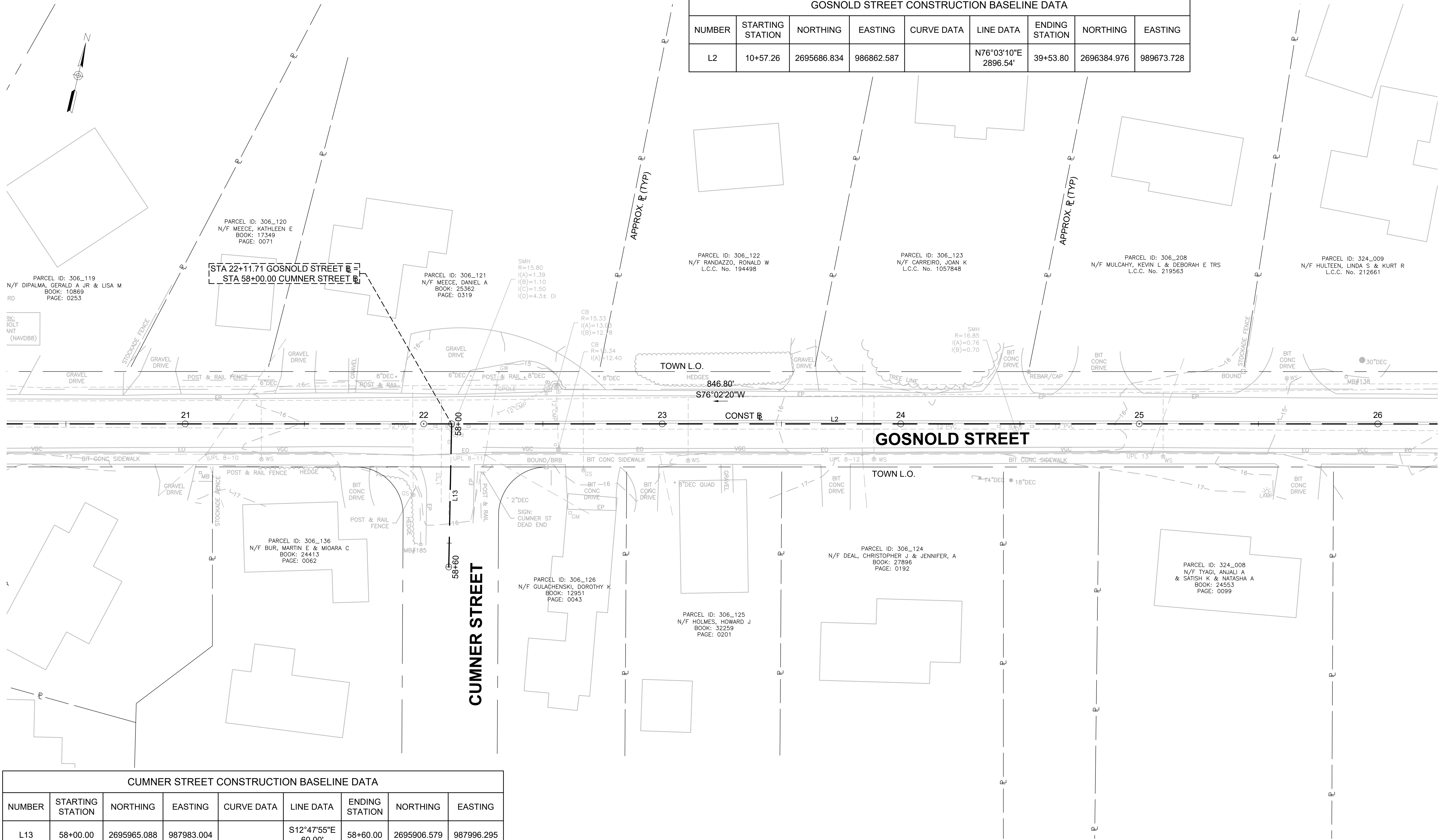
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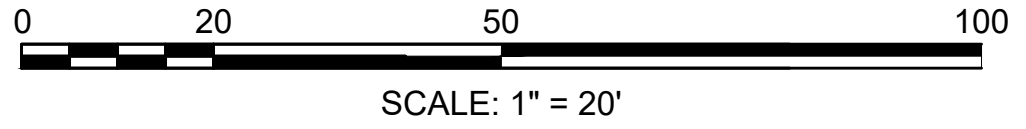
ROADWAY IMPROVEMENTS ALONG GOSNOLD STREET BARNSTABLE, MASSACHUSETTS
SURVEY CONTROL PLANS - 02

Sheet No.
07

GOSNOLD STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L2	10+57.26	2695686.834	986862.587		N76°03'10"E 2896.54'	39+53.80	2696384.976	989673.728

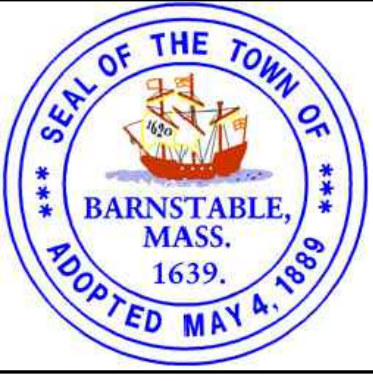


CUMNER STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L13	58+00.00	2695965.088	987983.004		S12°47'55"E 60.00'	58+60.00	2695906.579	987996.295



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ROADWAY IMPROVEMENTS ALONG GOSNOLD STREET BARNSTABLE, MASSACHUSETTS

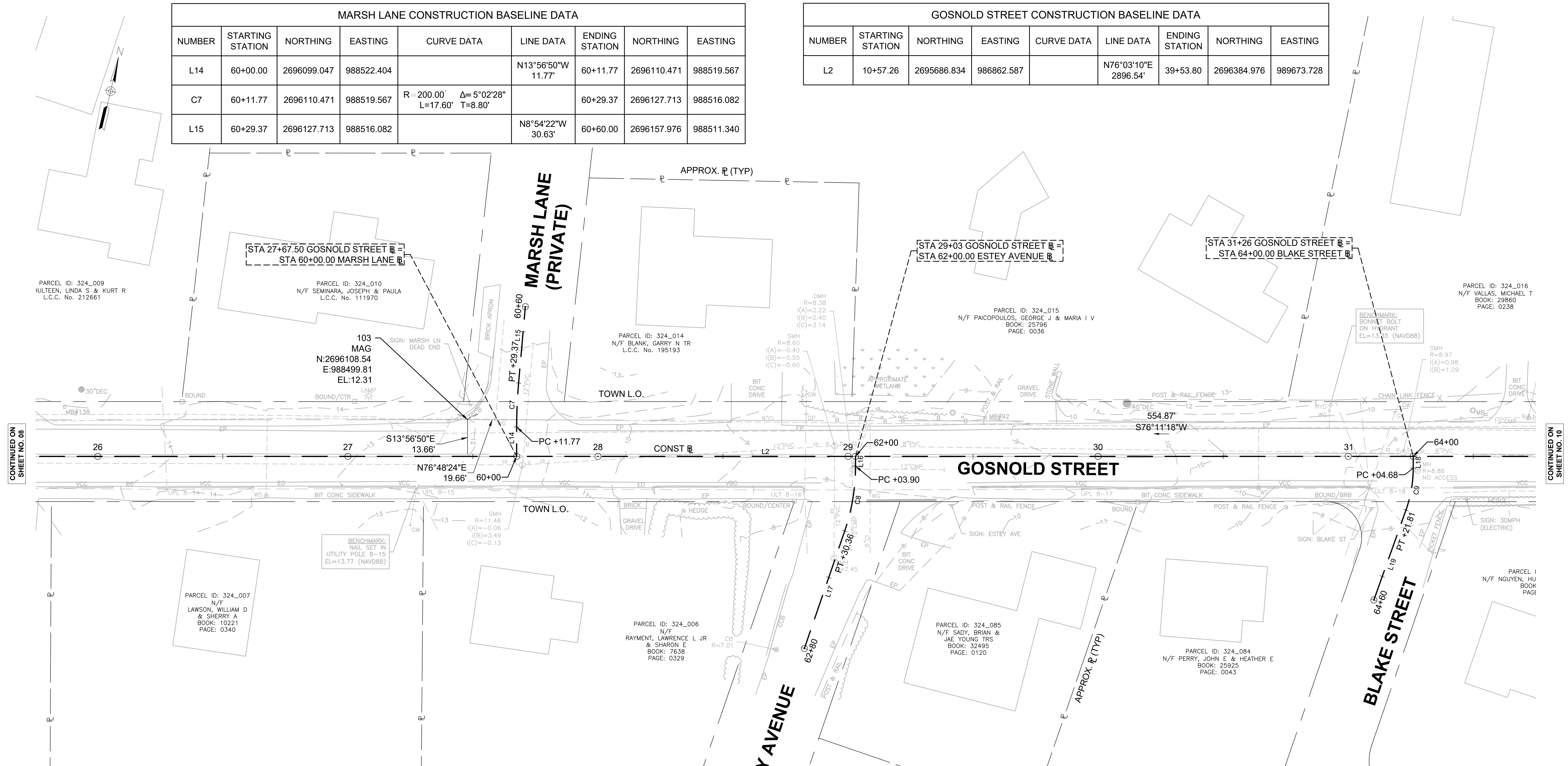
SURVEY CONTROL PLANS - 03

Sheet No.

08

MARSH LANE CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L14	60+00.00	2696099.047	988522.404		N13°56'50"W 11.77'	60+11.77	2696110.471	988519.567
C7	60+11.77	2696110.471	988519.567	R=200.00' Δ=5°02'28" L=17.60' T=8.80'		60+29.37	2696127.713	988516.082
L15	60+29.37	2696127.713	988516.082		N8°54'22"W 30.63'	60+60.00	2696157.976	988511.340

GOSNOLD STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L2	10+57.26	2695686.834	986862.587		N76°03'10"E 2896.54'	39+53.80	2696384.976	989673.728

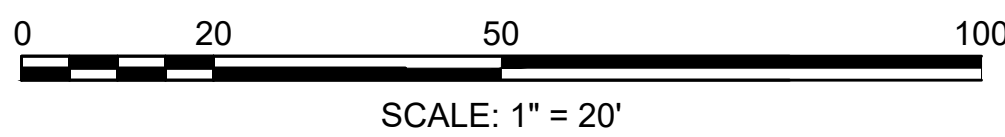


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ESTEY AVENUE CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L16	62+00.00	2696131.706	988653.911		S13°56'50"E 3.90'	62+03.90	2696127.921	988654.851
C8	62+03.90	2696127.921	988654.851	R=80.00' Δ=18°56'59" L=26.46' T=13.35'		62+30.36	2696101.663	988656.905
L17	62+30.36	2696101.663	988656.905		S5°00'09"W 49.64'	62+80.00	2696052.211	988652.576

BLAKE STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L18	64+00.00	2696185.455	988870.337		S13°56'50"E 4.68'	64+04.68	2696180.910	988871.466
C9	64+04.68	2696180.910	988871.466	R=50.00' Δ=19°37'49" L=17.13' T=8.65'		64+21.81	2696163.907	988872.694
L19	64+21.81	2696163.907	988872.694		S5°41'00"W 38.19'	64+60.00	2696125.909	988868.912



Scale	AS NOTED	
Date	MAR 2023	
Job No.	22010758	
Designed by	JM	
Drawn by	JM	
Checked by	BLH	
Approved by	JDF	
MARK	DATE	DESCRIPTION

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

ROADWAY IMPROVEMENTS ALONG GOSNOLD STREET BARNSTABLE, MASSACHUSETTS

SURVEY CONTROL PLANS - 04

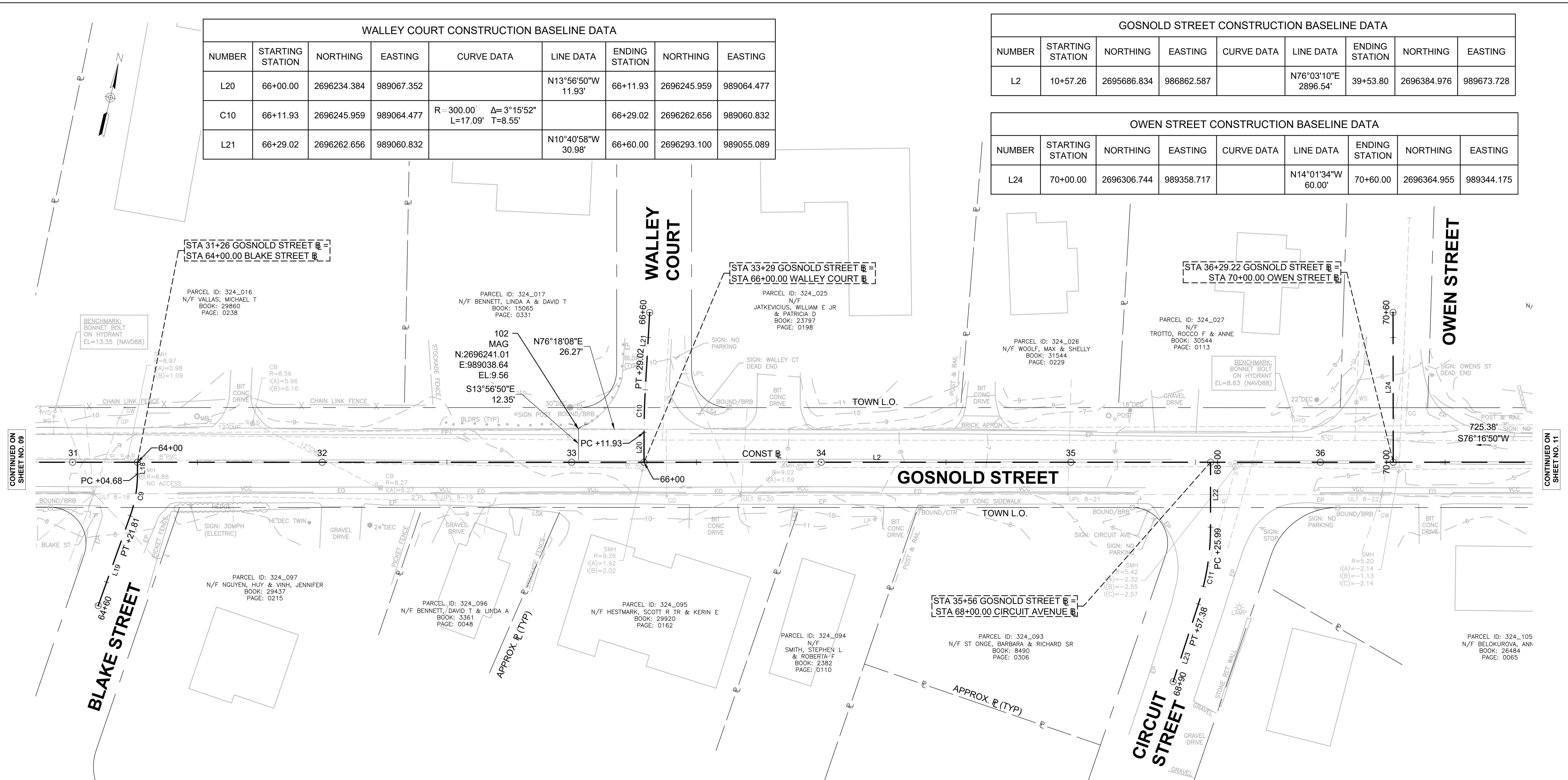
Sheet No.

09

WALLEY COURT CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L20	66+00.00	2696234.384	989067.352		N13°56'50"W 11.93'	66+11.93	2696245.959	989064.477
C10	66+11.93	2696245.959	989064.477	R=300.00' Δ=3°15'52" L=17.09' T=8.55'		66+29.02	2696262.656	989060.832
L21	66+29.02	2696262.656	989060.832		N10°40'58"W 30.98'	66+60.00	2696293.100	989055.089

GOSNOLD STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L2	10+57.26	2695686.834	986862.587		N76°03'10"E 2896.54'	39+53.80	2696384.976	989673.728

OWEN STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L24	70+00.00	2696306.744	989358.717		N14°01'34"W 60.00'	70+60.00	2696364.955	989344.175

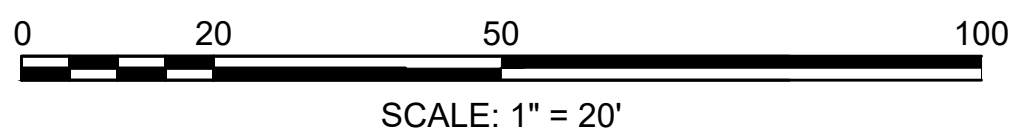


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CONTINUED ON SHEET NO. 11

BLAKE STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L18	64+00.00	2696185.455	988870.337		S13°56'50"E 4.68'	64+04.68	2696180.910	988871.466
C9	64+04.68	2696180.910	988871.466	R=50.00' Δ=19°37'49" L=17.13' T=8.65'		64+21.81	2696163.907	988872.694
L19	64+21.81	2696163.907	988872.694		S5°41'00"W 38.19'	64+60.00	2696125.909	988868.912

CIRCUIT AVENUE CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L22	68+00.00	2696289.097	989287.660		S13°56'50"E 25.99'	68+25.99	2696263.873	989293.924
C11	68+25.99	2696263.873	989293.924	R=100.00' Δ=17°59'14" L=31.39' T=15.83'		68+57.38	2696232.725	989296.623
L23	68+57.38	2696232.725	989296.623		S4°02'24"W 32.62'	68+90.00	2696200.189	989294.326

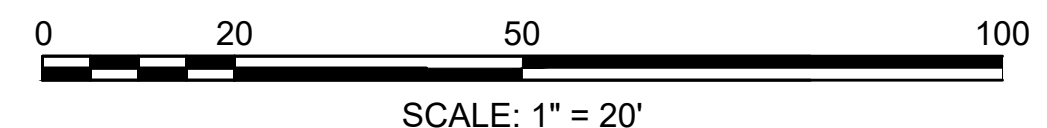
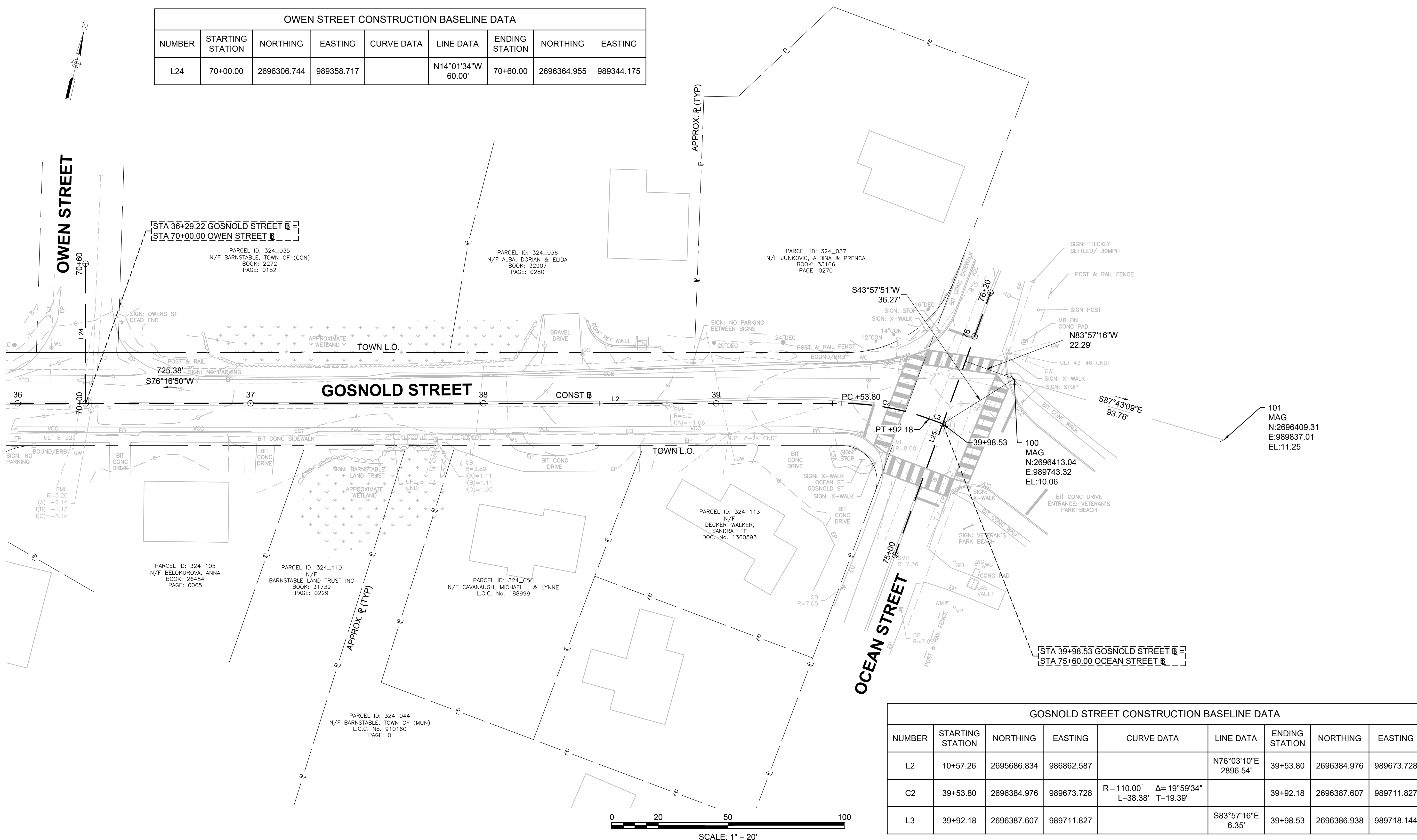


			Scale	AS NOTED		THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING	ROADWAY IMPROVEMENTS ALONG GOSNOLD STREET BARNSTABLE, MASSACHUSETTS SURVEY CONTROL PLANS - 05	Sheet No.
			MARK	DATE				DESCRIPTION

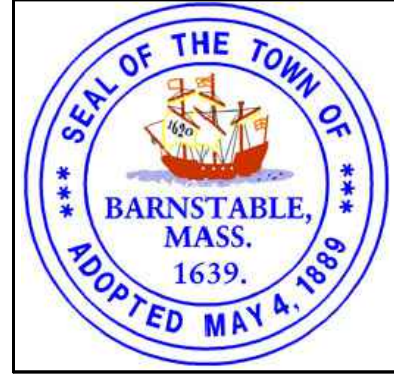
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OWEN STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L24	70+00.00	2696306.744	989358.717		N14°01'34"W 60.00'	70+60.00	2696364.955	989344.175

CONTINUED ON SHEET NO. 10



GOSNOLD STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L2	10+57.26	2695686.834	986862.587		N76°03'10"E 2896.54'	39+53.80	2696384.976	989673.728
C2	39+53.80	2696384.976	989673.728	R=110.00' Δ=19°59'34" L=38.38' T=19.39'		39+92.18	2696387.607	989711.827
L3	39+92.18	2696387.607	989711.827		S83°57'16"E 6.35'	39+98.53	2696386.938	989718.144



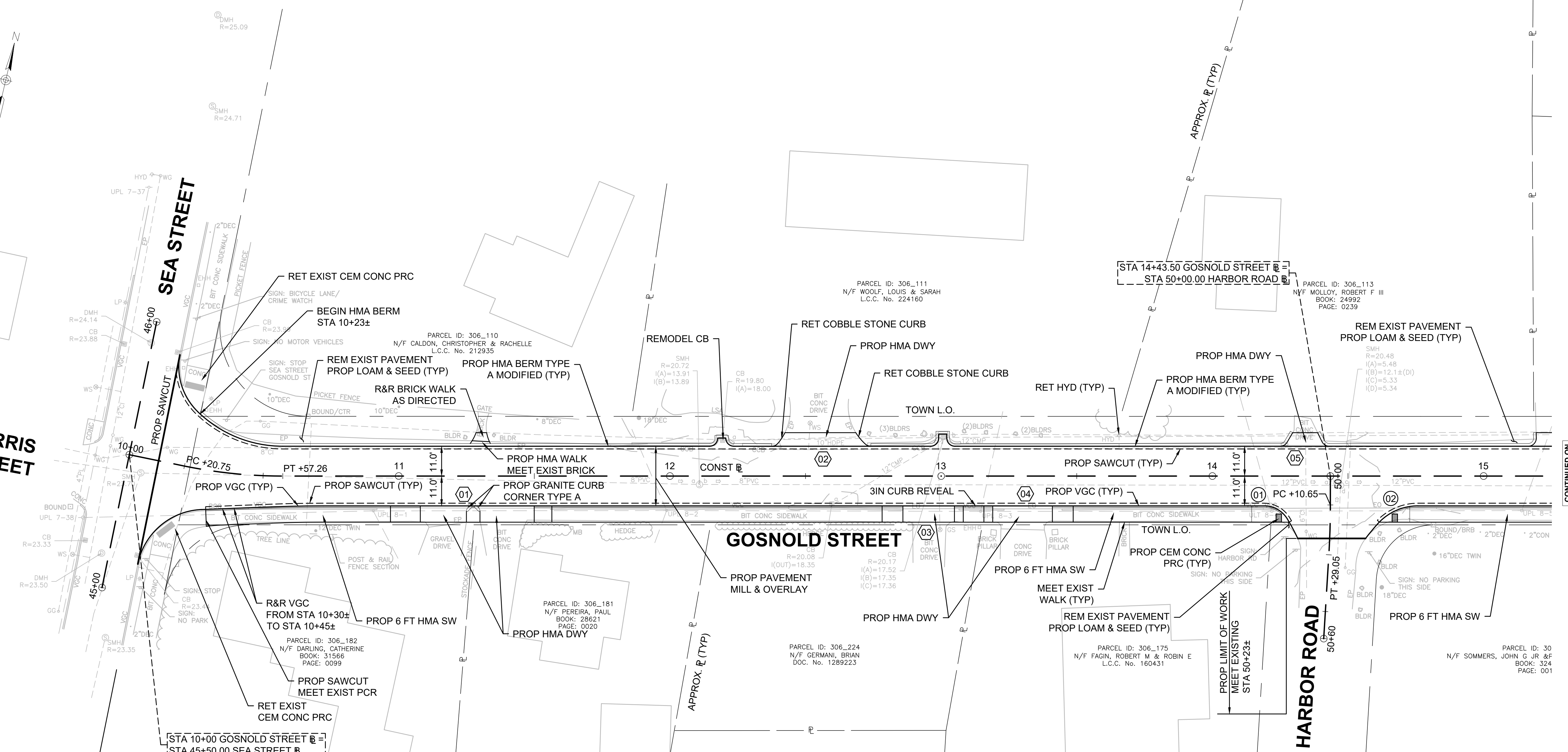
MARK	DATE	DESCRIPTION

Scale	AS NOTED
Date	MAR 2023
Job No.	22010758
Designed by	JM
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Approved by	JDF

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ROADWAY IMPROVEMENTS ALONG GOSNOLD STREET BARNSTABLE, MASSACHUSETTS
SURVEY CONTROL PLANS - 06

Sheet No.
11



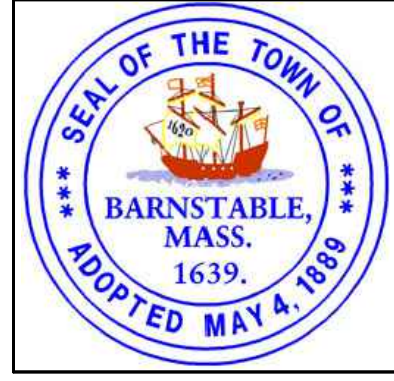
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NOTES:

