

2021 DRAINAGE & PAVING IMPROVEMENTS

HAMILTON
 BRIDGE ST, MILES RIVER RD,
 ESSEX ST, FOREST ST, APPALOOSA LANE,
 VILLAGE LANE, BEECH ST, & LAKE SHORE AVE
 TITLE SHEET & INDEX
 SHEET 1 OF 16

PLAN OF

BRIDGE STREET, MILES RIVER ROAD, ESSEX STREET, APPALOOSA LANE, FOREST STREET, LAKE SHORE AVE, VILLAGE LANE, & BEECH STREET

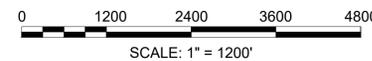
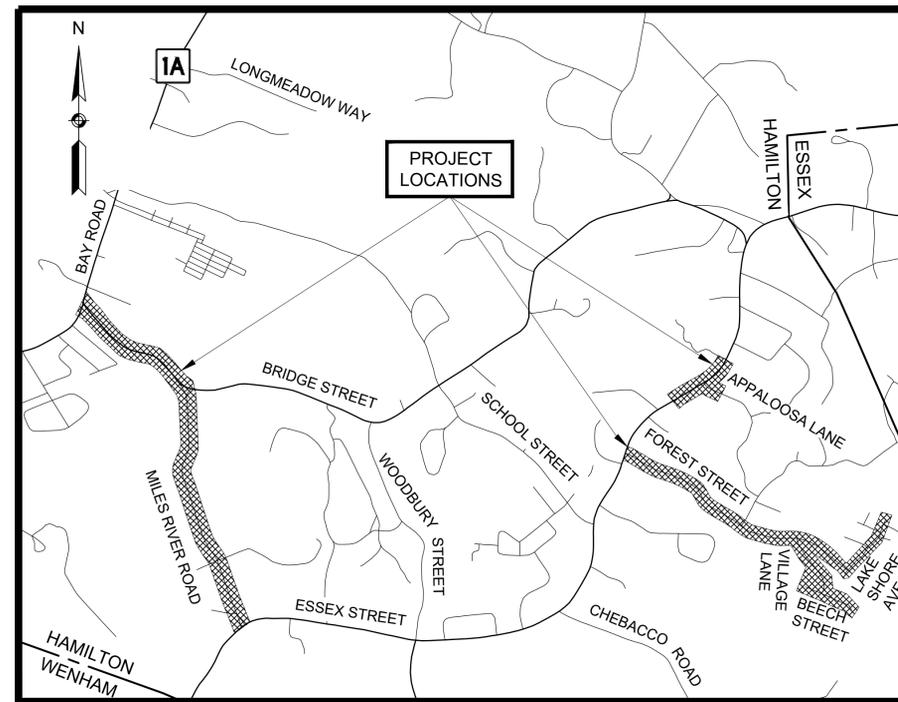
IN THE TOWN OF

HAMILTON
 ESSEX COUNTY

THESE PLANS ARE SUPPLEMENTED BY THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, 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.

REVISED NOI SUBMITTAL

| INDEX | |
|-----------|--|
| SHEET NO. | DESCRIPTION |
| 1 | TITLE SHEET & INDEX |
| 2 | LEGEND & ABBREVIATIONS |
| 3 | KEY PLAN |
| 4-11 | CONSTRUCTION PLANS SHEETS 9-11 OMITTED |
| 12-14 | TEMPORARY TRAFFIC CONTROL PLANS OMITTED |
| 15-16 | CONSTRUCTION DETAILS |