1. ALL PROPOSED CURVED VERTICAL GRANITE CURB SHALL BE NEW VERTICAL GRANITE CURB TYPE VA-4.
2. ALL EXISTING GRANITE CURB SHALL BE REMOVED AND DISCARDED, UNLESS OTHERWISE NOTED ON PLANS, OR AS DIRECTED BY THE TOWN AND OR ENGINEER.
3. DETECTABLE WARNING PANELS SHALL BE FEDERAL YELLOW IN COLOR.
4. PROPOSED LIMIT OF SLOPE AND TREATMENTS AT THE BACK OF SIDEWALK SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD AT THE DIRECTION OF THE TOWN.
5. LOCATION AND LIMITS OF FULL DEPTH RECONSTRUCTION SHALL BE DETERMINED BY THE TOWN AND/OR ENGINEER DURING CONSTRUCTION.
6. ALL EXISTING CATCH BASINS, DRAINAGE MANHOLES, SEWER MANHOLES, WATER SERVICES, AND WATER GATES WITHIN LIMITS OF THE PROJECT SHALL BE ADJUSTED, UNLESS OTHERWISE NOTED ON PLANS, OR AS DIRECTED BY THE TOWN AND OR ENGINEER.
7. RETAIN ALL EXISTING UTILITY POLES WITHIN LIMITS OF THE PROJECT, PROPOSED BULB OUT AT BACK OF SIDEWALK WHERE REQUIRED TO PROVIDE A 3FT MINIMUM CLEARANCE FOR PATH OF TRAVEL BEHIND THE EXISTING UTILITY POLES TO THE BACK OF SIDEWALK.
8. PROPOSED ROADWAY GRADING WILL BE SIMILAR TO EXISTING. ANY ALTERATION SHALL BE FIELD ADJUSTED BY THE CONTRACTOR WITH THE DIRECTION OF THE TOWN. THE CONTRACTOR SHALL DETERMINE ALL PROPOSED GRADES AND PROPOSED LIMIT OF SLOPES IN THE FIELD BASED ON EXISTING CONDITIONS TO ENSURE PROPER DRAINAGE.
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10. PROPOSED CURB AT LIMITS OF WORK SHALL TRANSITION TO MEET EXISTING UNLESS OTHERWISE DIRECTED BY THE TOWN.
11. ALL EXISTING UTILITY POLES WITHIN PROPOSED PCR SHALL BE RETAINED AS DIRECTED BY THE TOWN.
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LEGEND

#	PEDESTRIAN CURB RAMP NUMBER
#	DRIVEWAY NUMBER



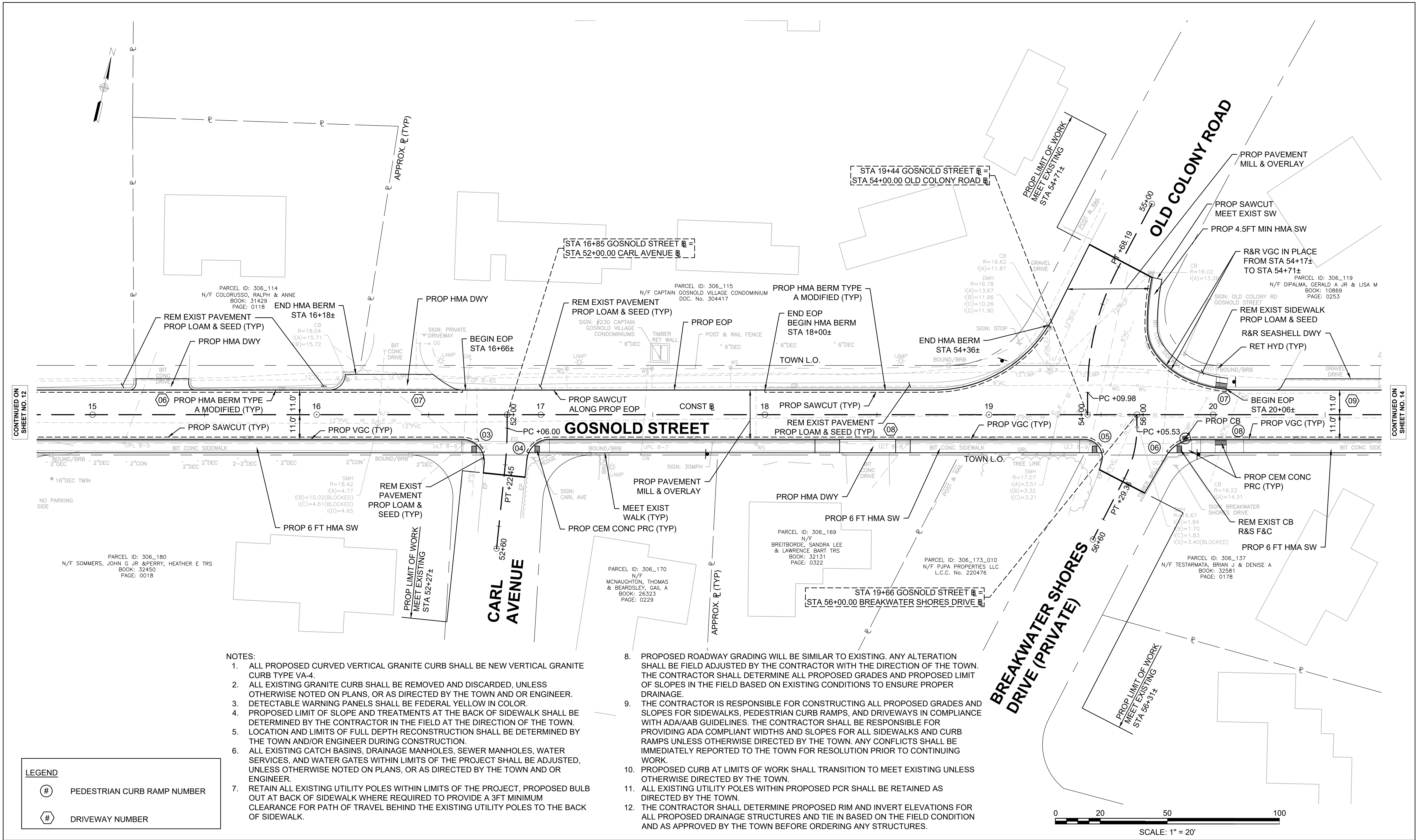
MARK	DATE	DESCRIPTION

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ROADWAY IMPROVEMENTS ALONG GOSNOLD STREET BARNSTABLE, MASSACHUSETTS
CONSTRUCTION PLANS - 01

Sheet No.
12



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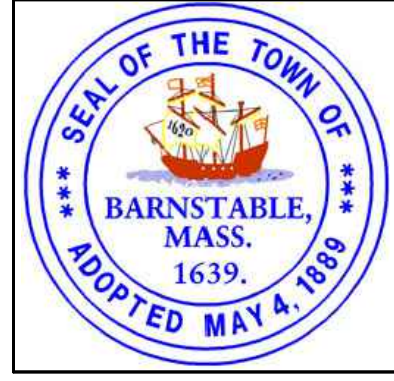
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NOTES:

1. ALL PROPOSED CURVED VERTICAL GRANITE CURB SHALL BE NEW VERTICAL GRANITE CURB TYPE VA-4.
2. ALL EXISTING GRANITE CURB SHALL BE REMOVED AND DISCARDED, UNLESS OTHERWISE NOTED ON PLANS, OR AS DIRECTED BY THE TOWN AND OR ENGINEER.
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7. RETAIN ALL EXISTING UTILITY POLES WITHIN LIMITS OF THE PROJECT, PROPOSED BULB OUT AT BACK OF SIDEWALK WHERE REQUIRED TO PROVIDE A 3FT MINIMUM CLEARANCE FOR PATH OF TRAVEL BEHIND THE EXISTING UTILITY POLES TO THE BACK OF SIDEWALK.

8. PROPOSED ROADWAY GRADING WILL BE SIMILAR TO EXISTING. ANY ALTERATION SHALL BE FIELD ADJUSTED BY THE CONTRACTOR WITH THE DIRECTION OF THE TOWN. THE CONTRACTOR SHALL DETERMINE ALL PROPOSED GRADES AND PROPOSED LIMIT OF SLOPES IN THE FIELD BASED ON EXISTING CONDITIONS TO ENSURE PROPER DRAINAGE.
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10. PROPOSED CURB AT LIMITS OF WORK SHALL TRANSITION TO MEET EXISTING UNLESS OTHERWISE DIRECTED BY THE TOWN.
11. ALL EXISTING UTILITY POLES WITHIN PROPOSED PCR SHALL BE RETAINED AS DIRECTED BY THE TOWN.
12. THE CONTRACTOR SHALL DETERMINE PROPOSED RIM AND INVERT ELEVATIONS FOR ALL PROPOSED DRAINAGE STRUCTURES AND TIE IN BASED ON THE FIELD CONDITION AND AS APPROVED BY THE TOWN BEFORE ORDERING ANY STRUCTURES.

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#	PEDESTRIAN CURB RAMP NUMBER
#	DRIVEWAY NUMBER



MARK	DATE	DESCRIPTION

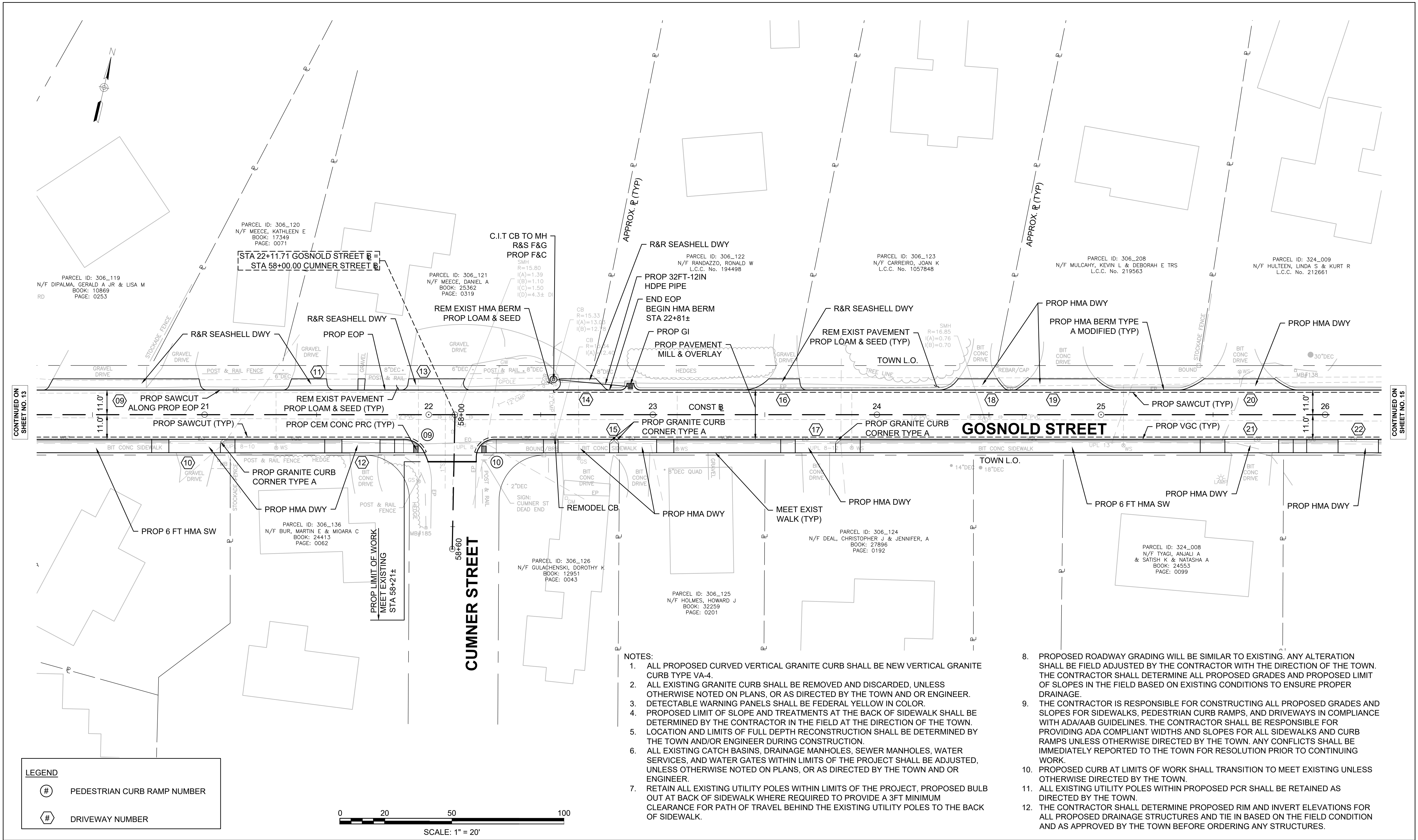
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Drawn by	JM
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Approved by	JDF

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**ROADWAY IMPROVEMENTS ALONG GOSNOLD STREET
BARNSTABLE, MASSACHUSETTS**

CONSTRUCTION PLANS - 02

Sheet No.
13



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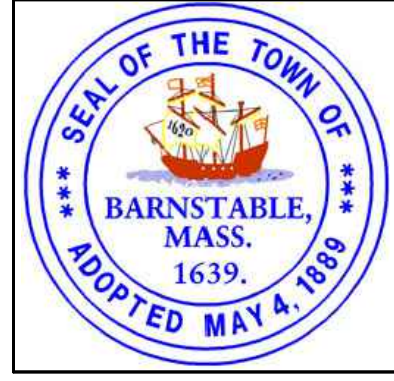
PEDESTRIAN CURB RAMP NUMBER

DRIVEWAY NUMBER



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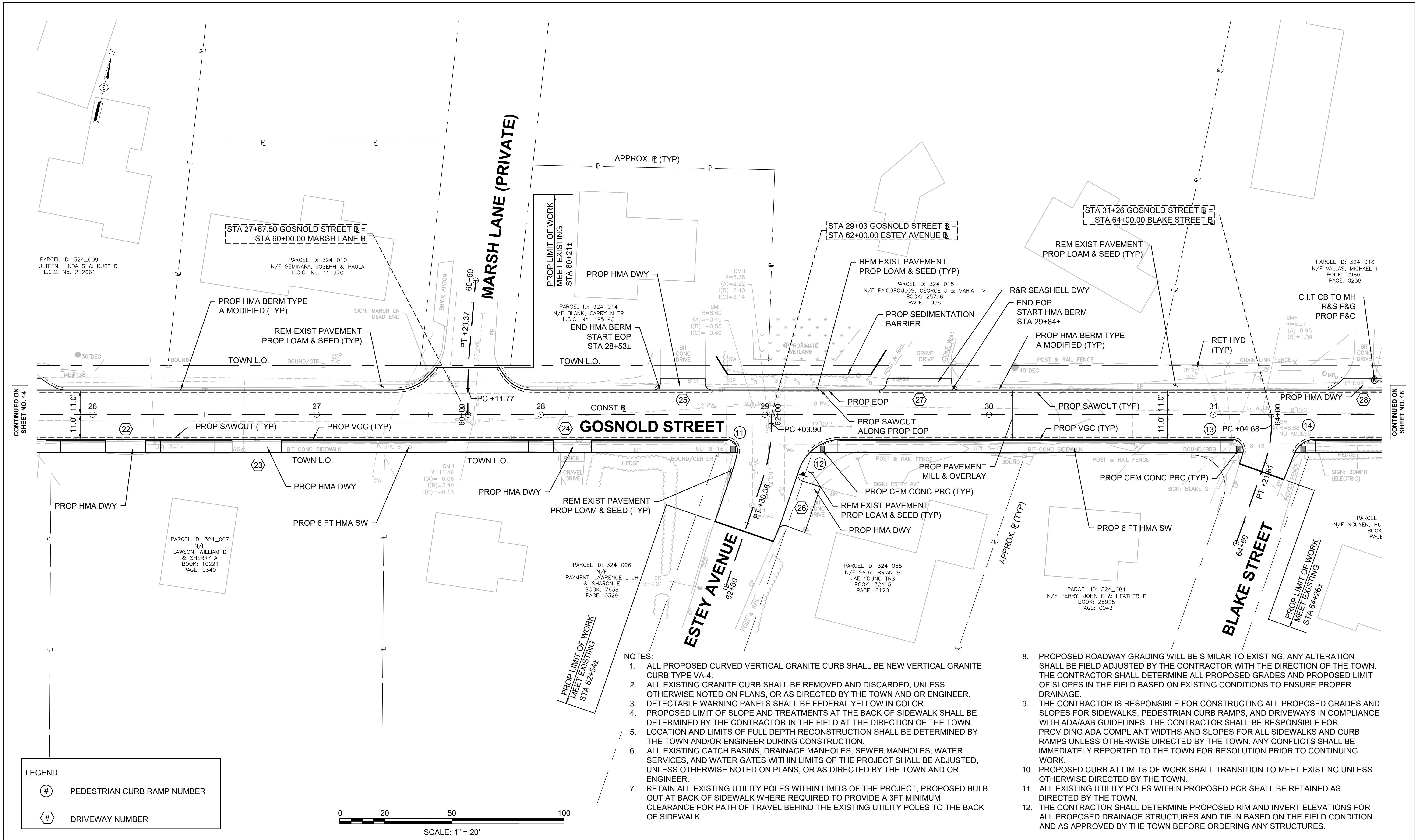
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ROADWAY IMPROVEMENTS ALONG
GOSNOLD STREET
BARNSTABLE, MASSACHUSETTS

CONSTRUCTION PLANS - 03

Sheet No.
14



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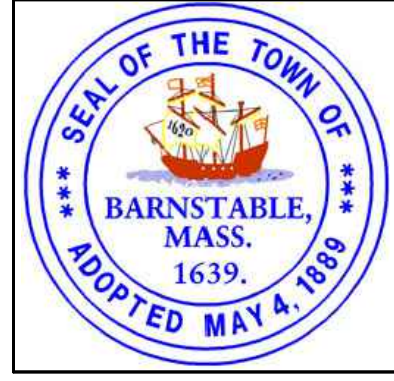
PEDESTRIAN CURB RAMP NUMBER

DRIVEWAY NUMBER



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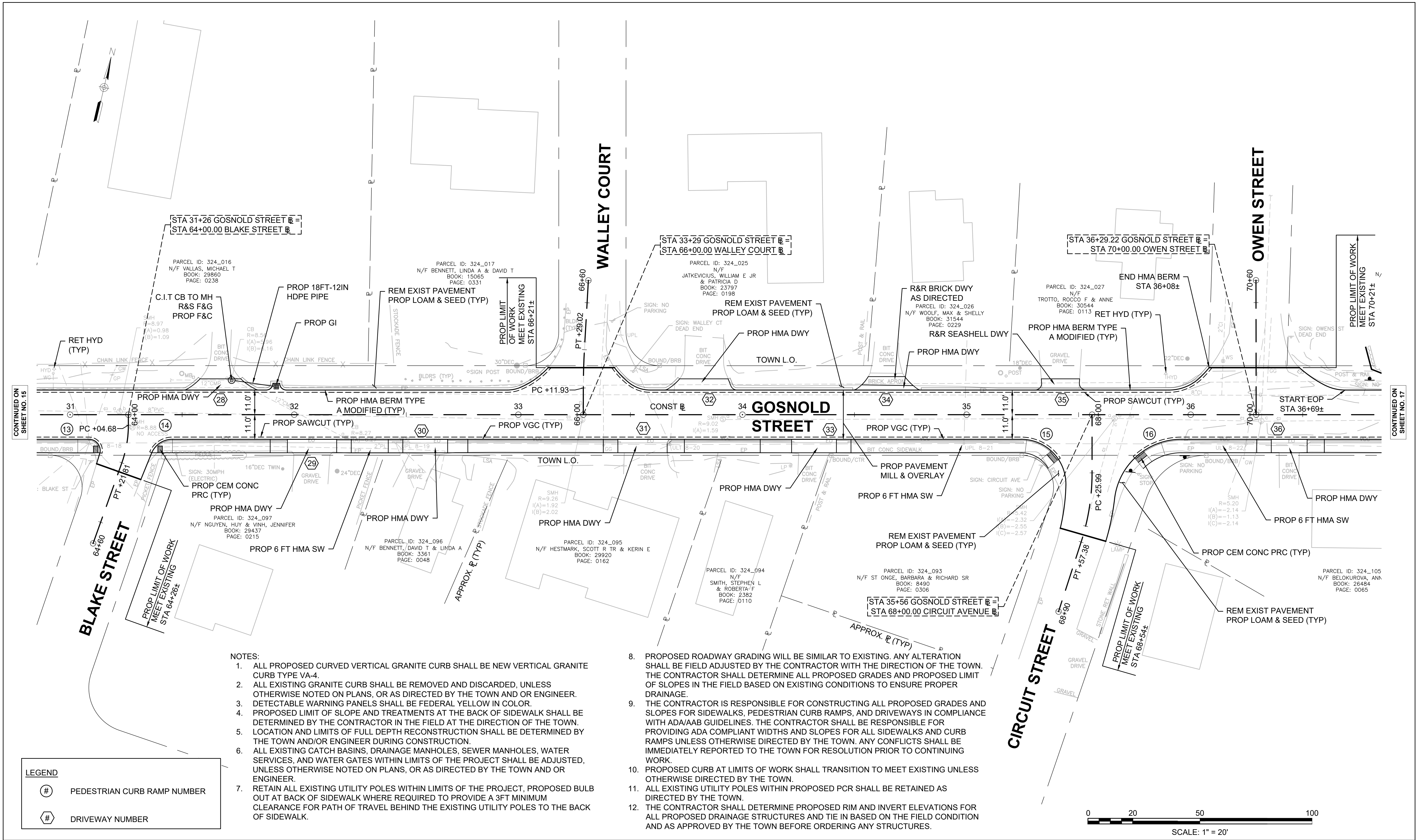
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ROADWAY IMPROVEMENTS ALONG GOSNOLD STREET BARNSTABLE, MASSACHUSETTS

CONSTRUCTION PLANS - 04

Sheet No. 15



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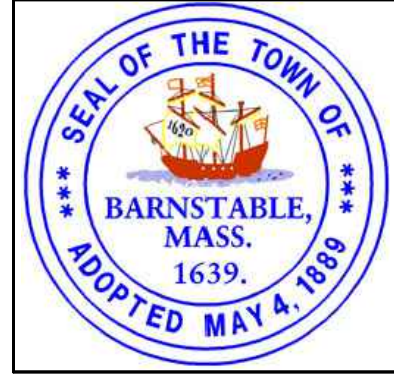
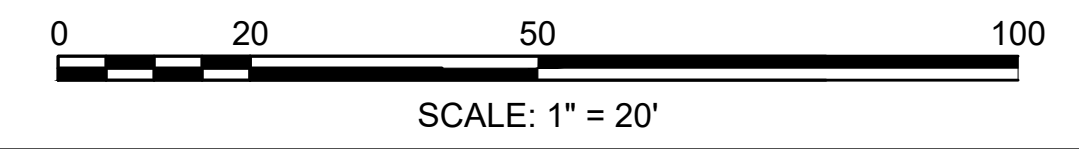
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LEGEND

#	PEDESTRIAN CURB RAMP NUMBER
#	DRIVEWAY NUMBER



MARK	DATE	DESCRIPTION

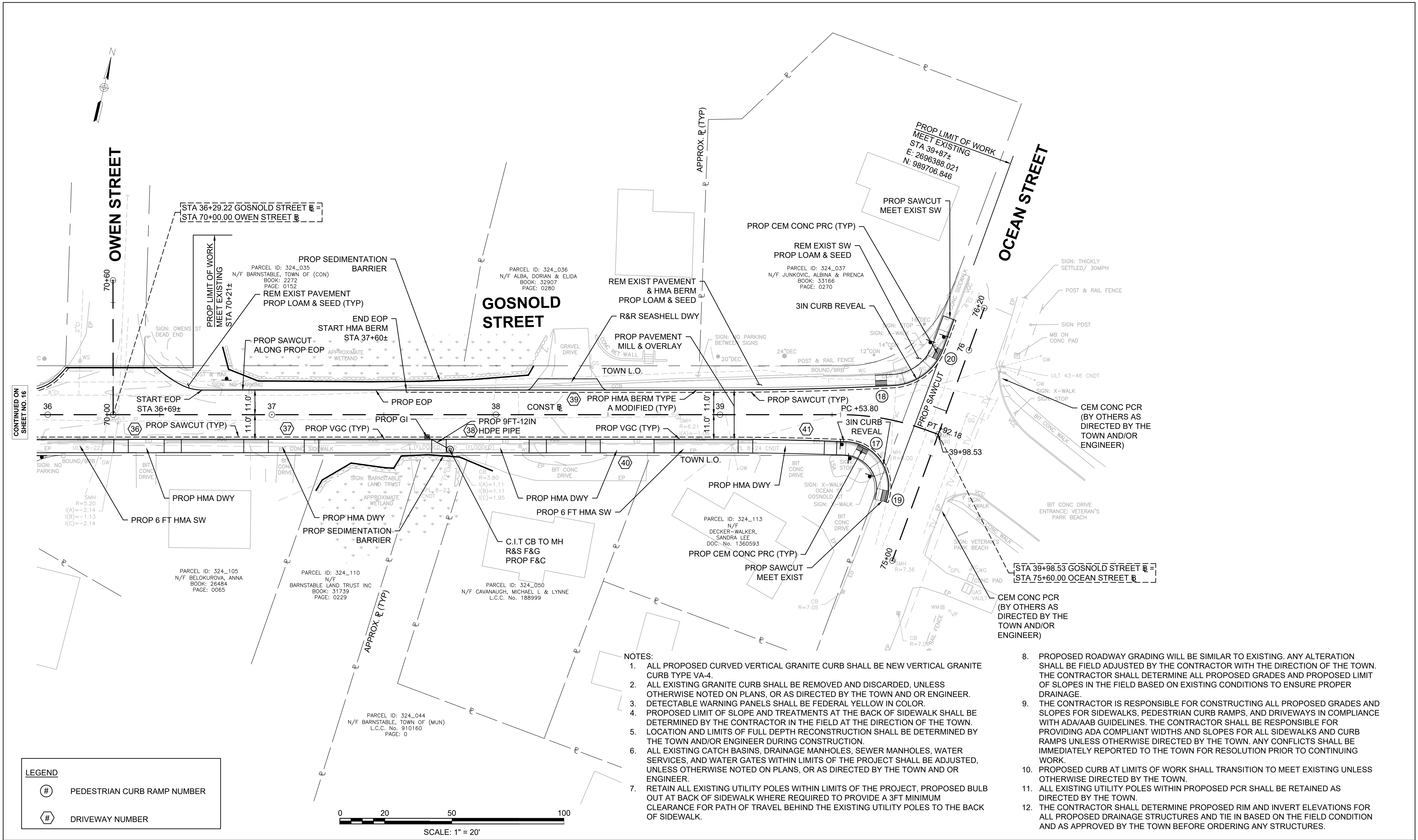
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ROADWAY IMPROVEMENTS ALONG GOSNOLD STREET BARNSTABLE, MASSACHUSETTS

CONSTRUCTION PLANS - 05

Sheet No. **16**



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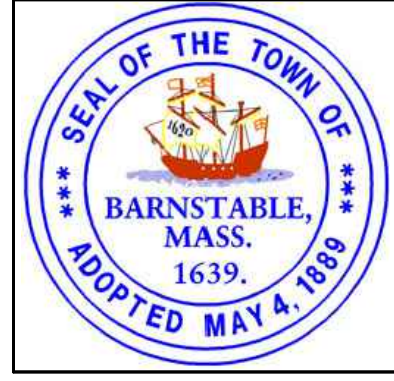
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- ALL PROPOSED CURVED VERTICAL GRANITE CURB SHALL BE NEW VERTICAL GRANITE CURB TYPE VA-4.
- ALL EXISTING GRANITE CURB SHALL BE REMOVED AND DISCARDED, UNLESS OTHERWISE NOTED ON PLANS, OR AS DIRECTED BY THE TOWN AND OR ENGINEER.
- DETECTABLE WARNING PANELS SHALL BE FEDERAL YELLOW IN COLOR.
- PROPOSED LIMIT OF SLOPE AND TREATMENTS AT THE BACK OF SIDEWALK SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD AT THE DIRECTION OF THE TOWN.
- LOCATION AND LIMITS OF FULL DEPTH RECONSTRUCTION SHALL BE DETERMINED BY THE TOWN AND/OR ENGINEER DURING CONSTRUCTION.
- ALL EXISTING CATCH BASINS, DRAINAGE MANHOLES, SEWER MANHOLES, WATER SERVICES, AND WATER GATES WITHIN LIMITS OF THE PROJECT SHALL BE ADJUSTED, UNLESS OTHERWISE NOTED ON PLANS, OR AS DIRECTED BY THE TOWN AND OR ENGINEER.
- RETAIN ALL EXISTING UTILITY POLES WITHIN LIMITS OF THE PROJECT, PROPOSED BULB OUT AT BACK OF SIDEWALK WHERE REQUIRED TO PROVIDE A 3FT MINIMUM CLEARANCE FOR PATH OF TRAVEL BEHIND THE EXISTING UTILITY POLES TO THE BACK OF SIDEWALK.
- PROPOSED ROADWAY GRADING WILL BE SIMILAR TO EXISTING. ANY ALTERATION SHALL BE FIELD ADJUSTED BY THE CONTRACTOR WITH THE DIRECTION OF THE TOWN. THE CONTRACTOR SHALL DETERMINE ALL PROPOSED GRADES AND PROPOSED LIMIT OF SLOPES IN THE FIELD BASED ON EXISTING CONDITIONS TO ENSURE PROPER DRAINAGE.
- THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTING ALL PROPOSED GRADES AND SLOPES FOR SIDEWALKS, PEDESTRIAN CURB RAMPS, AND DRIVEWAYS IN COMPLIANCE WITH ADA/AB GUIDELINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADA COMPLIANT WIDTHS AND SLOPES FOR ALL SIDEWALKS AND CURB RAMPS UNLESS OTHERWISE DIRECTED BY THE TOWN. ANY CONFLICTS SHALL BE IMMEDIATELY REPORTED TO THE TOWN FOR RESOLUTION PRIOR TO CONTINUING WORK.
- PROPOSED CURB AT LIMITS OF WORK SHALL TRANSITION TO MEET EXISTING UNLESS OTHERWISE DIRECTED BY THE TOWN.
- ALL EXISTING UTILITY POLES WITHIN PROPOSED PCR SHALL BE RETAINED AS DIRECTED BY THE TOWN.
- THE CONTRACTOR SHALL DETERMINE PROPOSED RIM AND INVERT ELEVATIONS FOR ALL PROPOSED DRAINAGE STRUCTURES AND TIE IN BASED ON THE FIELD CONDITION AND AS APPROVED BY THE TOWN BEFORE ORDERING ANY STRUCTURES.



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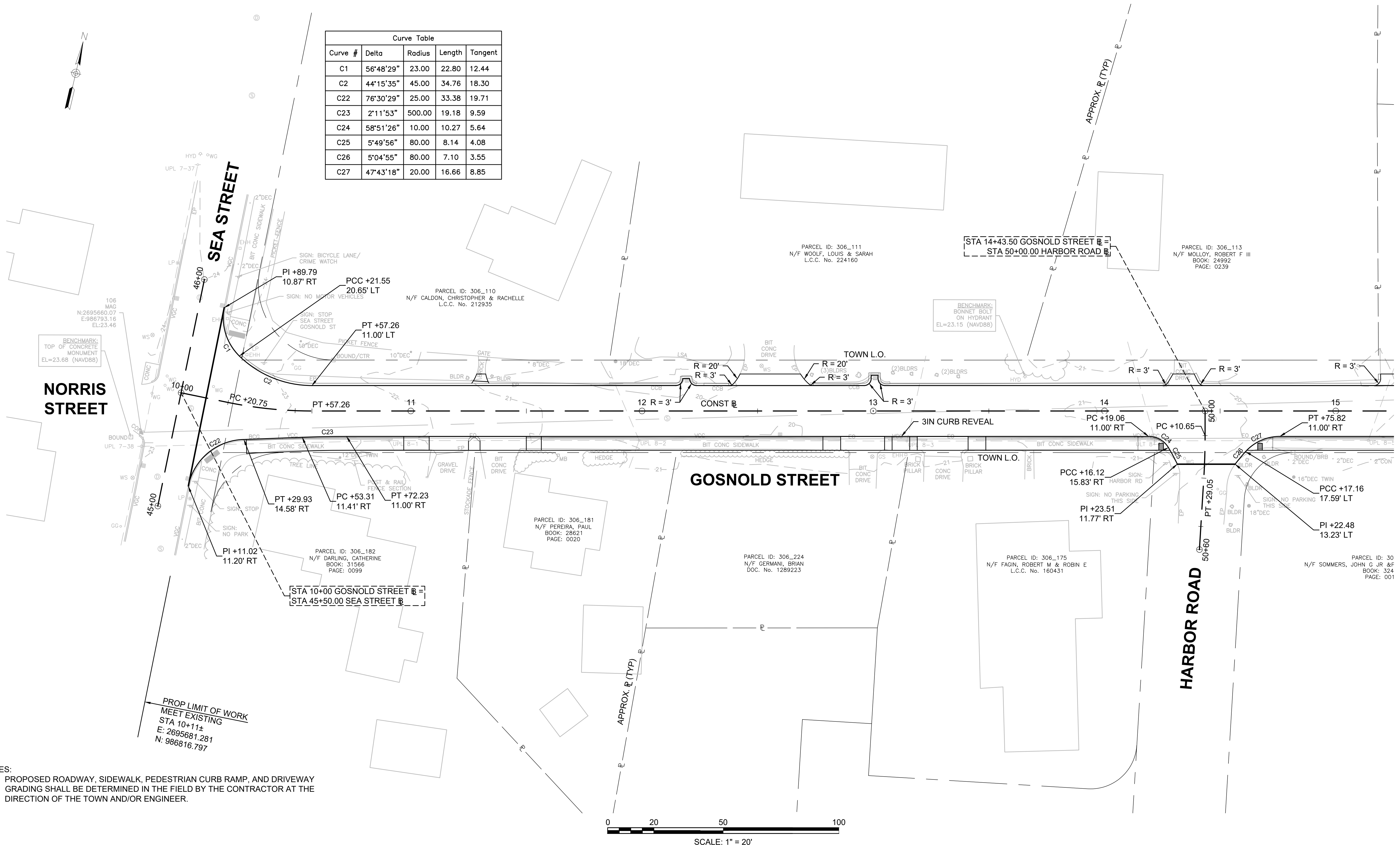
ROADWAY IMPROVEMENTS ALONG GOSNOLD STREET BARNSTABLE, MASSACHUSETTS

CONSTRUCTION PLANS - 06

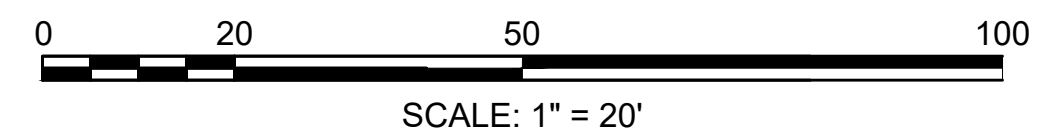
Sheet No. 17



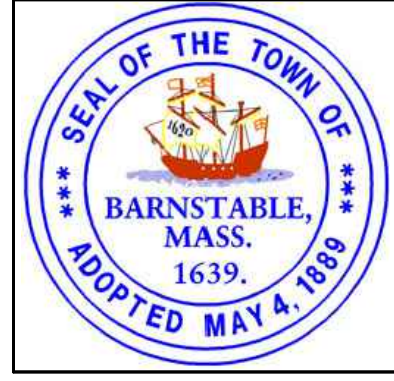
Curve Table				
Curve #	Delta	Radius	Length	Tangent
C1	56°48'29"	23.00	22.80	12.44
C2	44°15'35"	45.00	34.76	18.30
C22	76°30'29"	25.00	33.38	19.71
C23	2°11'53"	500.00	19.18	9.59
C24	58°51'26"	10.00	10.27	5.64
C25	5°49'56"	80.00	8.14	4.08
C26	5°04'55"	80.00	7.10	3.55
C27	47°43'18"	20.00	16.66	8.85



CONTINUED ON SHEET NO. 19



- NOTES:
- PROPOSED ROADWAY, SIDEWALK, PEDESTRIAN CURB RAMP, AND DRIVEWAY GRADING SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AT THE DIRECTION OF THE TOWN AND/OR ENGINEER.



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ROADWAY IMPROVEMENTS ALONG GOSNOLD STREET BARNSTABLE, MASSACHUSETTS

CURB TIE PLANS - 01

Sheet No.

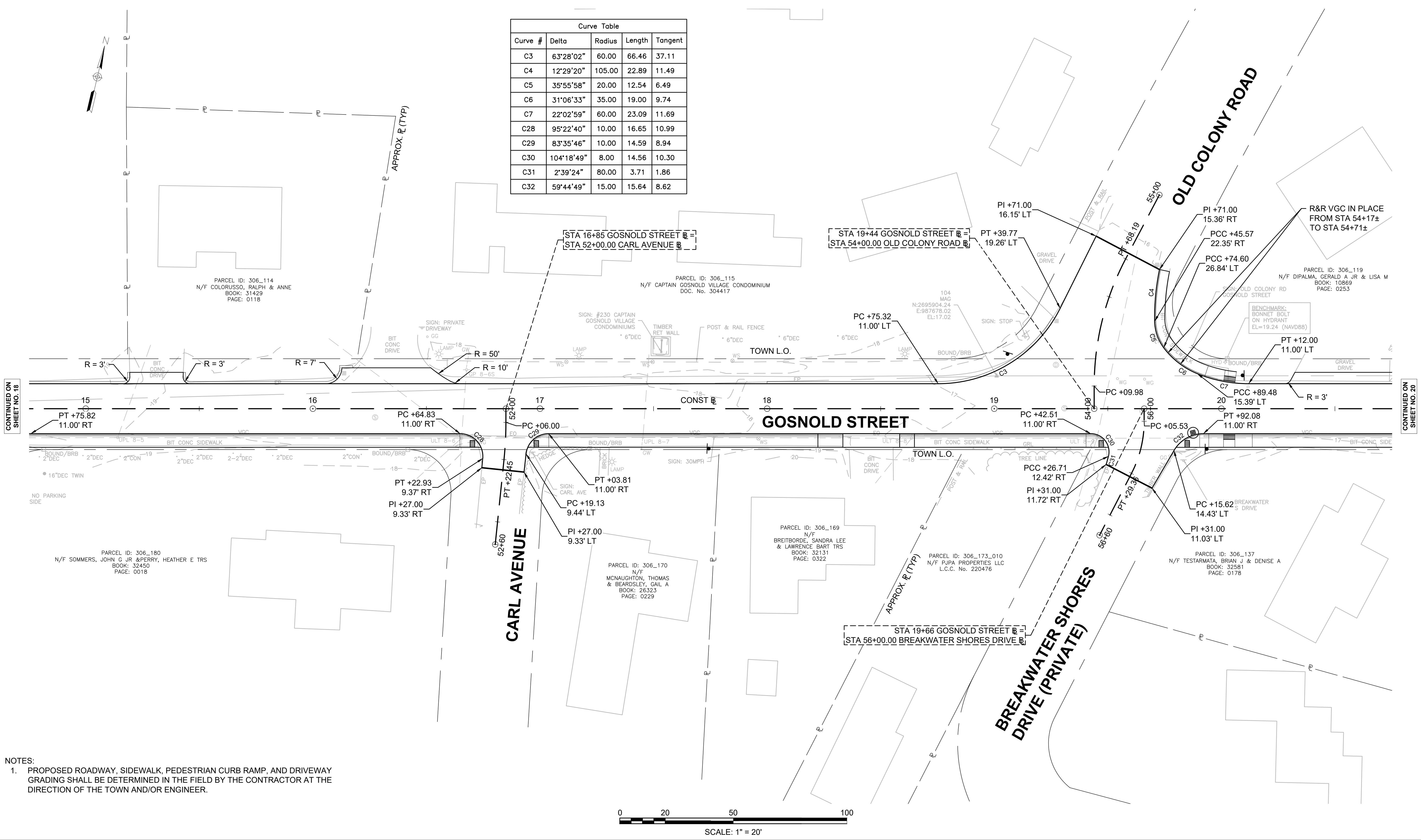
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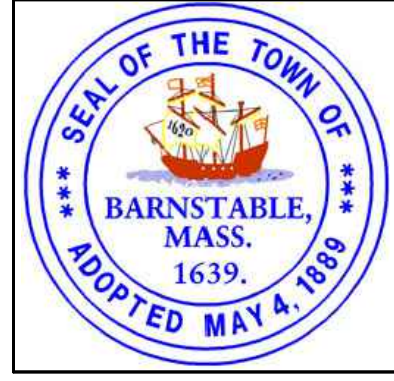
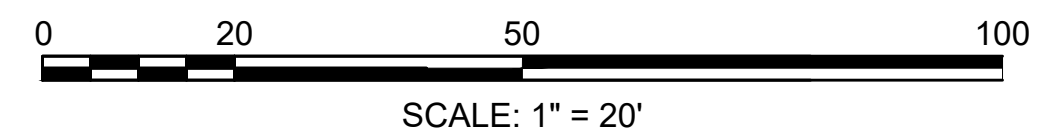
Curve Table				
Curve #	Delta	Radius	Length	Tangent
C3	63°28'02"	60.00	66.46	37.11
C4	12°29'20"	105.00	22.89	11.49
C5	35°55'58"	20.00	12.54	6.49
C6	31°06'33"	35.00	19.00	9.74
C7	22°02'59"	60.00	23.09	11.69
C28	95°22'40"	10.00	16.65	10.99
C29	83°35'46"	10.00	14.59	8.94
C30	104°18'49"	8.00	14.56	10.30
C31	2°39'24"	80.00	3.71	1.86
C32	59°44'49"	15.00	15.64	8.62

CONTINUED ON SHEET NO. 18

CONTINUED ON SHEET NO. 20



- NOTES:
- PROPOSED ROADWAY, SIDEWALK, PEDESTRIAN CURB RAMP, AND DRIVEWAY GRADING SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AT THE DIRECTION OF THE TOWN AND/OR ENGINEER.



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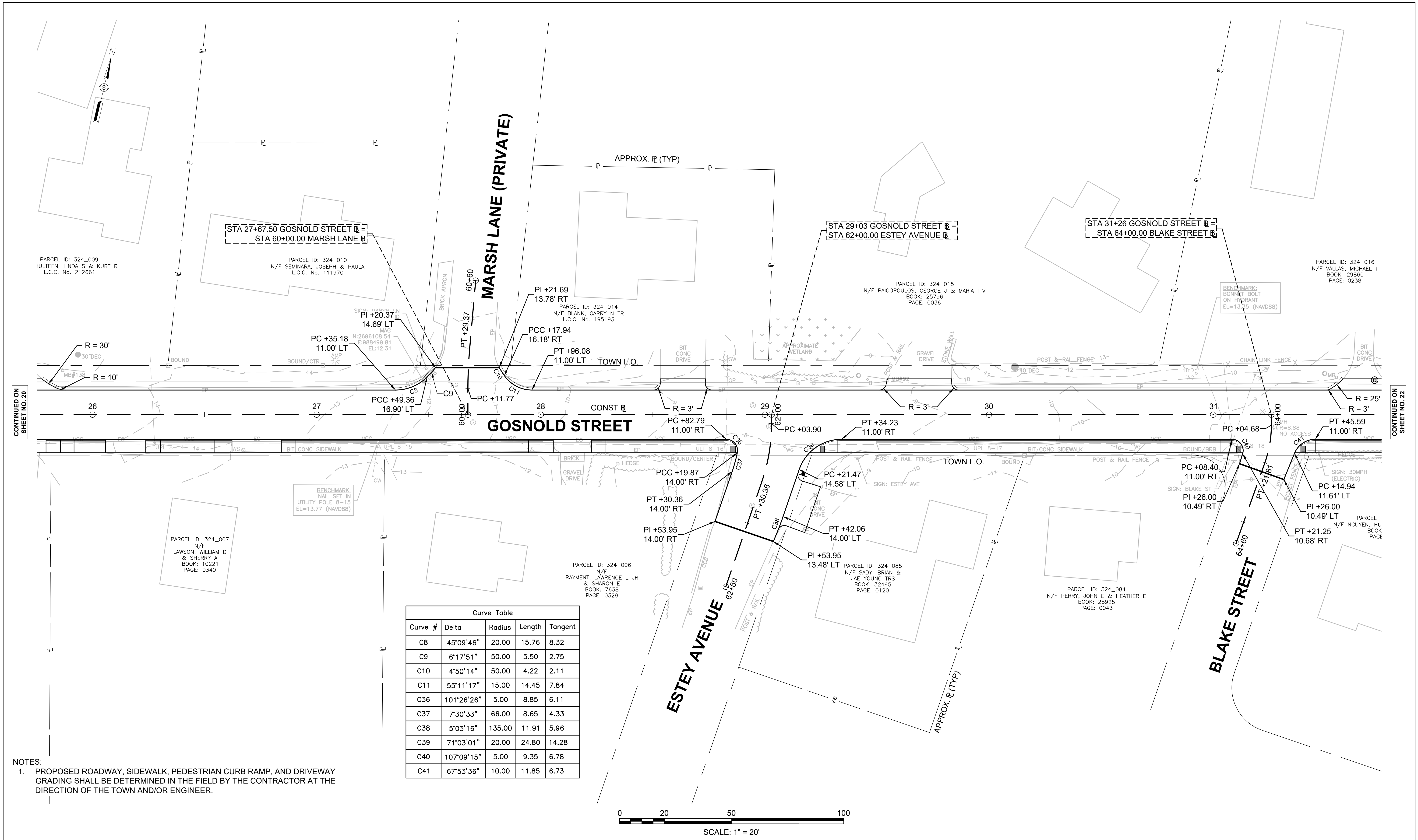
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ROADWAY IMPROVEMENTS ALONG GOSNOLD STREET BARNSTABLE, MASSACHUSETTS

CURB TIE PLANS - 02

Sheet No.
19

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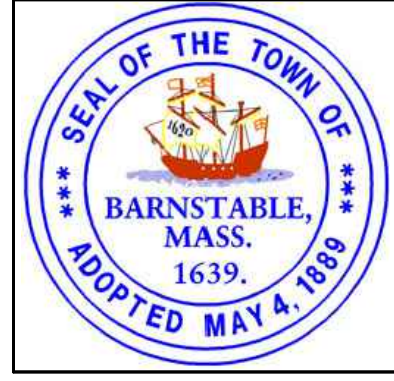
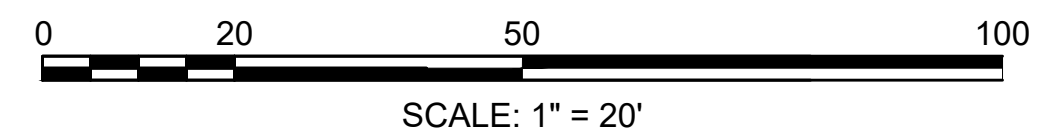


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CONTINUED ON SHEET NO. 22

Curve #	Delta	Radius	Length	Tangent
C8	45°09'46"	20.00	15.76	8.32
C9	6°17'51"	50.00	5.50	2.75
C10	4°50'14"	50.00	4.22	2.11
C11	55°11'17"	15.00	14.45	7.84
C36	101°26'26"	5.00	8.85	6.11
C37	7°30'33"	66.00	8.65	4.33
C38	5°03'16"	135.00	11.91	5.96
C39	71°03'01"	20.00	24.80	14.28
C40	107°09'15"	5.00	9.35	6.78
C41	67°53'36"	10.00	11.85	6.73

NOTES:
 1. PROPOSED ROADWAY, SIDEWALK, PEDESTRIAN CURB RAMP, AND DRIVEWAY GRADING SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AT THE DIRECTION OF THE TOWN AND/OR ENGINEER.



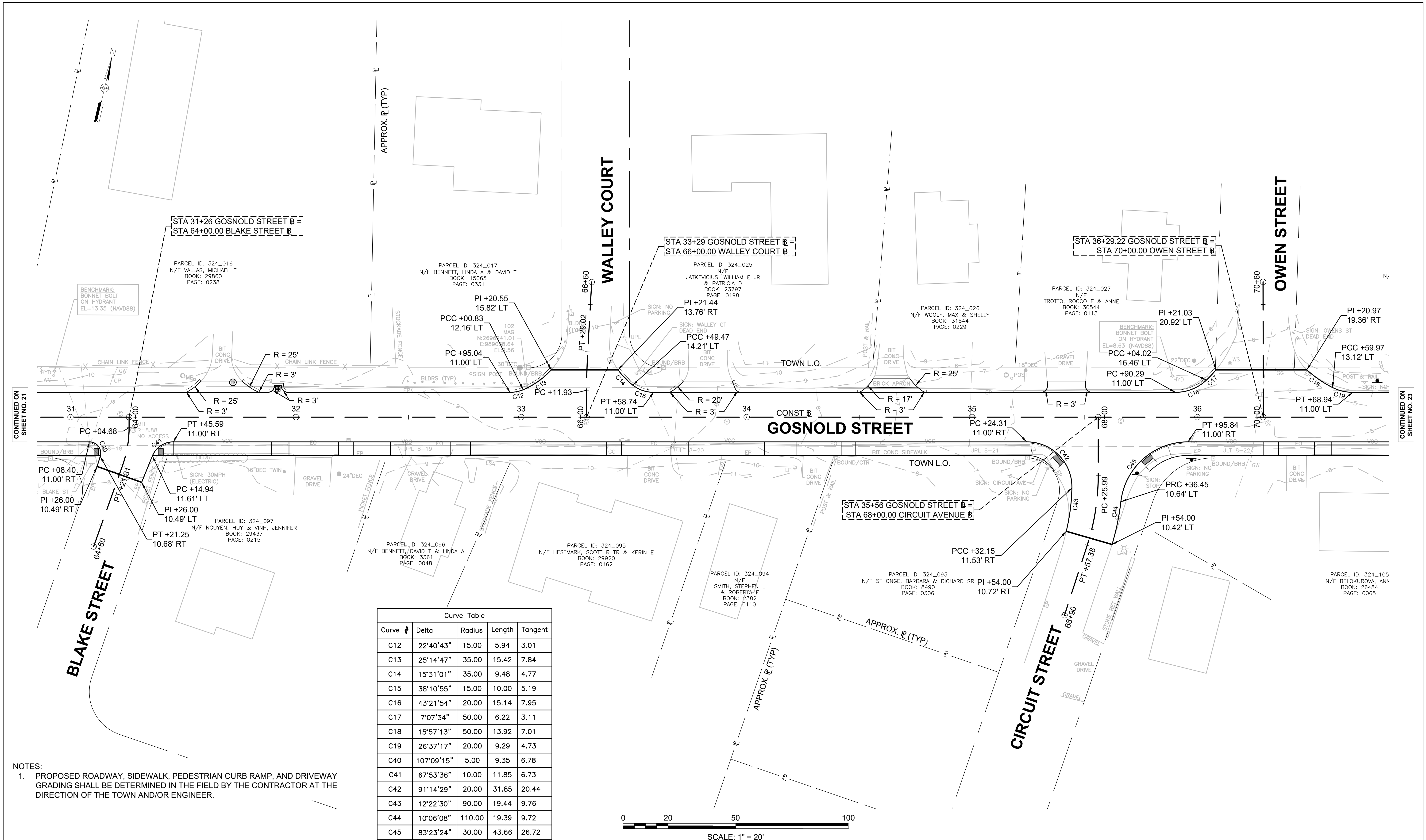
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ROADWAY IMPROVEMENTS ALONG GOSNOLD STREET BARNSTABLE, MASSACHUSETTS

CURB TIE PLANS - 04

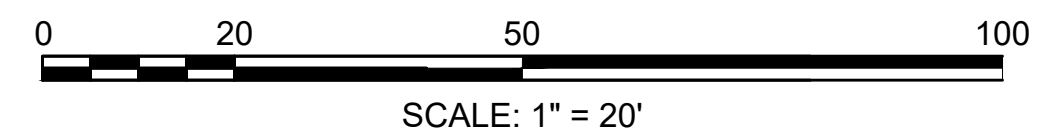
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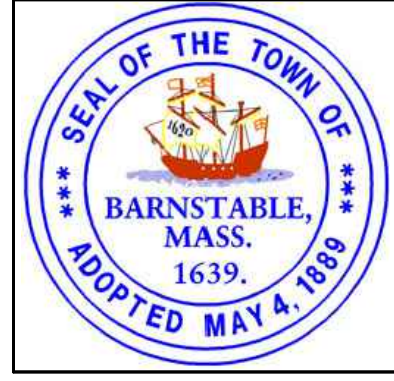
CONTINUED ON SHEET NO. 21

CONTINUED ON SHEET NO. 23

Curve Table				
Curve #	Delta	Radius	Length	Tangent
C12	22°40'43"	15.00	5.94	3.01
C13	25°14'47"	35.00	15.42	7.84
C14	15°31'01"	35.00	9.48	4.77
C15	38°10'55"	15.00	10.00	5.19
C16	43°21'54"	20.00	15.14	7.95
C17	7°07'34"	50.00	6.22	3.11
C18	15°57'13"	50.00	13.92	7.01
C19	26°37'17"	20.00	9.29	4.73
C40	107°09'15"	5.00	9.35	6.78
C41	67°53'36"	10.00	11.85	6.73
C42	91°14'29"	20.00	31.85	20.44
C43	12°22'30"	90.00	19.44	9.76
C44	10°06'08"	110.00	19.39	9.72
C45	83°23'24"	30.00	43.66	26.72



NOTES:
 1. PROPOSED ROADWAY, SIDEWALK, PEDESTRIAN CURB RAMP, AND DRIVEWAY GRADING SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AT THE DIRECTION OF THE TOWN AND/OR ENGINEER.



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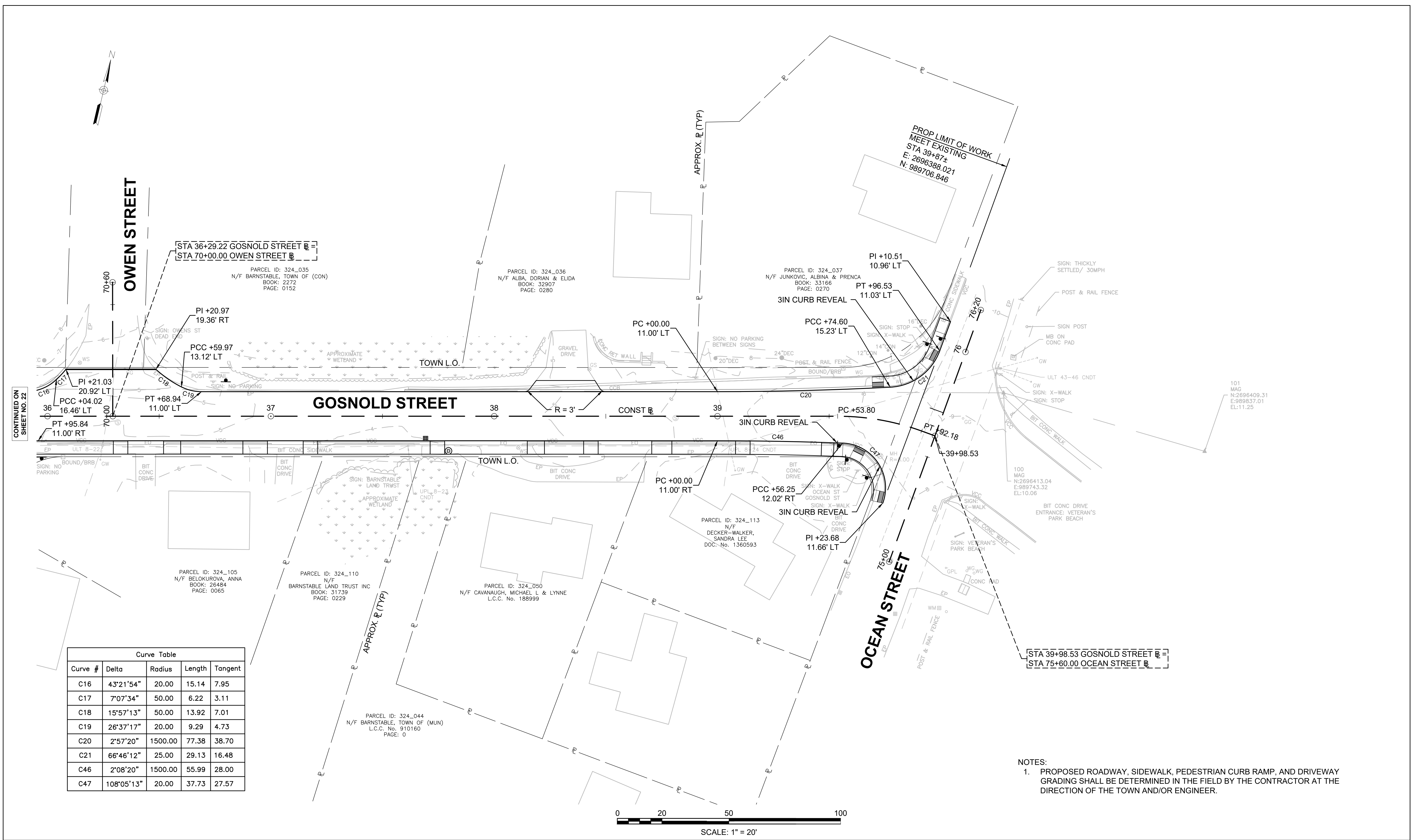
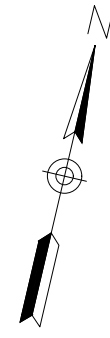
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ROADWAY IMPROVEMENTS ALONG GOSNOLD STREET BARNSTABLE, MASSACHUSETTS

CURB TIE PLANS - 05

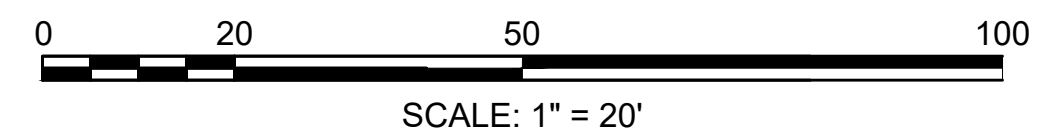
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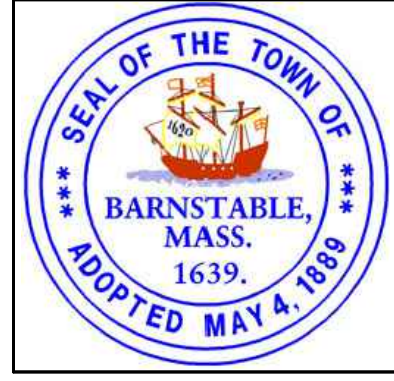


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Curve #	Delta	Radius	Length	Tangent
C16	43°21'54"	20.00	15.14	7.95
C17	7°07'34"	50.00	6.22	3.11
C18	15°57'13"	50.00	13.92	7.01
C19	26°37'17"	20.00	9.29	4.73
C20	2°57'20"	1500.00	77.38	38.70
C21	66°46'12"	25.00	29.13	16.48
C46	2°08'20"	1500.00	55.99	28.00
C47	108°05'13"	20.00	37.73	27.57



- NOTES:
- PROPOSED ROADWAY, SIDEWALK, PEDESTRIAN CURB RAMP, AND DRIVEWAY GRADING SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AT THE DIRECTION OF THE TOWN AND/OR ENGINEER.



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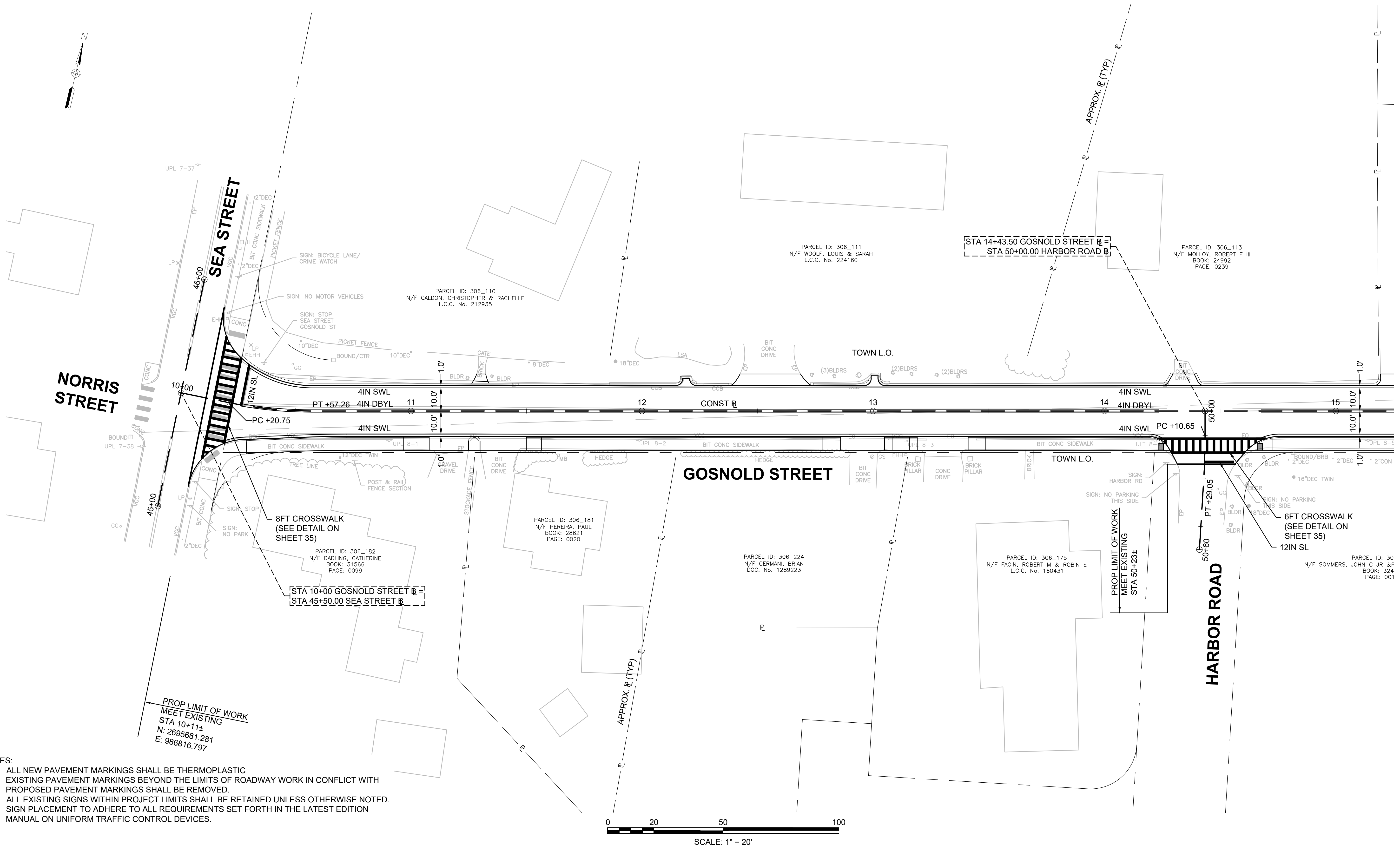
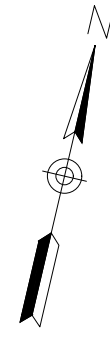
ROADWAY IMPROVEMENTS ALONG GOSNOLD STREET BARNSTABLE, MASSACHUSETTS

CURB TIE PLANS - 06

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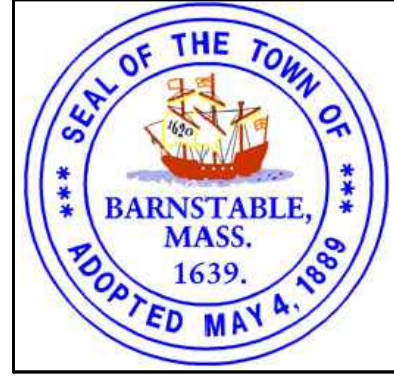
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- NOTES:**
1. ALL NEW PAVEMENT MARKINGS SHALL BE THERMOPLASTIC
 2. EXISTING PAVEMENT MARKINGS BEYOND THE LIMITS OF ROADWAY WORK IN CONFLICT WITH PROPOSED PAVEMENT MARKINGS SHALL BE REMOVED.
 3. ALL EXISTING SIGNS WITHIN PROJECT LIMITS SHALL BE RETAINED UNLESS OTHERWISE NOTED.
 4. SIGN PLACEMENT TO ADHERE TO ALL REQUIREMENTS SET FORTH IN THE LATEST EDITION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.



MARK	DATE	DESCRIPTION

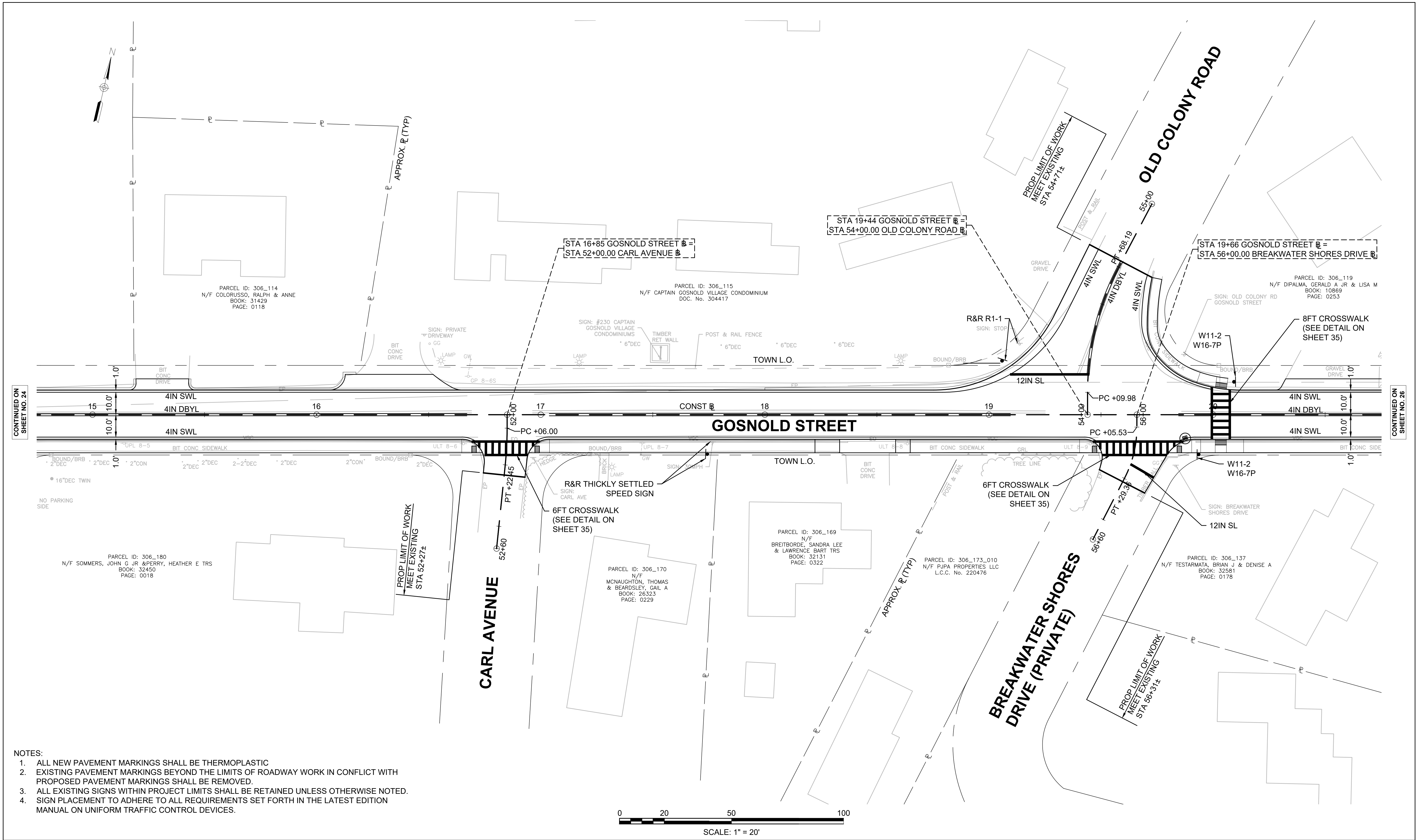
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ROADWAY IMPROVEMENTS ALONG
GOSNOLD STREET
BARNSTABLE, MASSACHUSETTS

TRAFFIC SIGNS & PAVEMENT MARKINGS PLANS - 01

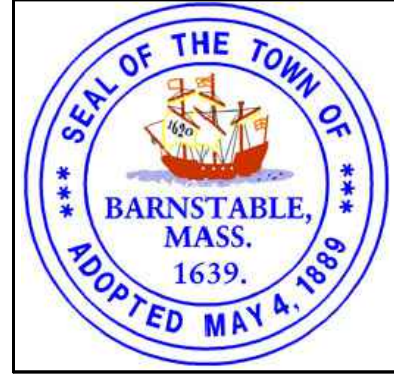
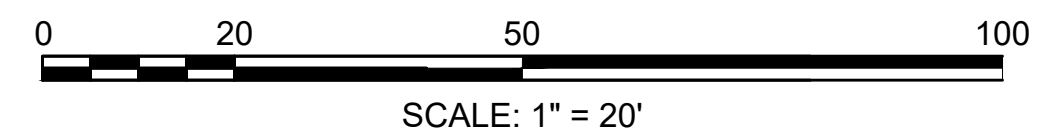
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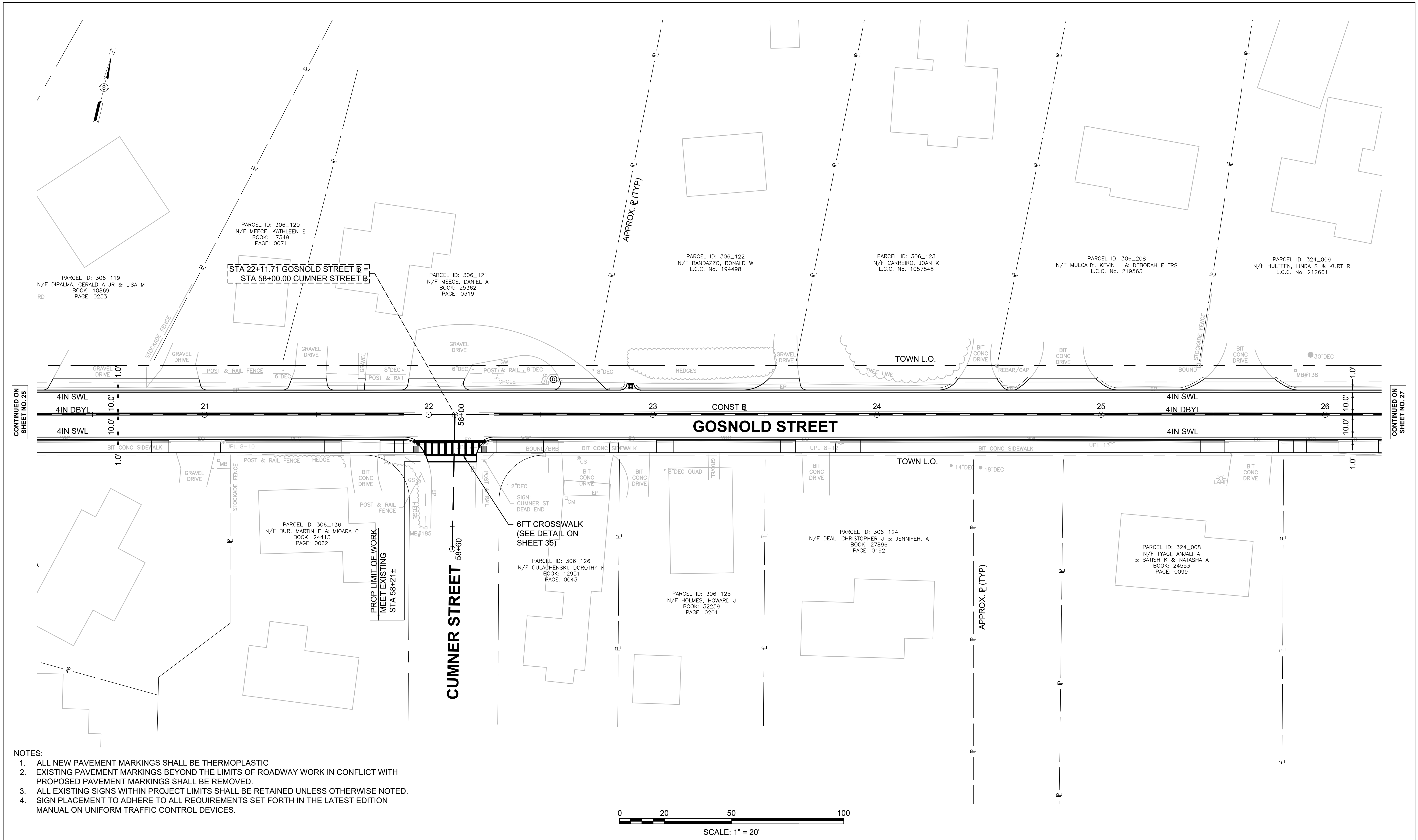
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ROADWAY IMPROVEMENTS ALONG
GOSNOLD STREET
BARNSTABLE, MASSACHUSETTS

TRAFFIC SIGNS & PAVEMENT MARKINGS PLANS - 02

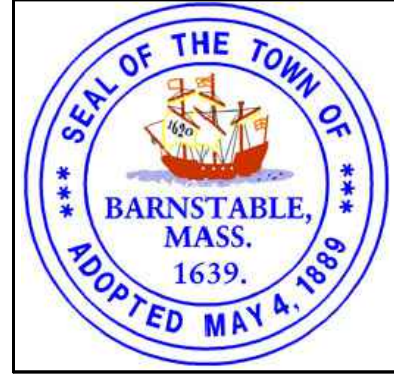
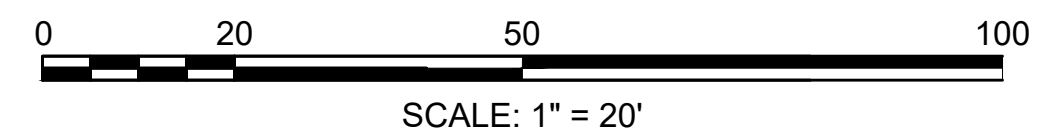
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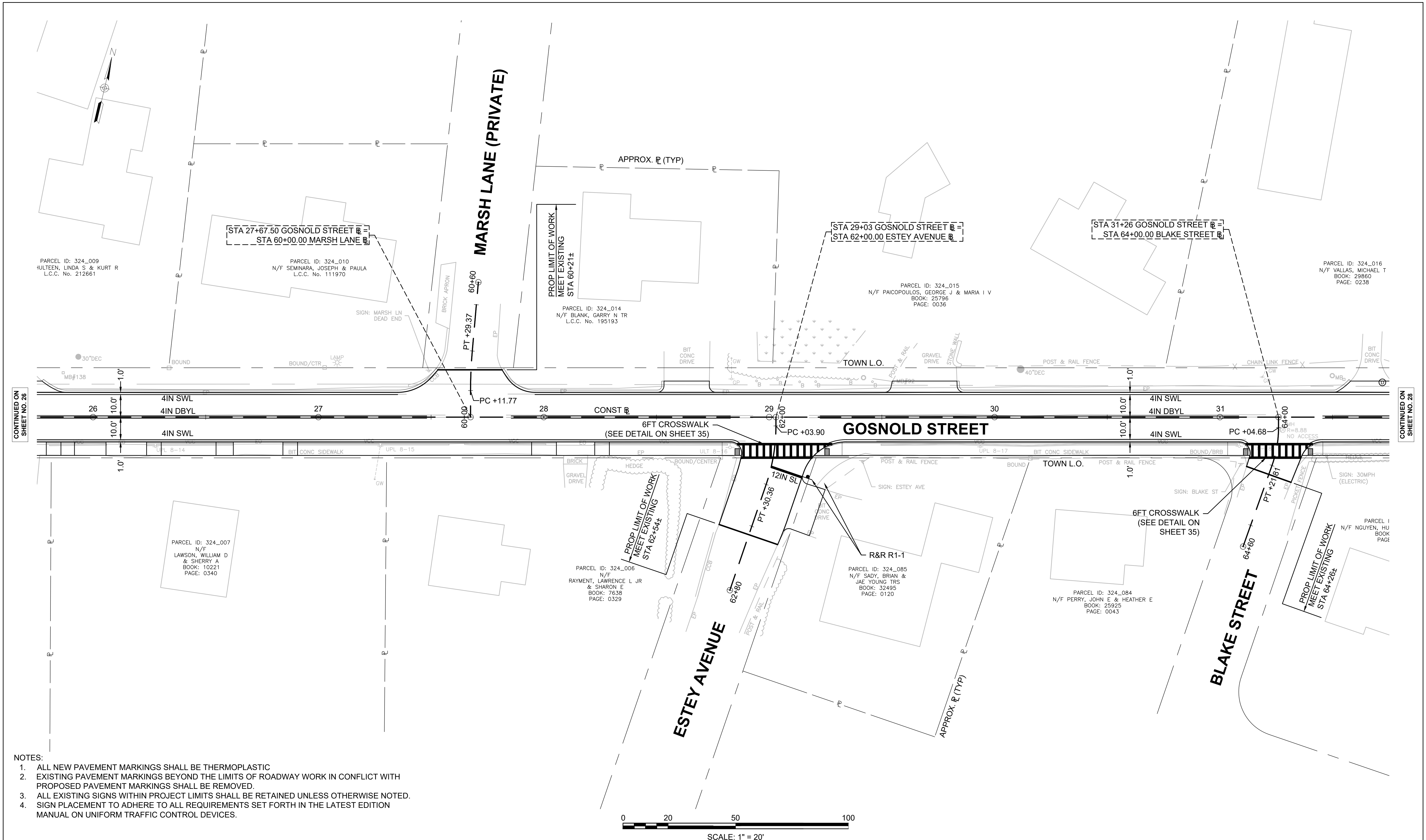
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ROADWAY IMPROVEMENTS ALONG
GOSNOLD STREET
BARNSTABLE, MASSACHUSETTS

TRAFFIC SIGNS & PAVEMENT MARKINGS PLANS - 03

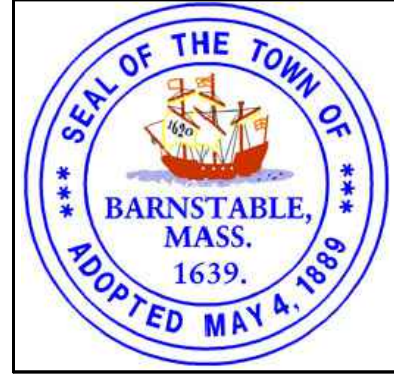
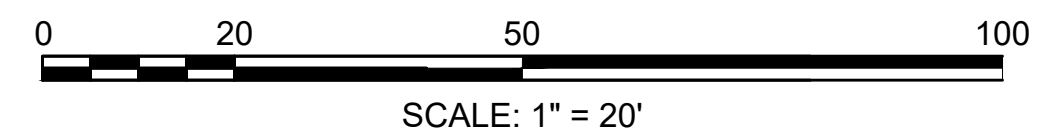
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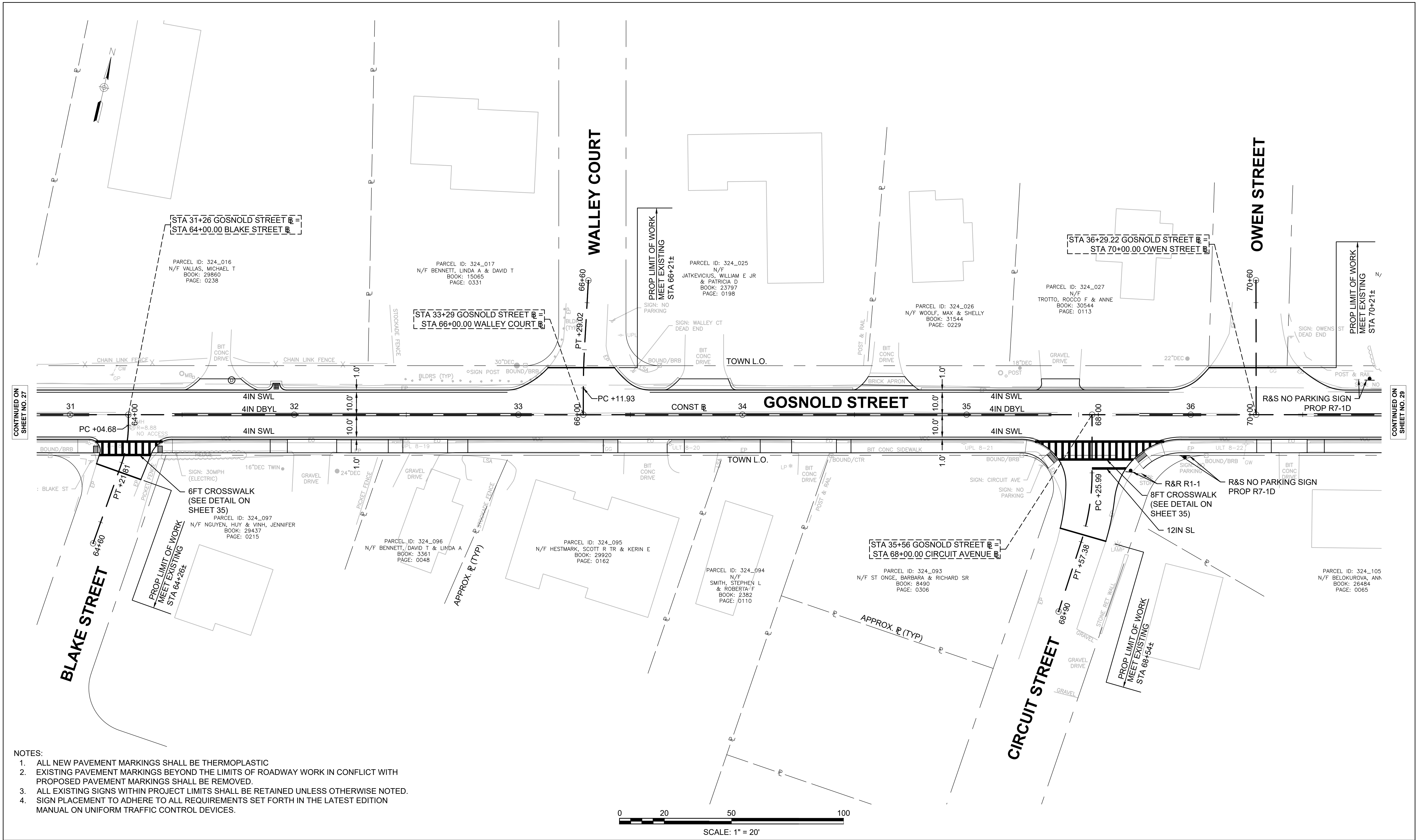
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ROADWAY IMPROVEMENTS ALONG GOSNOLD STREET BARNSTABLE, MASSACHUSETTS

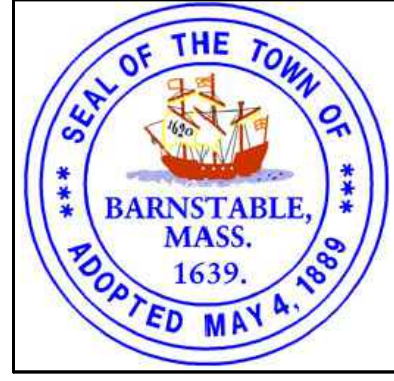
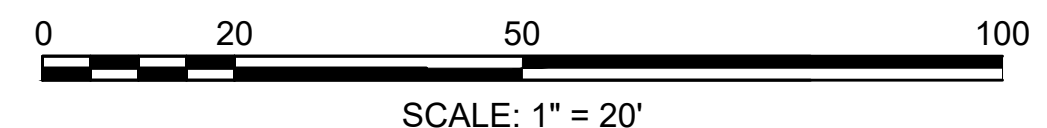
TRAFFIC SIGNS & PAVEMENT MARKINGS PLANS - 04

Sheet No.

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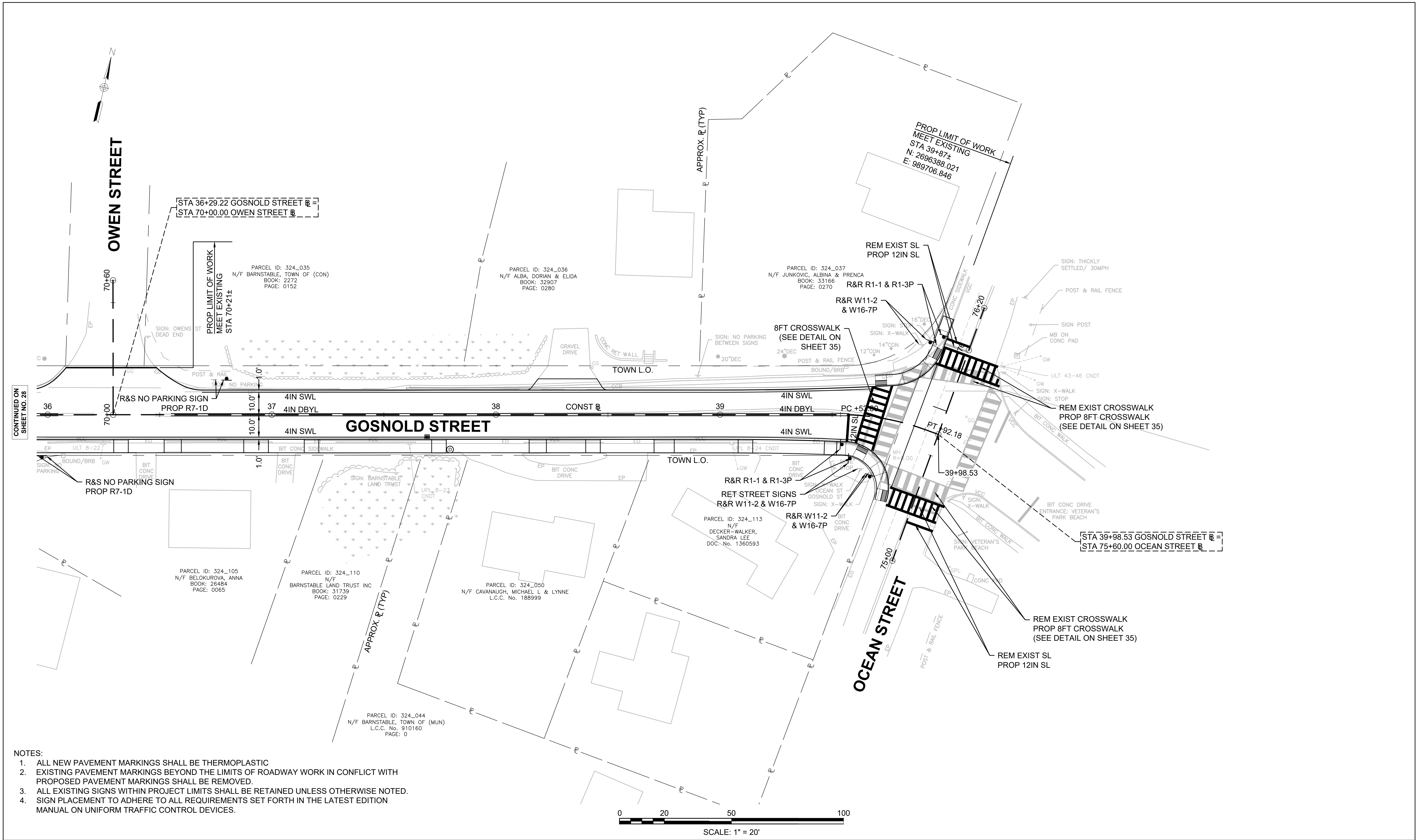
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ROADWAY IMPROVEMENTS ALONG
GOSNOLD STREET
BARNSTABLE, MASSACHUSETTS

TRAFFIC SIGNS & PAVEMENT MARKINGS PLANS - 05

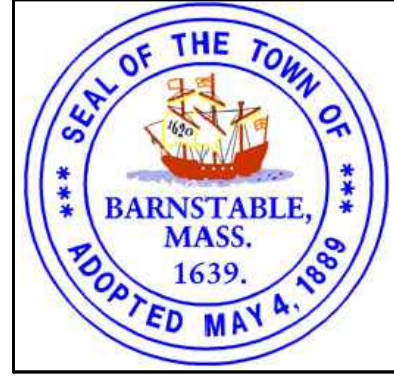
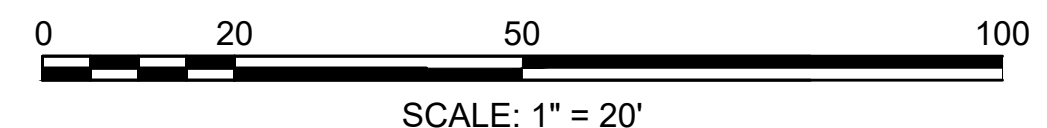
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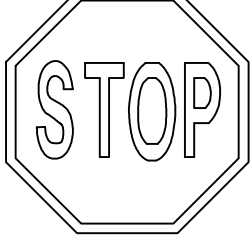





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ROADWAY IMPROVEMENTS ALONG
GOSNOLD STREET
BARNSTABLE, MASSACHUSETTS

TRAFFIC SIGNS & PAVEMENT MARKINGS PLANS - 06

Sheet No.
29

TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN (INCHES)		TEXT	TEXT DIMENSIONS (INCHES)		NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA IN SQUARE FEET	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING		BACK-GROUND	LEGEND	BORDER			
R1-1	30	30		MUTCD STANDARD		R&R (5)	RED	WHITE	WHITE	P5 (5)	6.25	0.00
R1-3P	18	6				R&R (2)	RED	WHITE	WHITE	MOUNT W/ R1-1 (2)	0.75	0.00
R7-1D	12	18				2	WHITE	RED	RED	P5 (2)	1.50	3.00
W11-2	30	30				R&R (3) NEW (2)	YELLOW	BLACK	BLACK	P5 (5)	6.25	12.50
W16-7P	24	12				R&R (3) NEW (2)	YELLOW	BLACK	BLACK	MOUNT WITH W11-2 (5)	2.00	4.00
THICKLY SETTLED SIGN	-	-			↓	R&R (1)	YELLOW	BLACK	BLACK	P5 (1)	-	-

NOTES:

1. SEE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 2009 EDITION WITH LATEST REVISIONS AND MASSACHUSETTS AMENDMENTS FOR LATEST SPECIFICATIONS ON TEXT DIMENSIONS AND COLOR.
 2. HIGH INTENSITY ENCAPSULATED LENS REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS. THE 2009 "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", THE 1990 MDPW "STANDARD DRAWINGS FOR SIGNS AND SUPPORTS", AND ALL AMENDMENTS WILL GOVERN.
- EXISTING SIGN POSTS SHALL BE R&R WHEN POSSIBLE.



ENVIRONMENTAL PARTNERS
— An Apex Company —

Scale	AS NOTED	
Date	MAR 2023	
Job No.	22010758	
Designed by	JM	
Drawn by	JM	
Checked by	BLH	
Approved by	JDF	
MARK	DATE	DESCRIPTION

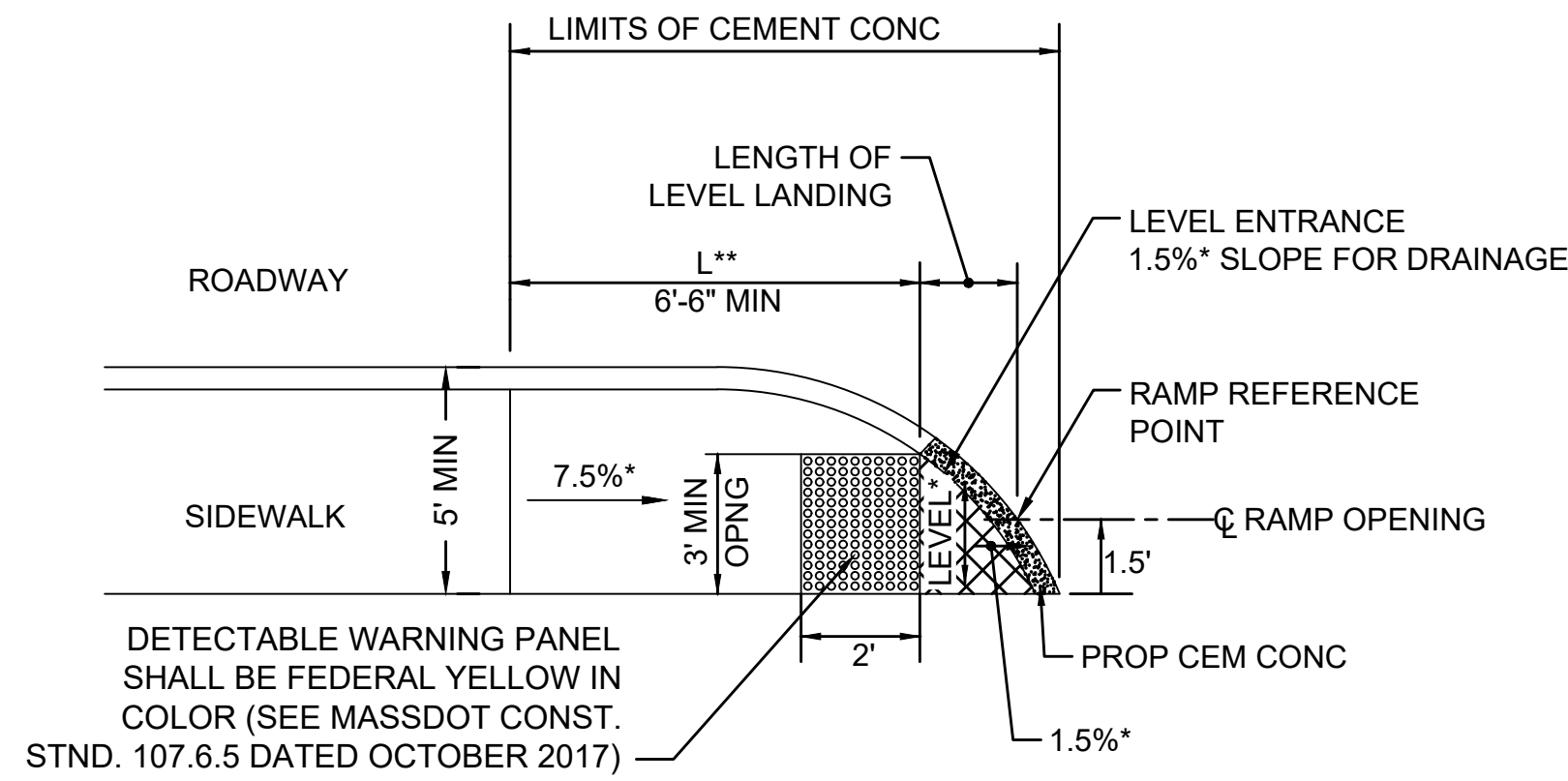
THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

ROADWAY IMPROVEMENTS ALONG
GOSNOLD STREET
BARNSTABLE, MASSACHUSETTS

TRAFFIC SIGN SUMMARY

Sheet No.

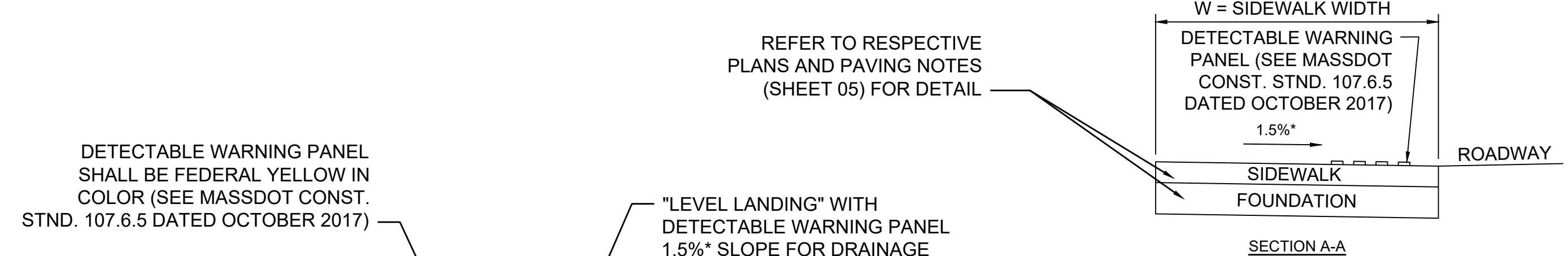
30



- NOTES:
- SEE CONSTRUCTION STANDARD E 107.6.0
 - *CONSTRUCTION TOLERANCE ±0.5%
 - **SEE CONSTRUCTION STANDARD E 107.9.0

PEDESTRIAN CURB RAMP FOR ONE CONTINUOUS DIRECTION OF PEDESTRIAN TRAVEL
N.T.S.

WCR #	ALIGNMENT	RAMP REFERENCE POINT		LENGTH OF LEVEL LANDING	WIDTH OF RAMP (MIN 3.00')	WIDTH OF SIDEWALK (W)	TRANSITION	
		STATION	OFFSET				ROADWAY GRADE (±)	L
1	GOSNOLD STREET	14+27.41	15.50' RT	1.93'	3.00'	6.00'	2.17%	11.00'
2	GOSNOLD STREET	14+63.18	15.50' RT	3.09'	3.00'	6.00'	-2.03%	6.50'
3	CARL AVENUE	52+16.24	11.52' RT	1.60'	3.00'	6.00'	-0.28%	6.50'
4	CARL AVENUE	52+14.91	10.72' LT	1.93'	3.00'	6.00'	-3.30%	6.50'
5	BREAKWATER SHORES DRIVE	56+19.91	14.85' RT	1.60'	3.00'	6.00'	0.48%	7.67'
6	BREAKWATER SHORES DRIVE	56+13.10	16.13' LT	2.57'	3.00'	6.00'	-0.33%	6.50'
9	CUMNER STREET	58+15.79	14.19' RT	1.93'	3.00'	6.00'	-0.79%	6.50'
10	CUMNER STREET	58+15.29	10.65' LT	1.60'	3.00'	6.00'	-1.90%	6.50'
11	ESTEY AVENUE	62+18.08	14.21' RT	0.94'	3.00'	6.00'	0.15%	7.67'
12	GOSNOLD STREET	29+21.59	15.50' RT	3.09'	3.00'	6.00'	0.97%	7.67'
13	BLAKE STREET	64+18.77	11.09' RT	0.94'	3.00'	6.00'	1.79%	9.00'
14	BLAKE STREET	64+13.43	12.18' LT	1.93'	3.00'	6.00'	-1.59%	6.50'

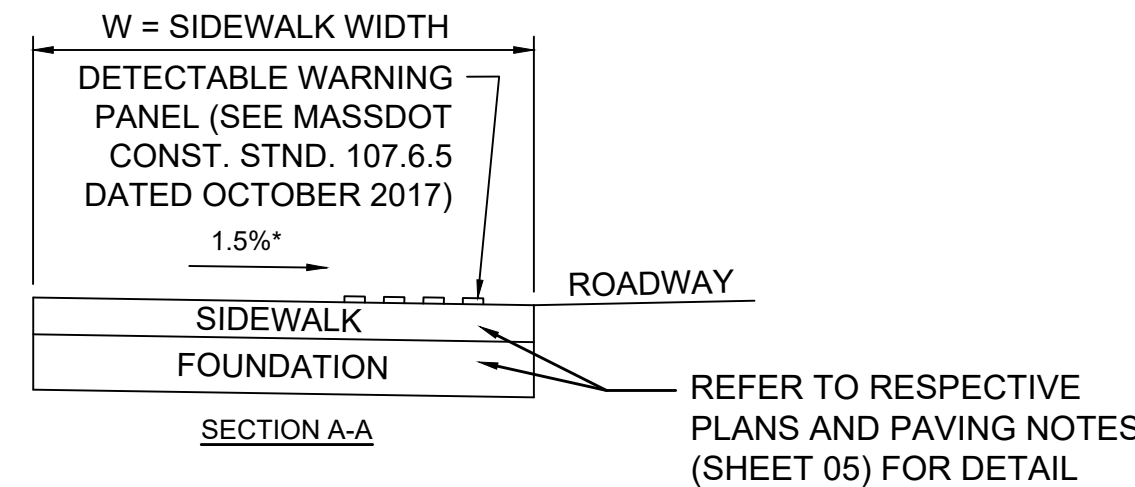
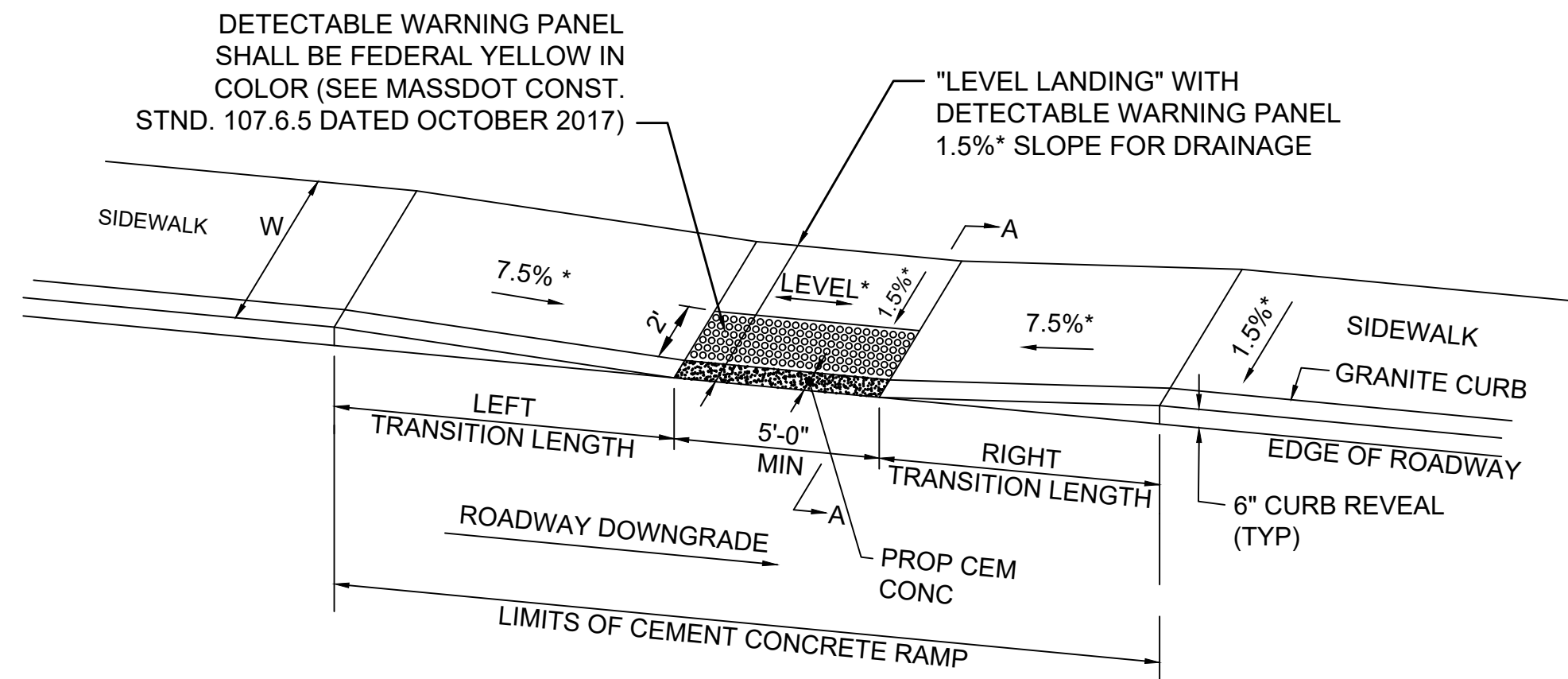


- LEGEND:
- HSL HIGH SIDE FRONT TRANSITION LENGTH (SEE CONSTRUCTION STANDARD E 107.9.0)
 - W SIDEWALK WIDTH
 - * TOLERANCE FOR CONSTRUCTION ±0.5%
 - ** 3 INCH CURB REVEAL
 - *** TRANSITION WITH LOAM & SEED AS SHOWN ON CONSTRUCTION PLANS OR AS DIRECTED BY THE TOWN AND/OR ENGINEER

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

PEDESTRIAN CURB RAMP AT THE END OF SIDEWALK WITH DETECTABLE WARNING PANEL
N.T.S.

WCR #	ALIGNMENT	RAMP REFERENCE POINT		WIDTH OF SIDEWALK (W)	WIDTH OF RAMP (MIN 5.00')	DEPTH OF LEVEL LANDING (MIN 4.00')	ROADWAY GUTTER SLOPE (±)	TRANSITION LENGTH	
		STATION	OFFSET					LEFT	RIGHT
7	GOSNOLD STREET	20+03.44	11.61' LT	5.00'	5.00'	5.00'	-0.11%	7.67'	***N/A
15	CIRCUIT STREET	68+17.98	16.51' RT	6.00'	5.00'	6.00'	0.17%	***N/A	7.67'
16	GOSNOLD STREET	35+76.92	17.71' RT	6.00'	5.00'	6.00'	0.04%	6.50'	***N/A
18	GOSNOLD STREET	39+69.95	14.06' LT	5.00'	5.00'	5.00'	3.48%	***N/A	**7.00'
19	OCEAN STREET	75+26.18	11.81' LT	5.68'	5.00'	5.17'	2.40%	***N/A	**5.50'



- LEGEND:
- HSL HIGH SIDE FRONT TRANSITION LENGTH (SEE CONSTRUCTION STANDARD E 107.9.0)
 - W SIDEWALK WIDTH
 - * TOLERANCE FOR CONSTRUCTION ±0.5%
 - ** 3 INCH CURB REVEAL
- NOTE:
- ROADWAY, GUTTER, AND FIRST 6" OF SIDEWALK TO BE ADJUSTED FOR FIELD CONDITIONS

PEDESTRIAN CURB RAMP ON NARROW SIDEWALK WITH DETECTABLE WARNING PANEL
N.T.S.

WCR #	ALIGNMENT	RAMP REFERENCE POINT		WIDTH OF SIDEWALK (W)	WIDTH OF RAMP (MIN 5.00')	DEPTH OF LEVEL LANDING (MIN 4.00')	ROADWAY GUTTER SLOPE (±)	TRANSITION LENGTH	
		STATION	OFFSET					LEFT	RIGHT
8	GOSNOLD STREET	20+03.44	11.00' RT	6.00'	5.00'	6.00'	-0.89%	7.67'	6.50'
17	GOSNOLD STREET	39+65.65	13.58' RT	6.00'	5.00'	6.00'	-1.45%	**4.50'	**3.25'
20	OCEAN STREET	75+93.49	11.23' LT	5.00'	5.00'	5.00'	-0.89%	**3.25'	7.67'



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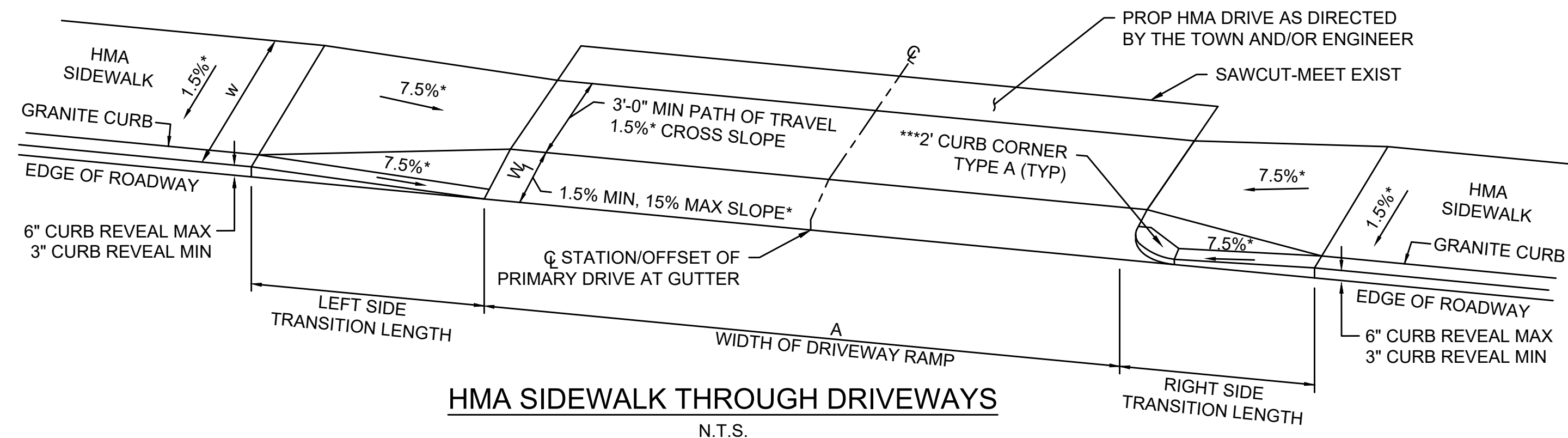
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ROADWAY IMPROVEMENTS ALONG GOSNOLD STREET BARNSTABLE, MASSACHUSETTS

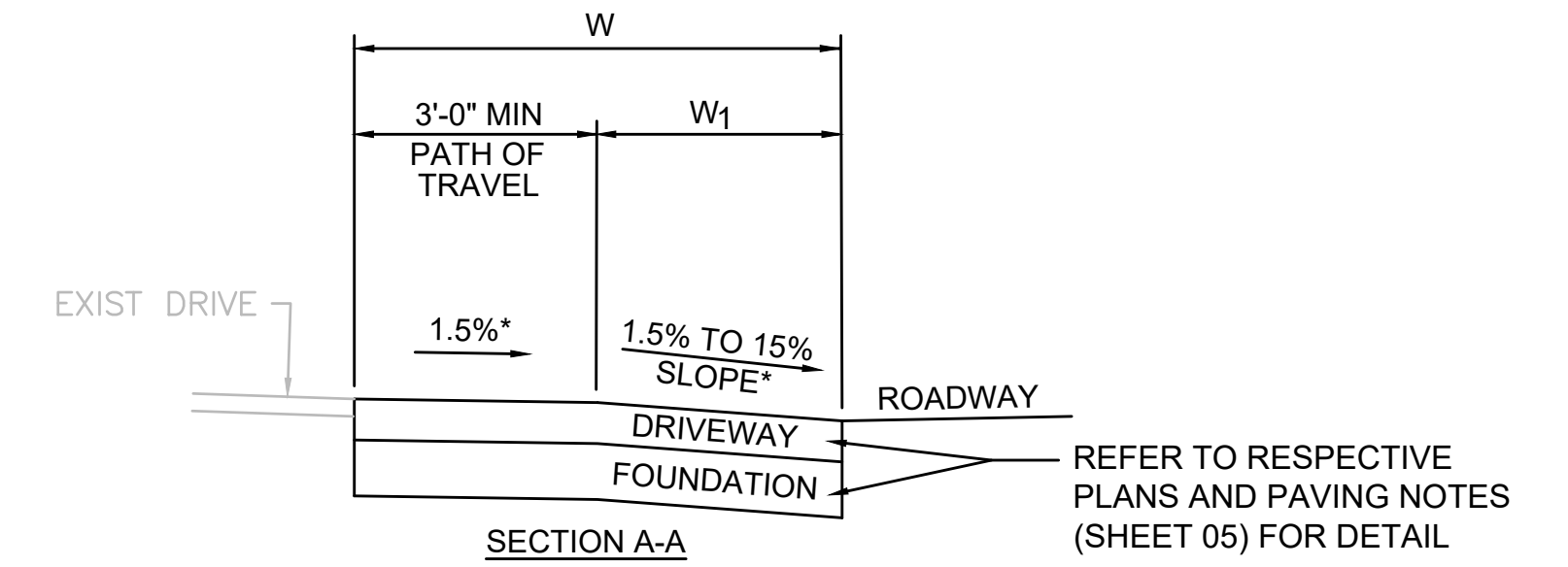
CONSTRUCTION DETAILS - 01

Sheet No.

31



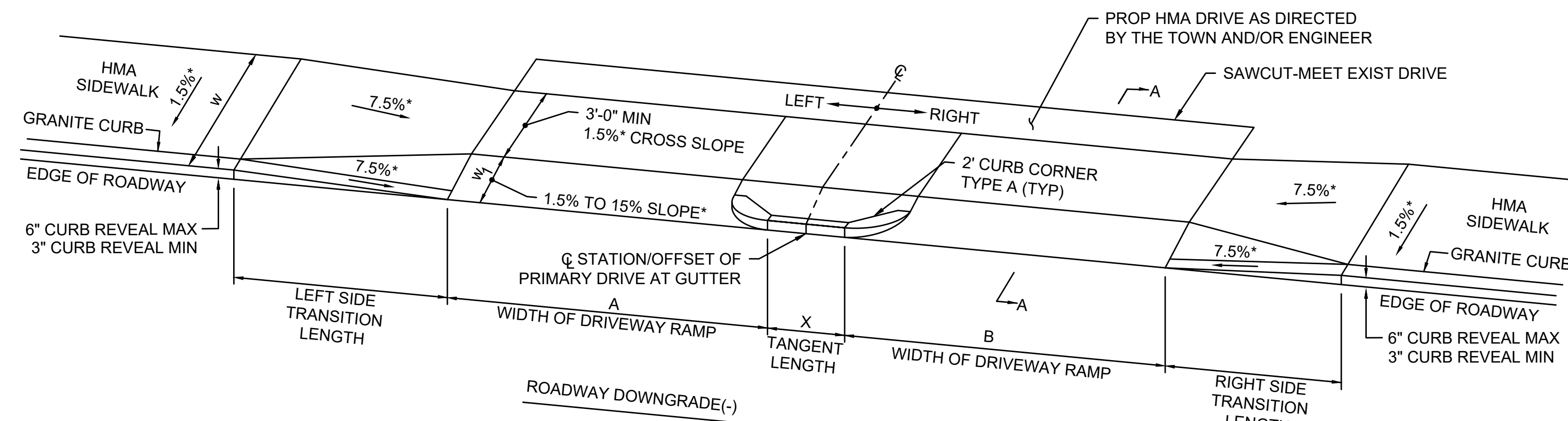
- LEGEND:**
- W SIDEWALK WIDTH
 - W₁ LENGTH OF PRIMARY RAMP
 - HMA HOT MIX ASPHALT
 - * TOLERANCE FOR CONSTRUCTION ±0.5%
 - ** TRANSITION TO 3" CURB REVEAL AS SHOWN ON GRADE PLANS
 - *** TRANSITION WITH CURB CORNER AS SHOWN ON CONSTRUCTION PLANS OR AS DIRECTED BY THE TOWN AND/OR ENGINEER



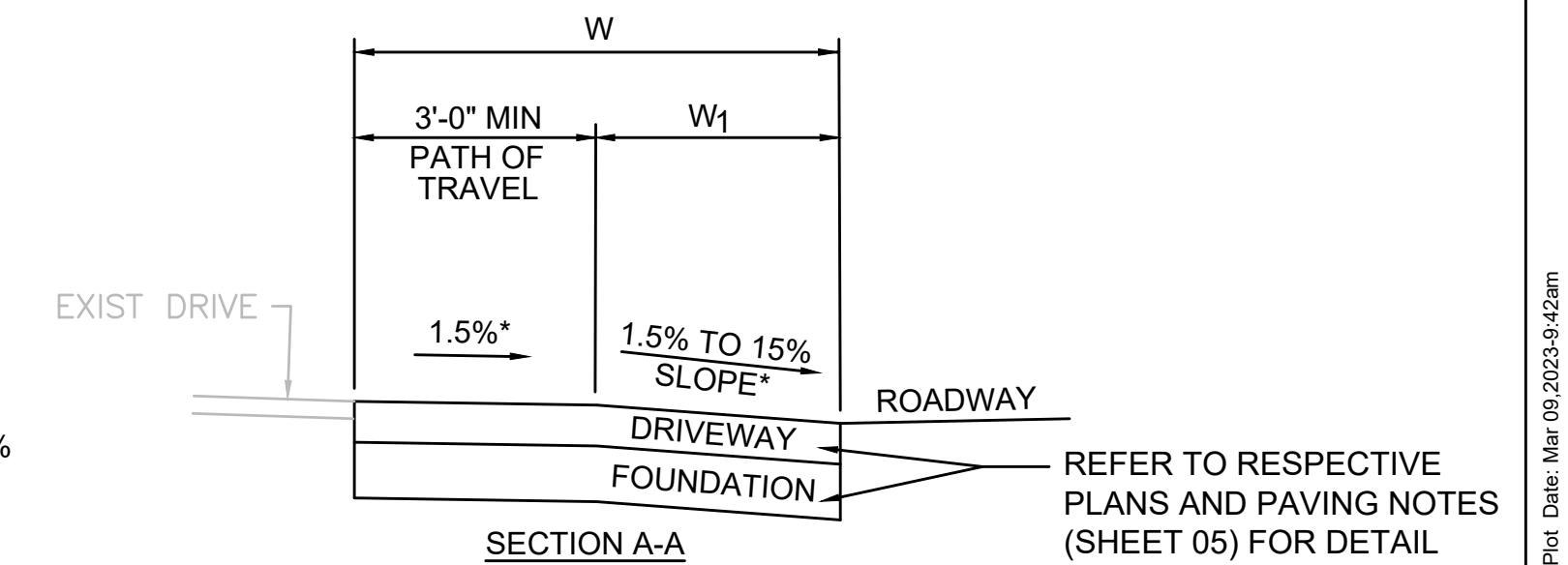
HMA SIDEWALK THROUGH DRIVEWAYS
N.T.S.

DWY#	ALIGNMENT	DWY REFERENCE POINT ζ		LENGTH OF PRIMARY RAMP (W ₁)	PATH OF TRAVEL (MIN 3.00')	WIDTH OF DRIVEWAY RAMP (A)	ROADWAY GUTTER SLOPE (±)	TRANSITION LENGTH	
		STATION	OFFSET					LEFT	RIGHT
3	GOSNOLD STREET	12+95.39	11.00' RT	2.00'	4.00'	19.00'	0.76%	**3.25'	7.67'
4	GOSNOLD STREET	13+30.01	11.00' RT	2.00'	4.00'	19.00'	-0.33%	7.67'	***3.25'
8	GOSNOLD STREET	18+45.86	11.00' RT	2.00'	4.00'	25.00'	2.67%	6.50'	11.00'
10	GOSNOLD STREET	20+95.56	11.00' RT	2.00'	4.00'	23.00'	0.19%	***6.50'	7.67'
12	GOSNOLD STREET	21+69.78	11.00' RT	2.00'	4.00'	17.00'	0.68%	6.50'	7.67'
17	GOSNOLD STREET	23+72.57	11.00' RT	2.00'	4.00'	18.00'	-2.14%	11.00'	6.50'
21	GOSNOLD STREET	25+67.25	11.00' RT	2.00'	4.00'	24.00'	2.35%	6.50'	11.00'
22	GOSNOLD STREET	26+14.75	11.00' RT	2.00'	4.00'	18.00'	3.43%	6.50'	14.00'
23	GOSNOLD STREET	26+73.24	11.00' RT	2.00'	4.00'	22.00'	0.84%	6.50'	7.67'
24	GOSNOLD STREET	28+14.09	11.00' RT	2.00'	4.00'	17.00'	2.93%	6.50'	11.00'

DWY#	ALIGNMENT	DWY REFERENCE POINT ζ		LENGTH OF PRIMARY RAMP (W ₁)	PATH OF TRAVEL (MIN 3.00')	WIDTH OF DRIVEWAY RAMP (A)	ROADWAY GUTTER SLOPE (±)	TRANSITION LENGTH	
		STATION	OFFSET					LEFT	RIGHT
29	GOSNOLD STREET	32+07.94	11.00' RT	2.00'	4.00'	22.00'	0.43%	6.50'	7.67'
30	GOSNOLD STREET	32+58.46	11.00' RT	2.00'	4.00'	20.00'	-1.22%	9.00'	6.50'
31	GOSNOLD STREET	33+55.41	11.00' RT	2.00'	4.00'	22.00'	-0.53%	***7.67'	6.50'
33	GOSNOLD STREET	34+31.93	11.00' RT	2.00'	4.00'	20.00'	3.99%	6.50'	14.00'
36	GOSNOLD STREET	36+43.95	11.00' RT	2.00'	4.00'	16.00'	-0.05%	7.67'	6.50'
37	GOSNOLD STREET	37+06.48	11.00' RT	2.00'	4.00'	16.00'	2.02%	6.50'	11.00'
38	GOSNOLD STREET	37+96.33	11.00' RT	2.00'	4.00'	37.00'	-0.92%	7.67'	6.50'
40	GOSNOLD STREET	38+58.55	11.00' RT	2.00'	4.00'	24.00'	-1.80%	9.00'	6.50'
41	GOSNOLD STREET	39+30.63	11.00' RT	2.00'	4.00'	32.00'	-2.40%	***5.50'	6.50'



- LEGEND:**
- W SIDEWALK WIDTH
 - HMA HOT MIX ASPHALT
 - * TOLERANCE FOR CONSTRUCTION ±0.5%
 - ** TRANSITION TO 3" CURB REVEAL AS SHOWN ON CONSTRUCTION PLANS
 - *** TRANSITION WITH CURB CORNER AS SHOWN ON CONSTRUCTION PLANS



HMA SIDEWALK THROUGH DRIVEWAYS WITH CURB RETURNS
N.T.S.

DWY#	ALIGNMENT	DWY REFERENCE POINT ζ		LENGTH OF PRIMARY RAMP (W ₁)	DEPTH OF LEVEL LANDING (MIN 3.00')	WIDTH OF DRIVEWAY RAMP (A)	TANGENT LENGTH (X)	WIDTH OF DRIVEWAY RAMP (B)	ROADWAY GUTTER SLOPE (±)	TRANSITION LENGTH	
		STATION	OFFSET							LEFT	RIGHT
1	GOSNOLD STREET	11+27.46	11.00' RT	2.00'	4.00'	22.00'	1.00'	19.00'	2.41%	6.50'	11.00'
15	GOSNOLD STREET	22+82.71	11.00' RT	2.00'	4.00'	19.00'	0.00'	25.00'	-0.43%	7.67'	6.50'



ENVIRONMENTAL PARTNERS
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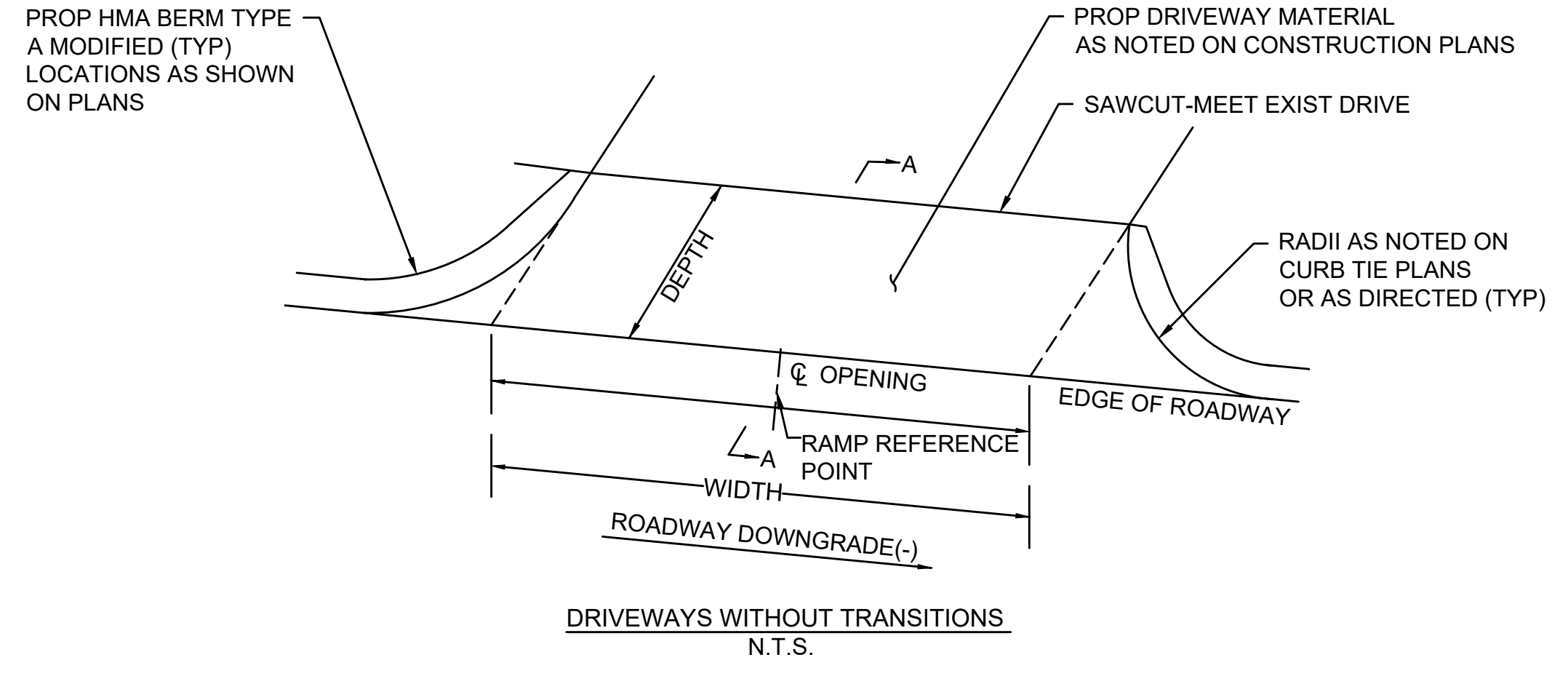
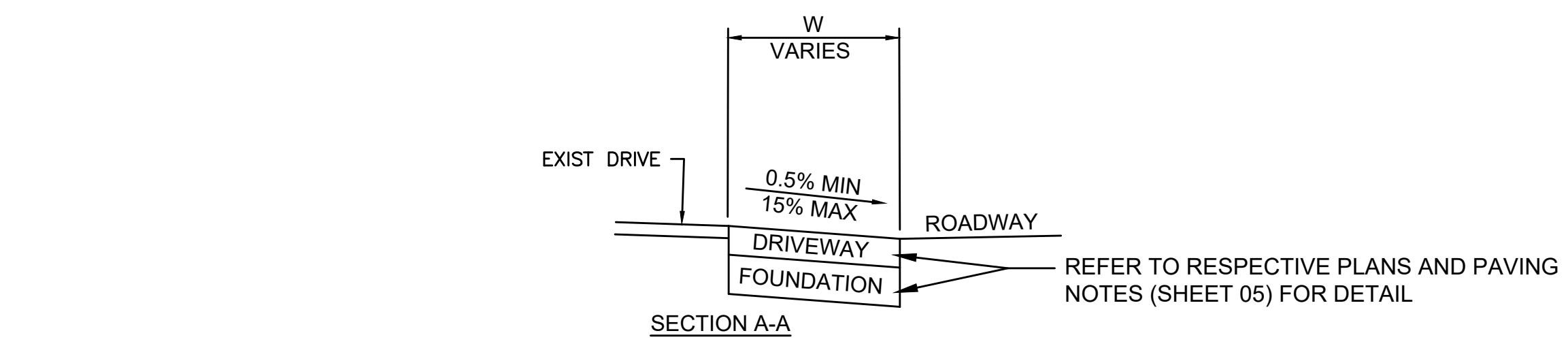
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ROADWAY IMPROVEMENTS ALONG
GOSNOLD STREET
BARNSTABLE, MASSACHUSETTS

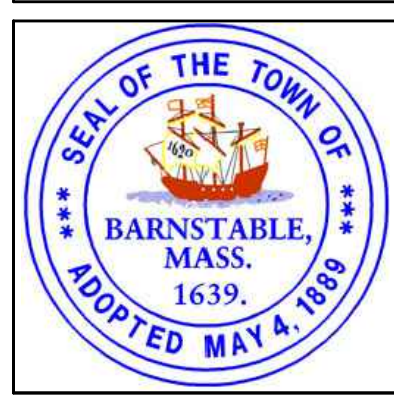
CONSTRUCTION DETAILS - 02

Sheet No.

32



DWY#	ALIGNMENT	DWY REFERENCE POINT \bar{C}		DEPTH	WIDTH
		STATION	OFFSET		
2	GOSNOLD STREET	12+55.46	11.00' LT	5.00'	26.15'
5	GOSNOLD STREET	14+34.20	11.00' LT	5.00'	7.18'
6	GOSNOLD STREET	15+31.16	11.00' LT	5.00'	23.58'
7	GOSNOLD STREET	16+32.34	11.00' LT	7.00'	39.16'
9	GOSNOLD STREET	20+64.94	11.00' LT	5.00'	65.13'
11	GOSNOLD STREET	21+46.63	11.00' LT	5.00'	15.60'
13	GOSNOLD STREET	22+03.65	11.00' LT	5.00'	25.07'
14	GOSNOLD STREET	22+66.46	11.00' LT	5.00'	16.47'
16	GOSNOLD STREET	23+58.54	11.00' LT	5.00'	13.77'
18	GOSNOLD STREET	24+44.92	11.00' LT	5.00'	17.26'
19	GOSNOLD STREET	24+82.91	11.00' LT	5.00'	29.78'
20	GOSNOLD STREET	25+61.71	11.00' LT	5.00'	31.34'
25	GOSNOLD STREET	28+63.40	11.00' LT	5.00'	20.13'
26	ESTEY AVENUE	62+34.86	14.00' LT	11.48'	21.64'
27	GOSNOLD STREET	29+69.03	11.00' LT	5.00'	28.59'
28	GOSNOLD STREET	31+67.06	11.00' LT	5.00'	18.17'
32	GOSNOLD STREET	33+82.77	11.00' LT	5.00'	21.64'
34	GOSNOLD STREET	34+64.27	11.00' LT	5.00'	16.31'
35	GOSNOLD STREET	35+41.89	11.00' LT	5.00'	17.11'
39	GOSNOLD STREET	38+31.96	11.00' LT	5.00'	26.26'



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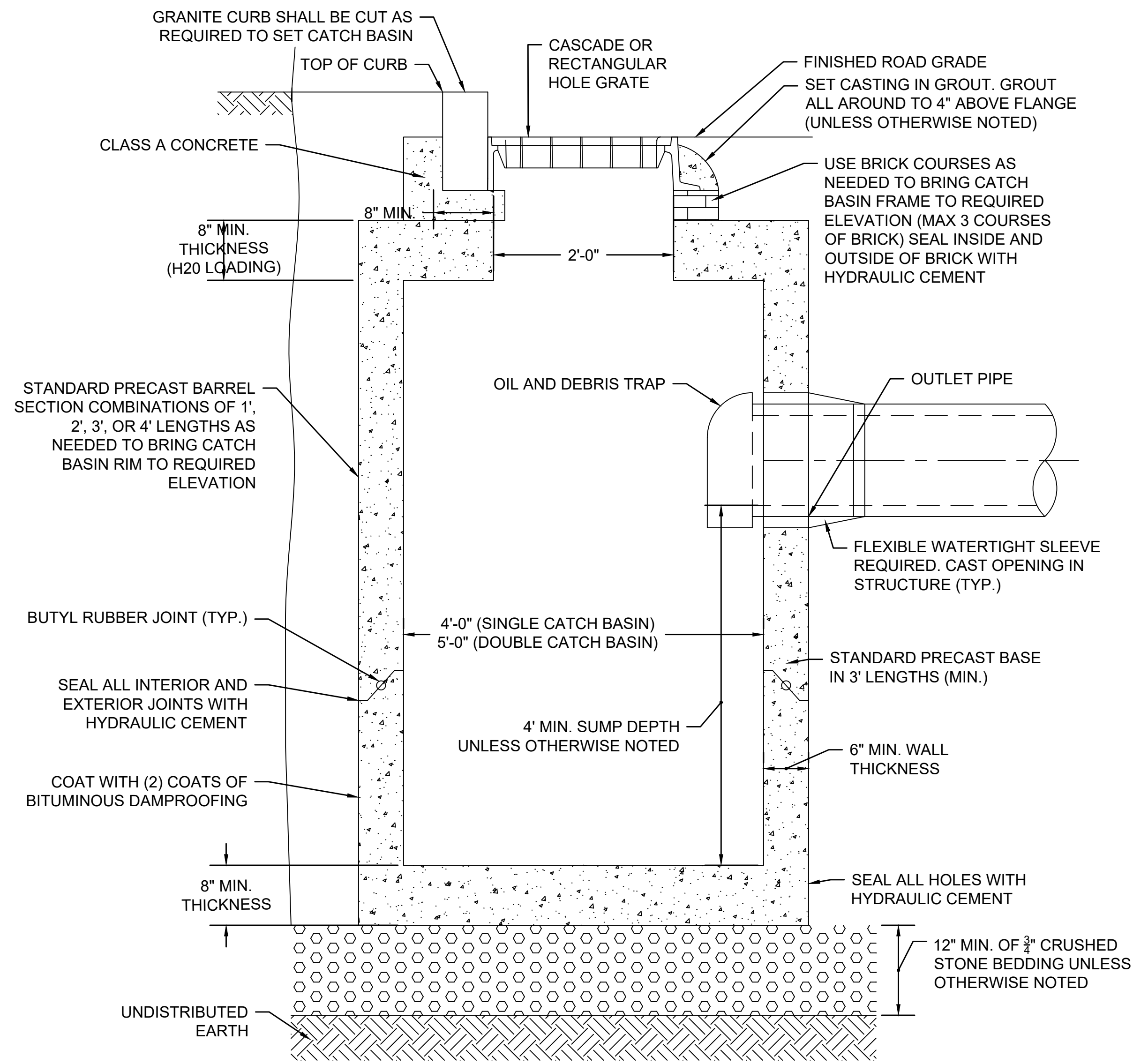
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ROADWAY IMPROVEMENTS ALONG
GOSNOLD STREET
BARNSTABLE, MASSACHUSETTS

CONSTRUCTION DETAILS - 03

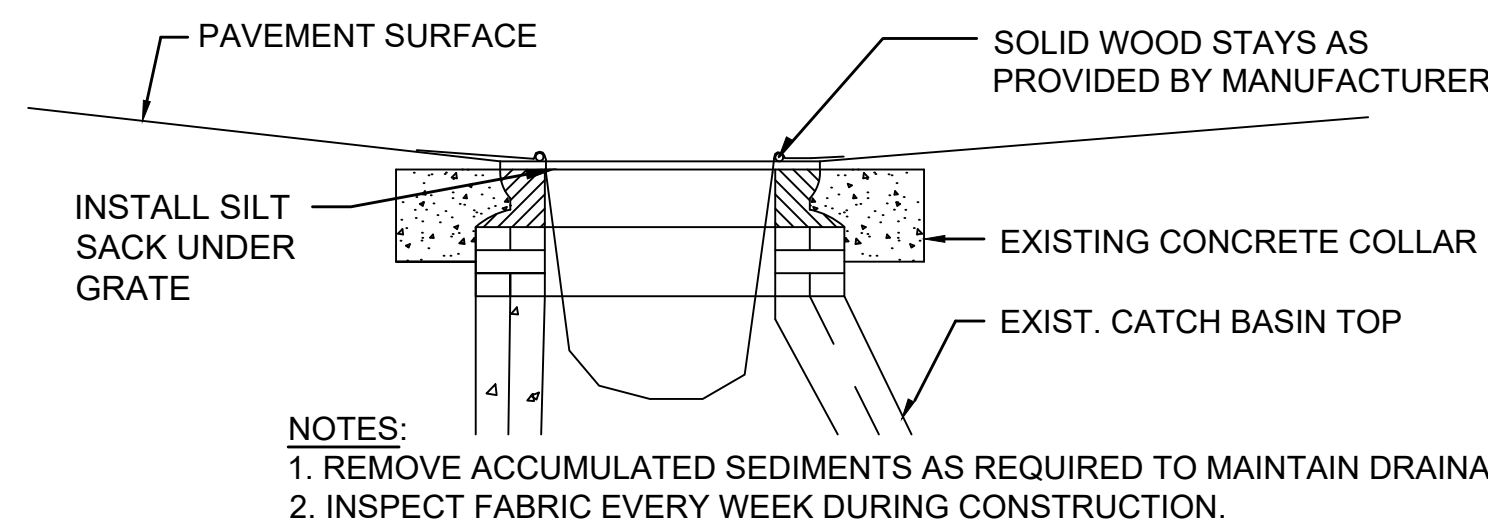
Sheet No.

33



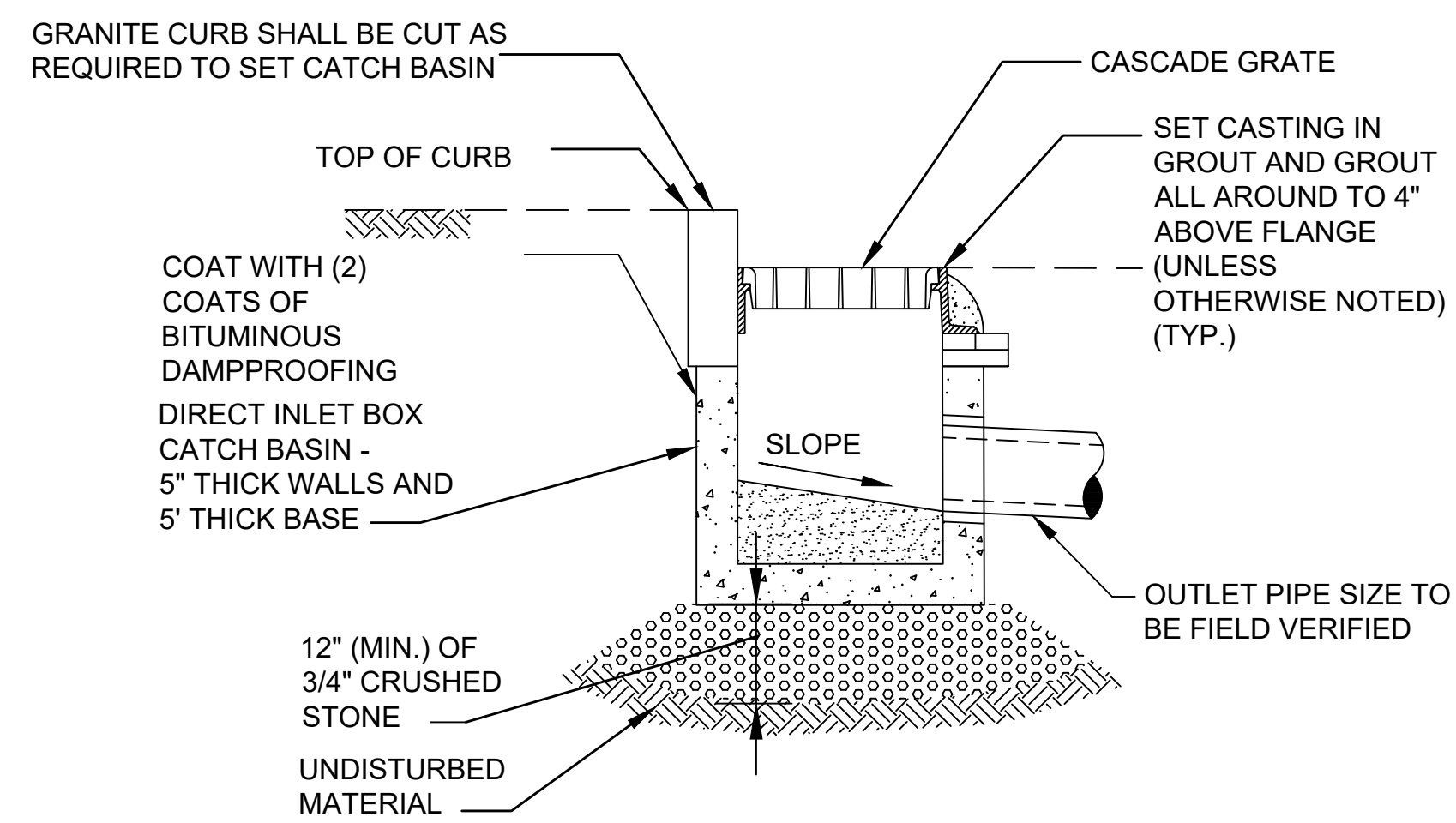
PRECAST CONCRETE DEEP SUMP SINGLE CATCH BASIN

N.T.S.



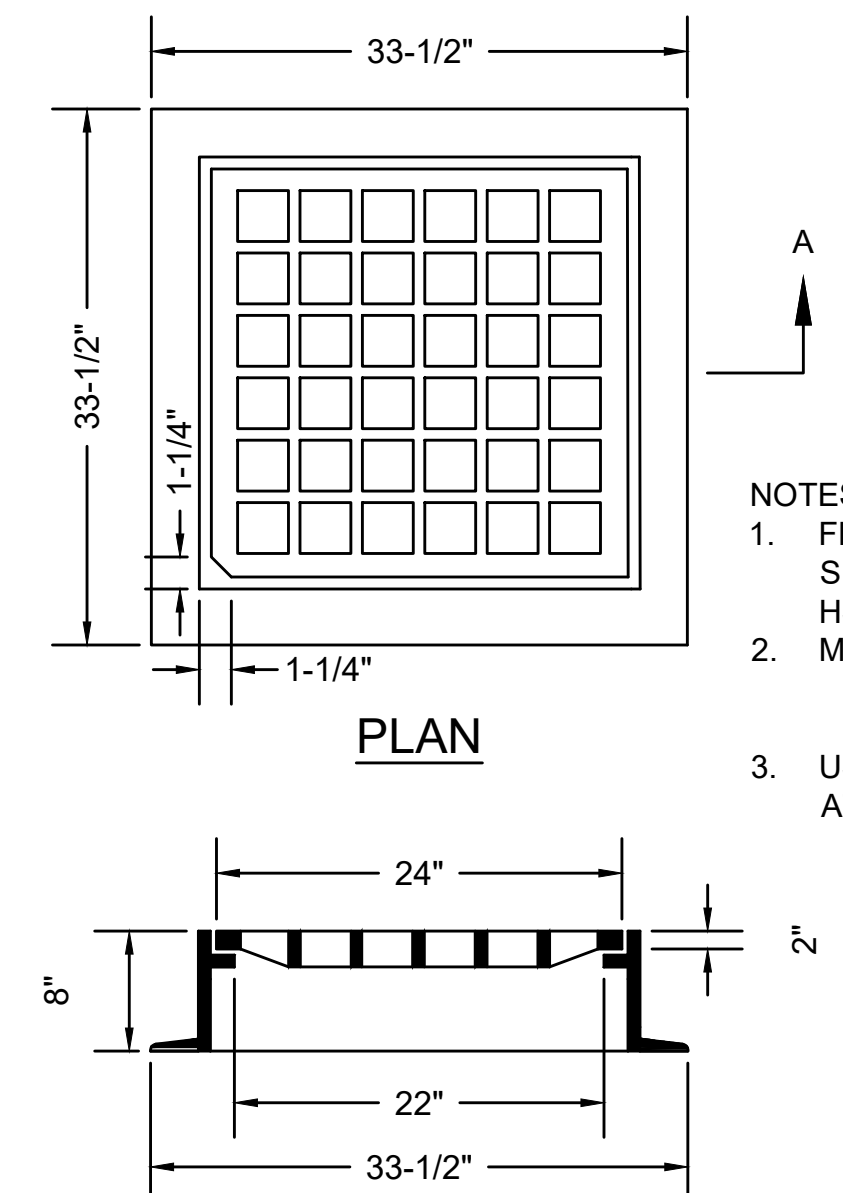
SILT SACK

N.T.S.



PRECAST CONCRETE GUTTER INLET

N.T.S.



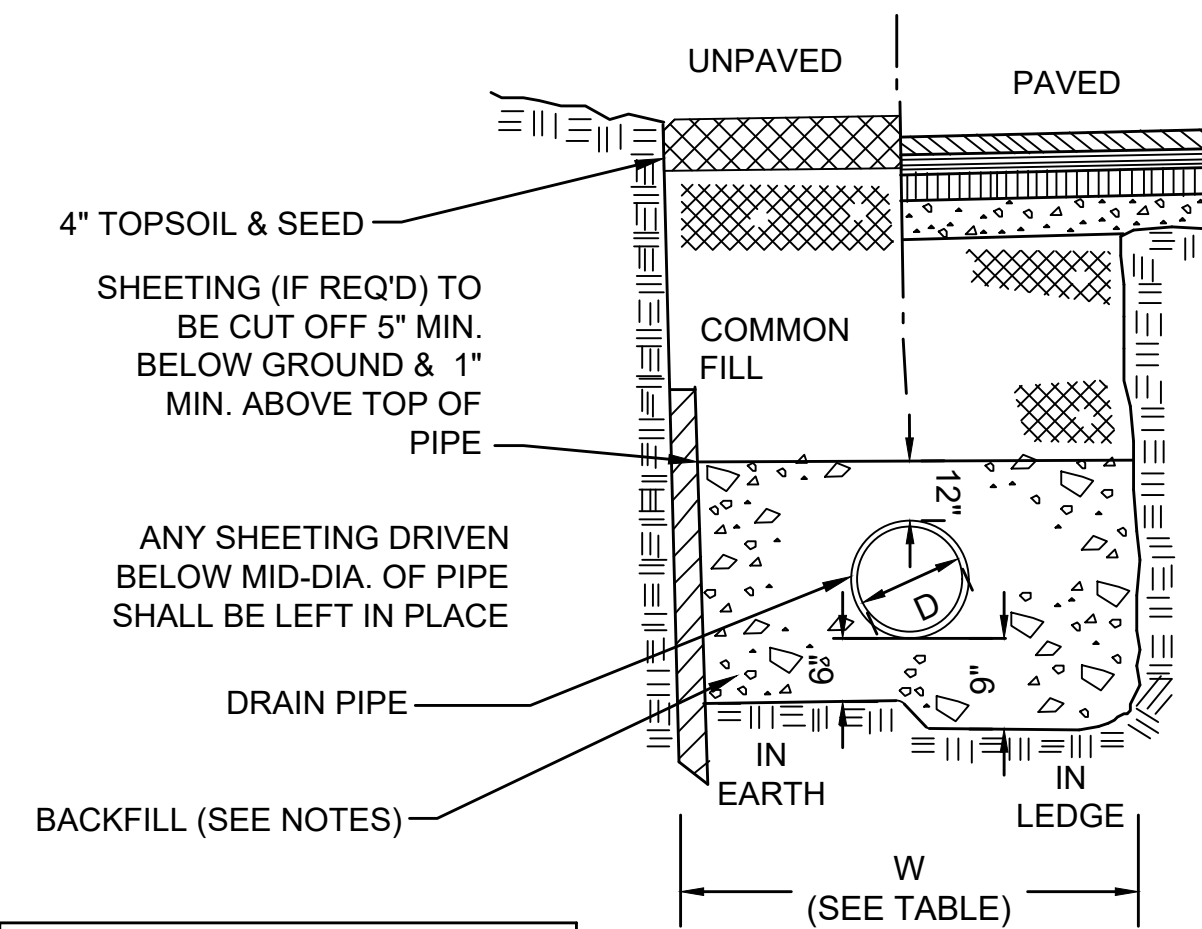
PLAN

SECTION

NOTE: NOT SUITABLE FOR USE ON MASS DOT PROJECTS
SEE ENGINEERING DIRECTIVE

**MUNICIPAL STANDARD CATCH BASIN
FRAME & GRATE**

N.T.S.



PERMANENT HMA TRENCH PATCH
(SEE PAVEMENT NOTES SHEET 4)

NOTES:

- COMMON FILL MATERIAL TO CONSIST OF GRANULAR MATERIAL CONTAINING NO STONES LARGER THAN 6" IN GREATEST DIMENSION.
- BACKFILL WITH SELECT MATERIAL CONTAINING NO STONES LARGER THAN 3" IN GREATEST DIMENSION TO 12" OVER PIPE FOR SEWER AND DRAIN PIPES.
- PROVIDE SCREENED GRAVEL BEDDING TO MID PIPE DIAMETER WHERE GROUNDWATER IS ENCOUNTERED AS DIRECTED BY THE ENGINEER.
- REMOVE UNSUITABLE MATERIAL BELOW GRADE IF ENCOUNTERED, TO SUITABLE DEPTHS AS DIRECTED BY ENGINEER AND REPLACE WITH CLEAN GRANULAR FILL.
- PAYMENT FOR HMA PERMANENT TRENCH PATCHING SHALL BE PAID FOR UNDER ITEM 451. HMA FOR PATCHING

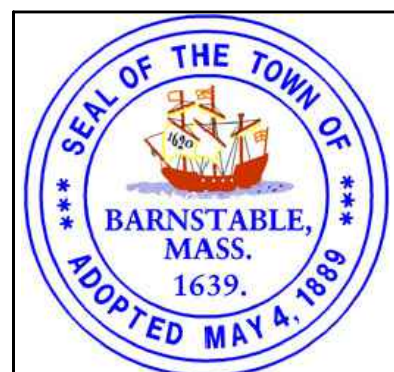
TRENCH WIDTH	
D DIAMETER OF PIPE	W
TO 12"	4'
14" TO 24"	5'
30" TO 36"	6'

NOTES:

- ALL TRENCH CONSTRUCTION TO CONFORM TO APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.
- COMPACT FILL AND TAMP PIPE TO 93% MAX. DENSITY UNLESS OTHERWISE SPECIFIED.

PERMANENT TRENCH PATCH

N.T.S.



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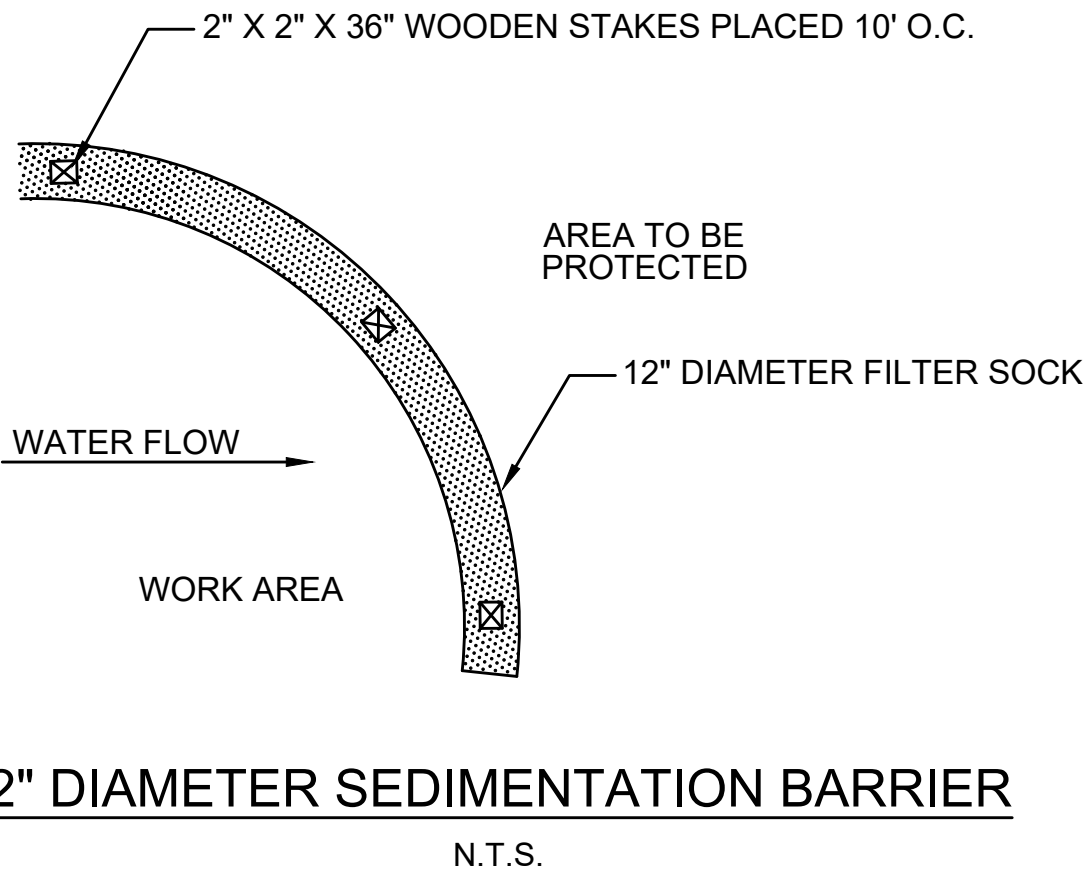
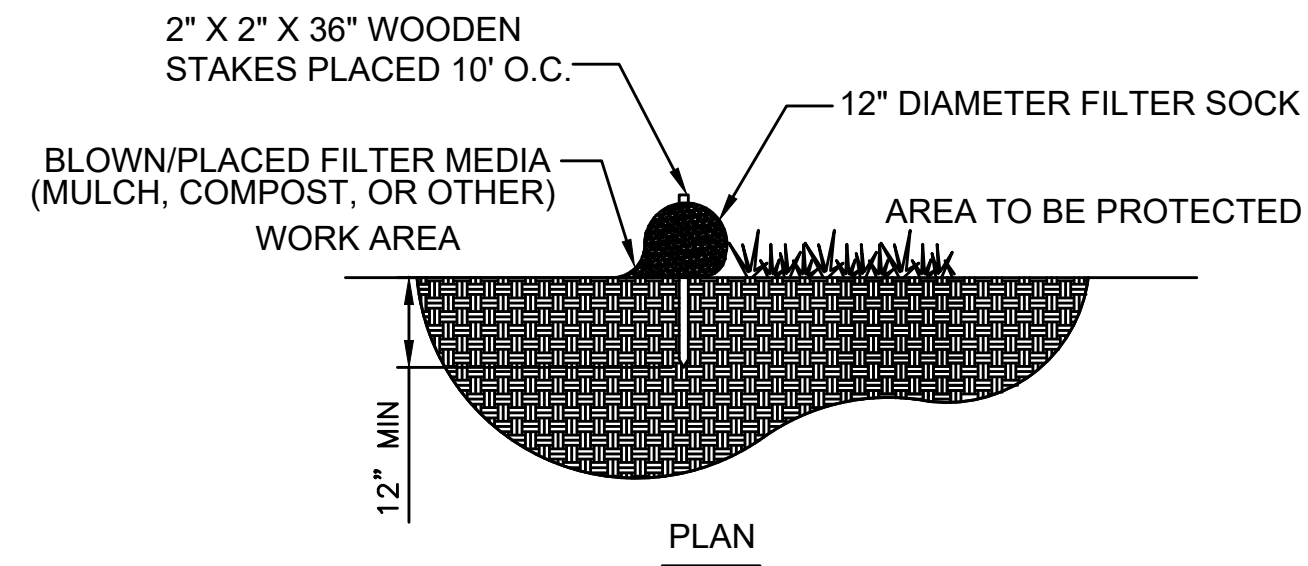
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ROADWAY IMPROVEMENTS ALONG
GOSNOLD STREET
BARNSTABLE, MASSACHUSETTS

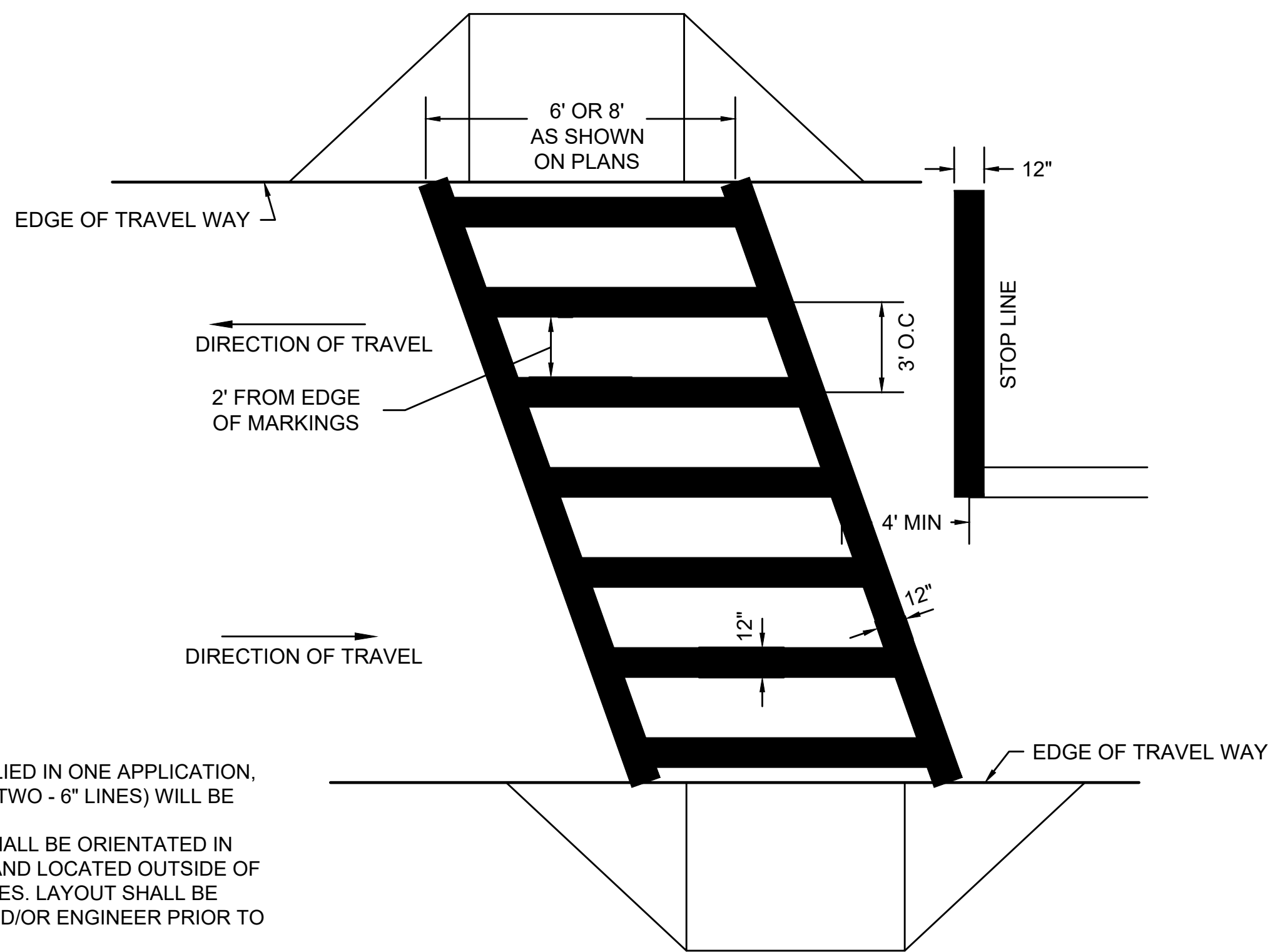
CONSTRUCTION DETAILS - 04

Sheet No.

34

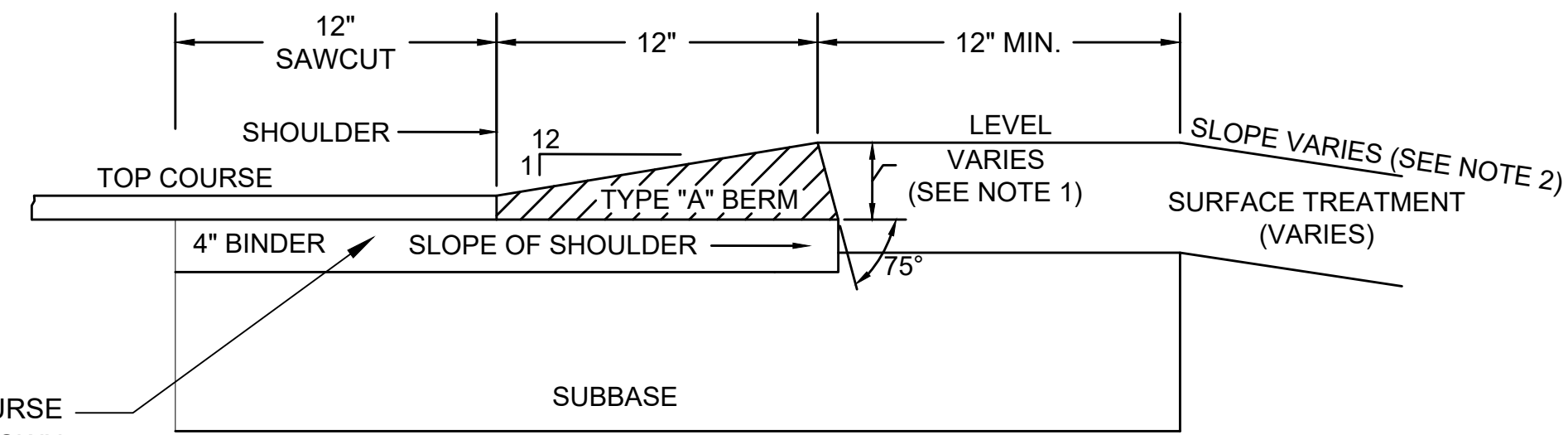


12" DIAMETER SEDIMENTATION BARRIER
N.T.S.



CONTINENTAL STYLE CROSSWALK - 12" WIDE LINES
N.T.S.

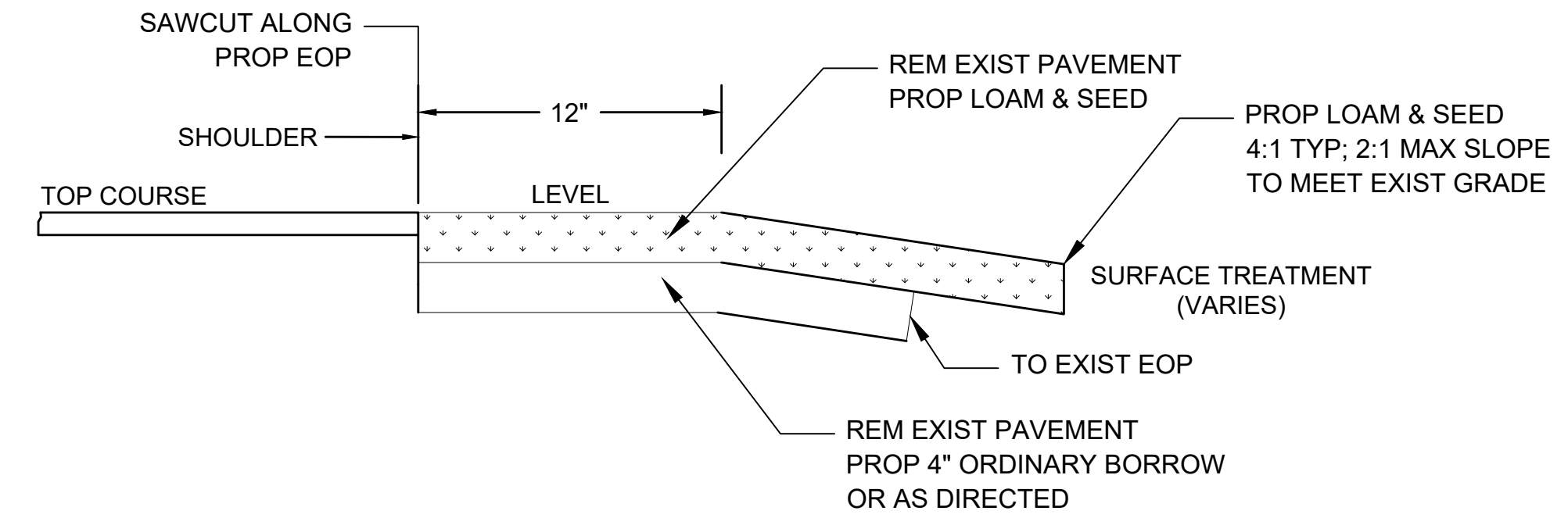
- NOTES:
1. ALL 12" LINES SHALL BE APPLIED IN ONE APPLICATION, NO COMBINATION OF LINES (TWO - 6" LINES) WILL BE ACCEPTED.
 2. LAYOUT OF CROSSWALKS SHALL BE ORIENTATED IN THE DIRECTION OF TRAVEL AND LOCATED OUTSIDE OF THE WHEEL PATH OF VEHICLES. LAYOUT SHALL BE APPROVED BY THE TOWN AND/OR ENGINEER PRIOR TO APPLICATION.
 3. ALL CROSSWALKS INSTALLED SHALL CONFORM TO THE RELEVANT PROVISIONS OF THE COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DATED 2020, SECTION 860 FOR REFLECTORIZED LINE & MATERIAL M7.01.03.



PROP 4" HMA BINDER COURSE AS DIRECTED BY THE TOWN AND SHALL BE INCIDENTAL TO THE HMA BERM ITEM

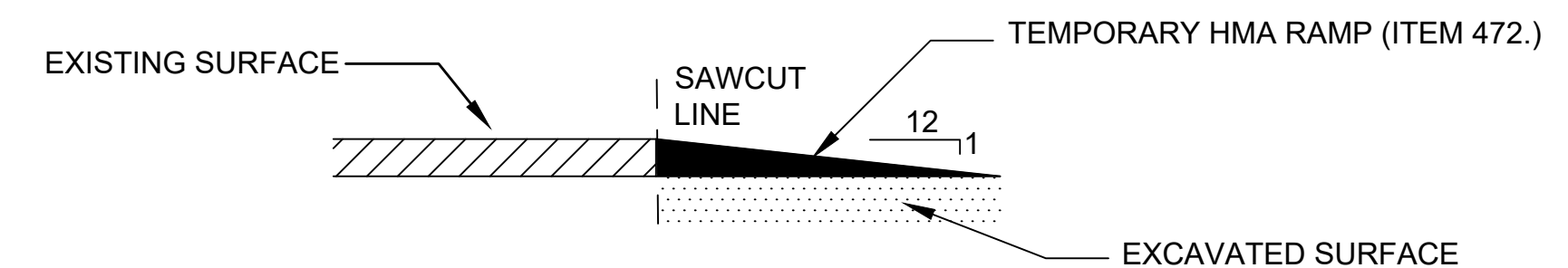
HOT MIX ASPHALT BERM
TYPE A - MODIFIED

N.T.S.



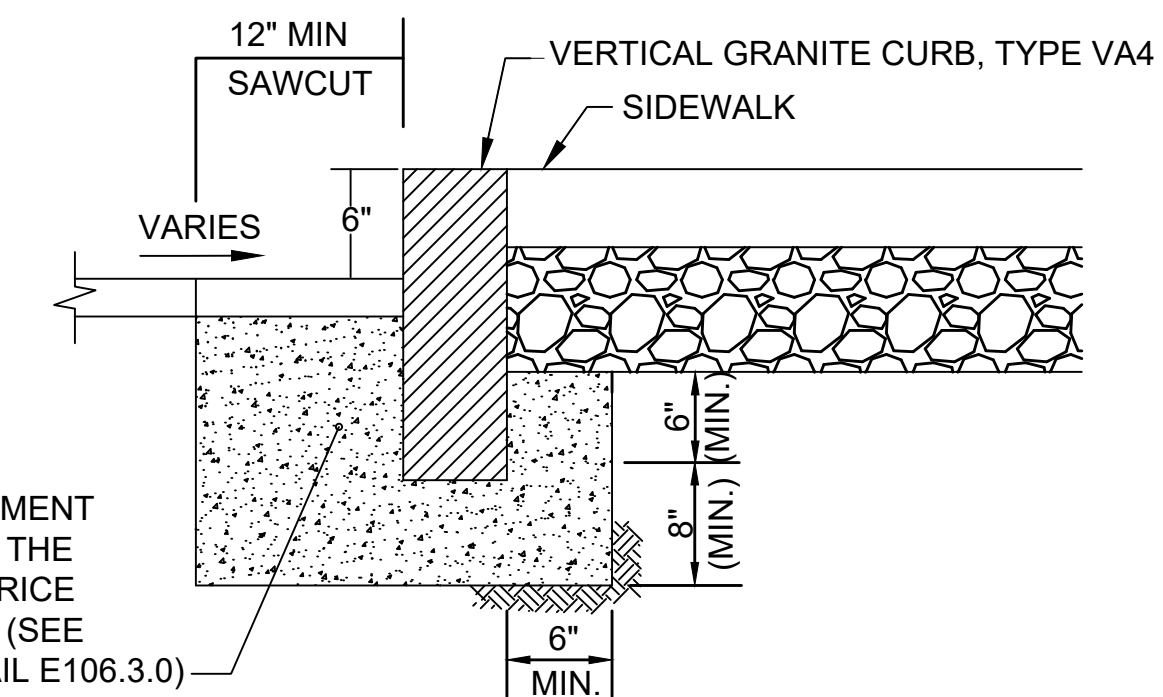
EDGE OF PAVEMENT

N.T.S.



TEMPORARY HMA RAMP

N.T.S.



METHOD OF SETTING GRANITE CURB IN EXISTING ROADWAY
FOR MILLING AND RESURFACING AREAS

N.T.S.



ENVIRONMENTAL PARTNERS
— An Apex Company —

MARK	DATE	DESCRIPTION

Scale	AS NOTED
Date	MAR 2023
Job No.	22010758
Designed by	JM
Drawn by	JM
Checked by	BLH
Approved by	JDF

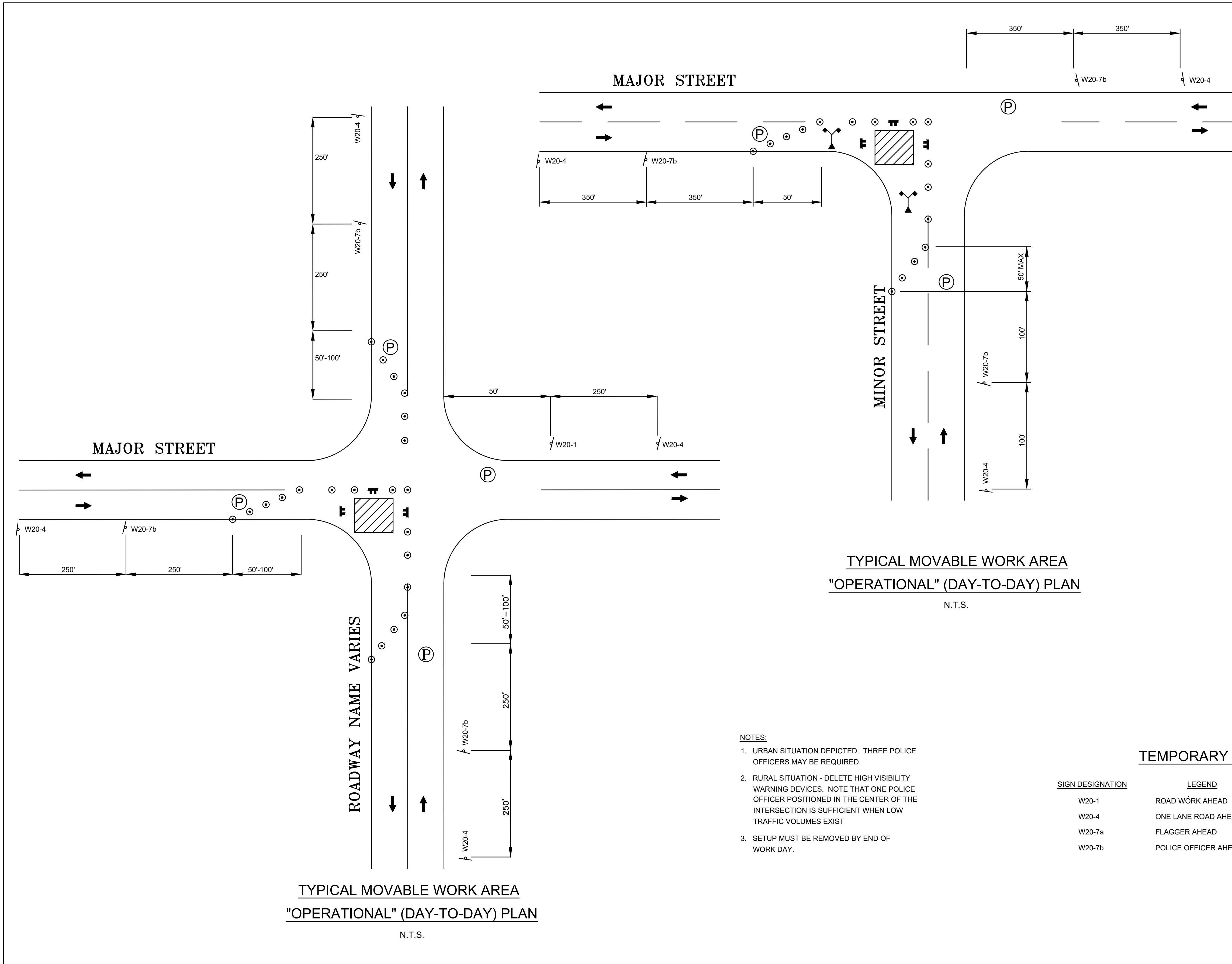
THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

ROADWAY IMPROVEMENTS ALONG GOSNOLD STREET BARNSTABLE, MASSACHUSETTS

CONSTRUCTION DETAILS - 05

Sheet No.

35



- ### GENERAL NOTES
- ALL CONSTRUCTION SIGNING, DRUMS, BARRICADES AND OTHER DEVICES SHALL CONFORM WITH PART 6 OF THE LATEST EDITION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.)
 - ALL CHANNELIZING DEVICES SHALL BE SET @ 25' O.C. MAX. UNLESS OTHERWISE NOTED OR ADJUSTED BY THE RESIDENT ENGINEER.
 - ALL DRUMS SHALL BE APPROPRIATELY PLACED AND MOVED AS NECESSARY TO MAINTAIN ADEQUATE ABUTTER ACCESS AT ALL TIMES. WORK MAY REQUIRE ADDITIONAL SIGNS, DRUMS AND OTHER TRAFFIC CONTROL DEVICES, GRADING AND TEMPORARY PAVEMENT FOR PASSAGE OF PEDESTRIAN, VEHICULAR AND EMERGENCY TRAFFIC THROUGH THE WORK AREAS, BOTH DURING AND AFTER WORK HOURS, TO MAINTAIN SUCH ACCESS.
 - ALL DISTANCE MAY BE ADJUSTED TO FIT FIELD CONDITIONS, AS DIRECTED BY THE TOWN. HOWEVER MINIMUM DISTANCES, WHERE INDICATED SHALL BE MAINTAINED.
 - 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.
 - THE CONTRACTOR SHALL NOTIFY THE TOWN OF BARNSTABLE POLICE, FIRE, AND DEPARTMENT OF PUBLIC WORKS AT LEAST 48 HOURS IN ADVANCE OF LANE CLOSURES.
 - A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES.
 - DETOURS MAY ONLY BE CONSIDERED FOR TRAVELWAY SURFACE RESTORATION WORK ONLY (I.E. PAVEMENT COLD PLANE AND RESURFACING) AT THE APPROVAL OF THE RESIDENT ENGINEER. EXCEPTIONS MAY BE MADE FOR MAJOR INTERSECTION WORK, BUT MUST BE APPROVED IN WRITING BY THE RESIDENT ENGINEER AND COORDINATED WITH THE APPROPRIATE LOCAL AUTHORITIES.
 - GRADE SEPARATIONS IN EXCESS OF 2 INCHES DURING NON-WORKING HOURS WILL REQUIRE DELINEATION BY USE OF DRUMS.
 - EXCAVATION EDGES IN EXCESS OF 4 INCHES DEEP SHALL BE PROTECTED DURING NON-WORKING HOURS BY BACKFILLING WITH A WEDGE OF GRAVEL OR SOIL COMPACTED TO A 4:1 SLOPE.
 - NONESSENTIAL TEMPORARY CONSTRUCTION TRAFFIC CONTROL DEVICES SHALL BE COVERED OR REMOVED DURING NON-WORKING HOURS.
 - ADVISORY SPEED PLATES (W13-1) SHALL BE USED IF APPROPRIATE AND AS DIRECTED BY THE ENGINEER.
 - SUPPORTS FOR ALL TRAFFIC MANAGEMENT SIGNS SHALL BE 4" X 4" PRESSURE TREATED WOOD POSTS.
 - ANY LANE CLOSURE WORK MUST BE PERFORMED BETWEEN THE HOURS OF 7:00 AM - 3:30 PM ONLY, EXCEPTION FOR A SHORT PERIOD OF TIME AS APPROVED BY THE TOWN. WORKING BEYOND THESE HOURS OR OVER THE WEEKEND MUST BE APPROVED BY THE TOWN.
 - CONSTRUCTION SHALL NOT TAKE PLACE DURING THE SUMMER MONTHS (BETWEEN MEMORIAL DAY AND LABOR DAY).
 - CEMENT CONCRETE BARRIERS TO BE USED AS NEEDED AND DIRECTED BY THE TOWN.
 - ALL TEMPORARY TRAFFIC CONTROL WORK FOR SIDEWALK CLOSURE AND PEDESTRIAN DETOUR SHALL CONFORM TO THE LATEST EDITION OF THE MASSDOT STANDARD
 - DETAILS AND DRAWINGS FOR THE DEVELOPMENT OF TEMPORARY TRAFFIC CONTROL PLANS FIGURE PED-1 TO FIGURE PED-7.

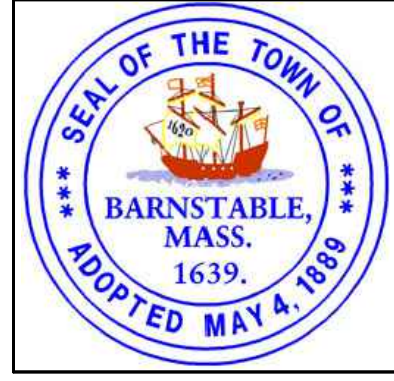
- NOTES:**
- URBAN SITUATION DEPICTED. THREE POLICE OFFICERS MAY BE REQUIRED.
 - RURAL SITUATION - DELETE HIGH VISIBILITY WARNING DEVICES. NOTE THAT ONE POLICE OFFICER POSITIONED IN THE CENTER OF THE INTERSECTION IS SUFFICIENT WHEN LOW TRAFFIC VOLUMES EXIST
 - SETUP MUST BE REMOVED BY END OF WORK DAY.

TEMPORARY SIGNS

SIGN DESIGNATION	LEGEND	HEIGHT	WIDTH
W20-1	ROAD WORK AHEAD	36"	36"
W20-4	ONE LANE ROAD AHEAD	36"	36"
W20-7a	FLAGGER AHEAD	36"	36"
W20-7b	POLICE OFFICER AHEAD	36"	36"

LEGEND

	CHANNELIZING DEVICE
	PROPOSED TRAFFIC FLOW
	WORK ZONE
	TYPE III BARRICADE
	POLICE DETAIL
	CONSTRUCTION SIGN
N.T.S.	NOT TO SCALE



MARK	DATE	DESCRIPTION

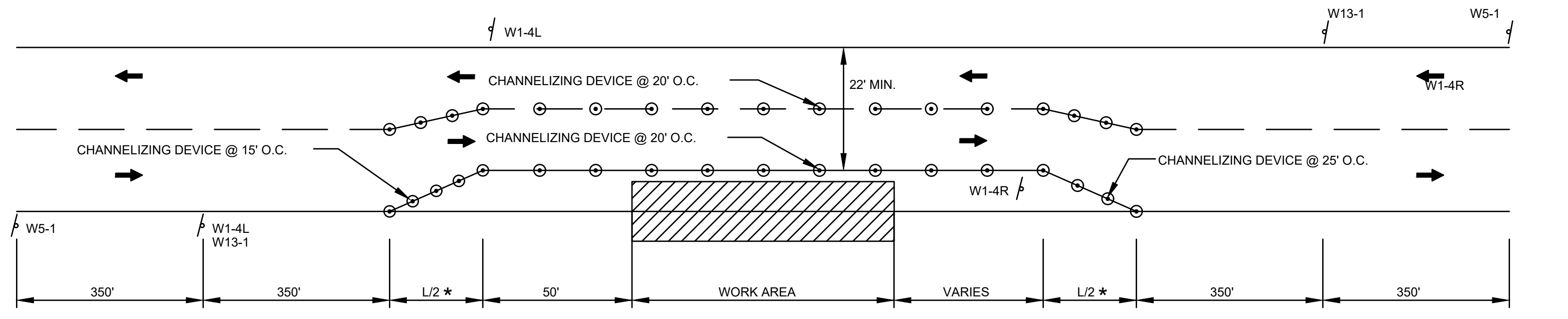
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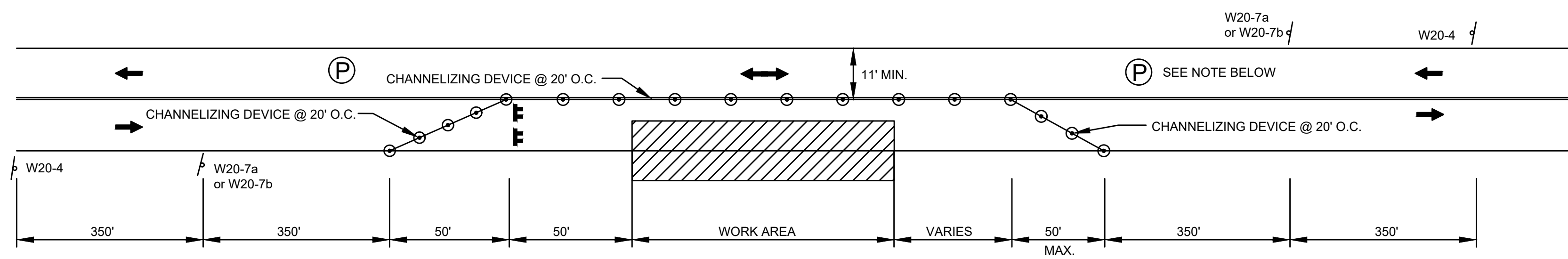
ROADWAY IMPROVEMENTS ALONG GOSNOLD STREET BARNSTABLE, MASSACHUSETTS

TRAFFIC MANAGEMENT PLANS - 01

Sheet No. 36

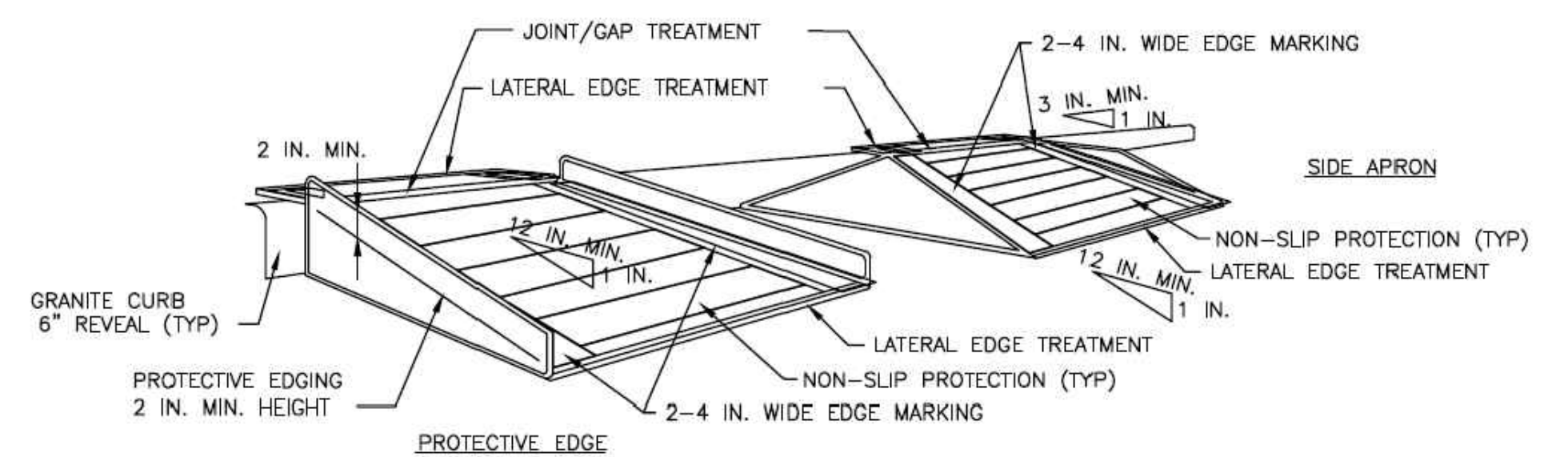


TYPICAL TWO WAY STREET LANE SHIFT
N.T.S.
* $L = \frac{WS^2}{60}$
L=TAPER LENGTH
W=WIDTH OF ROADWAY TO BE SHIFTED OR REDIRECTED
S=POSTED SPEED LIMIT

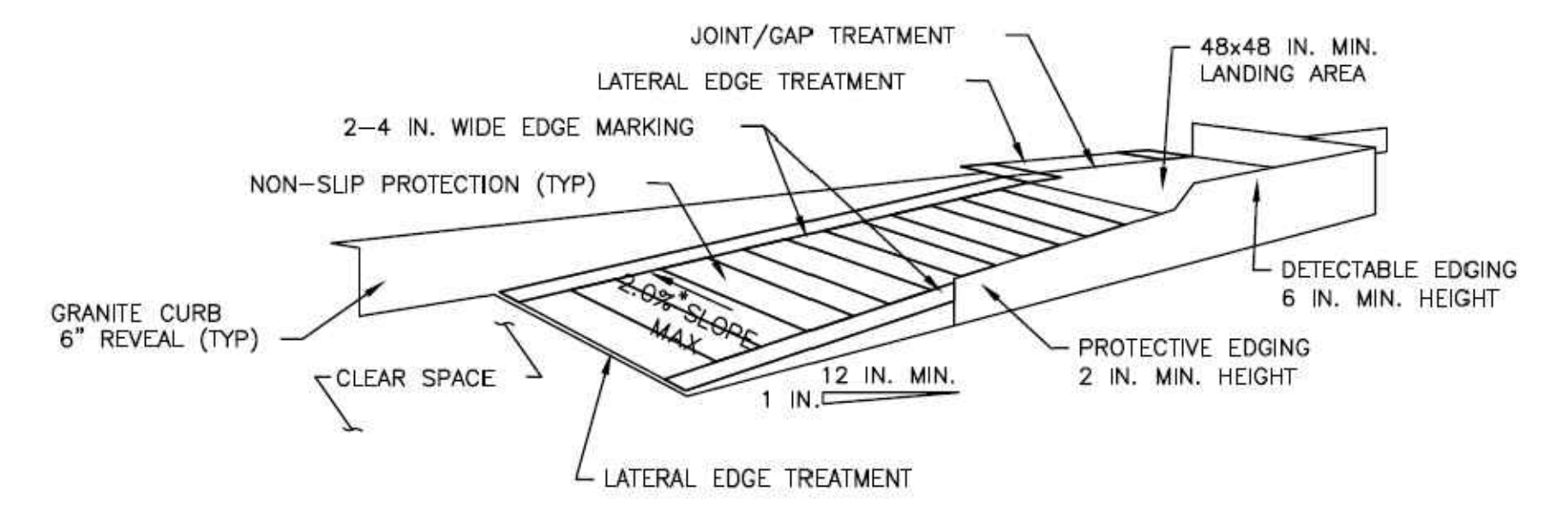


TYPICAL TWO WAY STREET LANE CLOSURE
N.T.S.

- NOTES:**
1. WORK THAT WILL DISRUPT EXISTING TRAFFIC PATTERNS WITHIN THE EXISTING ROADWAYS (LANE REDUCTION, ETC.) SHALL ONLY BE DONE DURING OFF PEAK HOURS. NUMBERS AND LOCATION OF POLICE DETAILS FOR WORK ZONE AND/OR DETOUR MANAGEMENT SHALL BE DETERMINED BY THE TOWN ON A CASE BY CASE BASIS, AS WORK PROGRESSES.
 2. TEMPORARY LANE CLOSURES SHOWN ARE FOR ROADWAY CONSTRUCTION. ALL DRUMS AND SIGNS ARE SHOWN AS THEY SHOULD APPEAR DURING THE WORKING DAY, OR WHILE OPERATING IN THE WORK ZONE. FOR WORK ON OPPOSITE SIDES OF ROADWAY, REVERSE ALL SIGNING, DRUMS, AND TAPER LENGTHS.



TEMPORARY CURB RAMP-PERPENDICULAR TO CURB



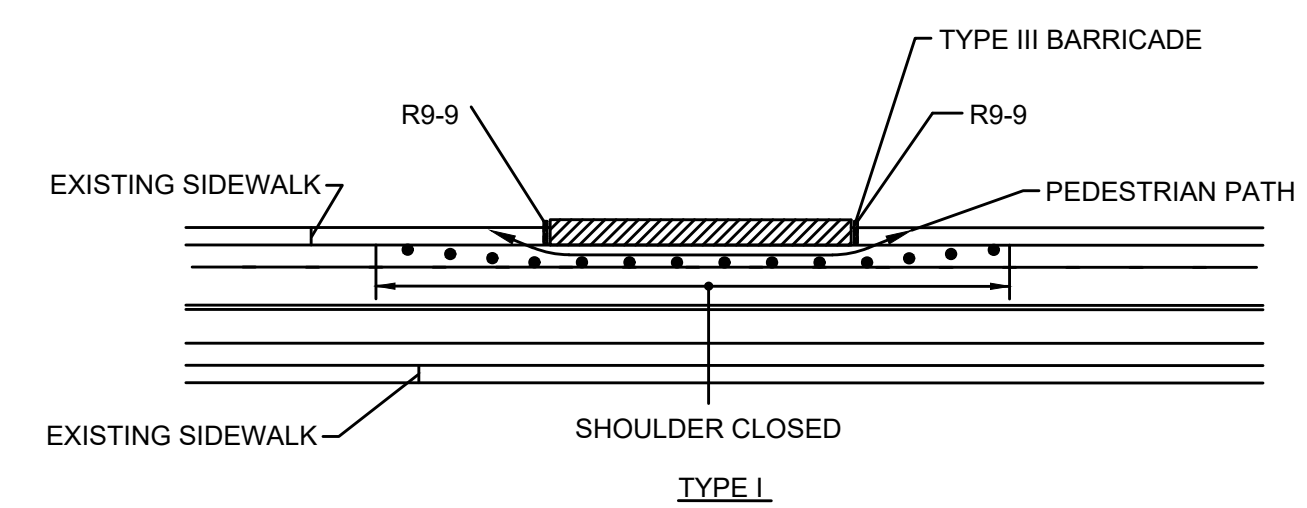
TEMPORARY CURB RAMP-PARALLEL TO CURB

TEMPORARY SIGNS

SIGN DESIGNATION	LEGEND	HEIGHT	WIDTH
R9-9		30"	18"
W1-4R		30"	30"
W1-4L		30"	30"
W5-1	ROAD NARROWS	36"	36"
W13-1	XX MPH	24"	24"
W20-1	ROAD WORK AHEAD	36"	36"
W20-4	ONE LANE ROAD AHEAD	36"	36"
W20-7a	FLAGGER AHEAD	36"	36"
W20-7b	POLICE OFFICER AHEAD	36"	36"

LEGEND

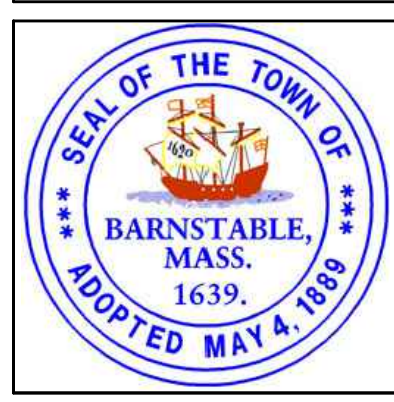
- REFLECTORIZED DRUM
- PROPOSED TRAFFIC FLOW
- WORK ZONE
- TYPE III BARRICADE
- POLICE DETAIL
- CONSTRUCTION SIGN
- N.T.S. NOT TO SCALE



- NOTES:**
1. ADDITIONAL ADVANCE WARNING MAY BE NECESSARY.
 2. CONTROLS ONLY FOR PEDESTRIAN TRAFFIC ARE SHOWN. VEHICULAR TRAFFIC SHOULD BE HANDLED AS SHOWN ELSEWHERE.
 3. IF THE WORK ZONE DOES NOT PERMIT PEDESTRIANS TO TRAVEL ADJACENT TO IT AS SHOWN, PEDESTRIANS MAY BE REQUIRED TO CROSS TO THE OPPOSITE SIDE OF THE STREET AS DIRECTED BY THE TOWN.
 4. BYPASS IS TO BE USED IN CONJUNCTION WITH THE PROPOSED LANE CLOSURE DETAILS AND DURING CONSTRUCTION STAGING, AS DIRECTED BY THE TOWN.
 5. ACCESS TO ALL BUSINESSES AND RESIDENCES SHALL BE MAINTAINED AT ALL TIMES UNLESS OTHERWISE DIRECTED BY THE TOWN.

PEDESTRIAN BYPASS
N.T.S.

- NOTES:**
1. CURB RAMPS SHALL BE A MINIMUM WIDTH OF 5 FEET 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 SLOPE 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 EDGE WITH 6 IN. MINIMUM HEIGHT AND CONTRAST COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
 4. CURB RAMPS AND LANDINGS SHOULD HAVE A 1:50 (2%) MAX. CROSS-SLOPE.
 5. A MINIMUM CLEAR SPACE OF 48X48 IN. SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
 6. THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A CONTRASTING COLOR 2 TO 4 IN. WIDE MARKING. THE MARKING IS OPTIONAL WHERE COLOR CONTRASTING EDGING IS USED.
 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.



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ROADWAY IMPROVEMENTS ALONG
GOSNOLD STREET
BARNSTABLE, MASSACHUSETTS

TRAFFIC MANAGEMENT PLANS - 02

Sheet No.
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