- LENGTH OF PROJECT ALONG BRIDGE STREET = 1940 FEET = 0.367 MILES
- LENGTH OF PROJECT ALONG MILES RIVER ROAD = 3570 FEET = 0.676 MILES
- LENGTH OF PROJECT ALONG ESSEX STREET = 850 FEET = 0.161 MILES
- LENGTH OF PROJECT ALONG FOREST STREET = 3630 FEET = 0.68 MILES
- LENGTH OF PROJECT ALONG APPALOOSA LANE = 275 FEET = 0.052 MILES
- LENGTH OF PROJECT ALONG LAKE SHORE AVE = 1070 FEET = 0.203 MILES
- LENGTH OF PROJECT ALONG VILLAGE LANE = 905 FEET = 0.171 MILES
- LENGTH OF PROJECT ALONG BEECH STREET = 615 FEET = 0.116 MILES

| DATE | DESCRIPTION | REV # |
|----------|-----------------------|-------|
| 7/7/2021 | REVISED NOI SUBMITTAL | 1 |
| 6/9/2021 | NOI SUBMITTAL | - |

TEC
The Engineering Corp

TEC, Inc.

| | | |
|---|---|---|
| 146 Dascomb Road Andover, MA 01810 978-794-1792 | 311 Main Street 2nd Floor Worcester, MA 01608 508-868-5104 | 169 Ocean Blvd, Unit 3 PO Box 249 Hampton, NH 03842 603-601-8154 |
|---|---|---|

www.TheEngineeringCorp.com

GENERAL SYMBOLS

| EXISTING | PROPOSED | DESCRIPTION |
|----------|----------|---|
| | | JERSEY BARRIER |
| | | CATCH BASIN |
| | | CATCH BASIN CURB INLET |
| | | FLAG POLE |
| | | GAS PUMP |
| | | MAIL BOX |
| | | POST SQUARE |
| | | POST CIRCULAR |
| | | WELL |
| | | ELECTRIC HANDHOLE |
| | | FENCE GATE POST |
| | | GAS GATE |
| | | BORING HOLE |
| | | MONITORING WELL |
| | | TEST PIT |
| | | 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 |
| | | TROLLEY POLE OR GUY POLE |
| | | TRANSMISSION POLE |
| | | 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 |
| | | GUARD RAIL - STEEL POSTS |
| | | GUARD RAIL - WOOD POSTS |
| | | GUARD RAIL - DOUBLE FACE - STEEL POSTS |
| | | GUARD RAIL - DOUBLE FACE - WOOD POSTS |
| | | CHAIN LINK OR METAL FENCE |
| | | WOOD FENCE |
| | | SEDIMENT CONTROL BARRIER |
| | | 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 |
| | | BROKEN YELLOW LINE |
| | | DOTTED WHITE LINE |
| | | DOTTED YELLOW LINE |
| | | DOTTED WHITE LINE EXTENSION |
| | | DOTTED YELLOW LINE EXTENSION |
| | | DOUBLE WHITE LINE |
| | | DOUBLE YELLOW LINE |

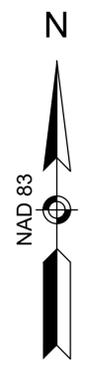
ABBREVIATIONS

| GENERAL | DESCRIPTION |
|---------------|--------------------------------------|
| AADT | ANNUAL AVERAGE DAILY TRAFFIC |
| ABAN | ABANDON |
| ADJ | ADJUST |
| APPROX. | APPROXIMATE |
| A.C. | ASPHALT CONCRETE |
| ACCM PIPE | ASPHALT COATED CORRUGATED METAL PIPE |
| BIT. | BITUMINOUS |
| BC | BOTTOM OF CURB |
| BD. | BOUND |
| BL | BASELINE |
| BLDG | BUILDING |
| BM | BENCHMARK |
| BO | BY OTHERS |
| BOS | BOTTOM OF SLOPE |
| BR. | BRIDGE |
| CB | CATCH BASIN |
| CBCI | CATCH BASIN WITH CURB INLET |
| CC | CEMENT CONCRETE |
| CCM | CEMENT CONCRETE MASONRY |
| CEM | CEMENT |
| CI | CURB INLET |
| CIP | CAST IRON PIPE |
| CLF | CHAIN LINK FENCE |
| CL | CENTERLINE |
| CMP | CORRUGATED METAL PIPE |
| CSP | CORRUGATED STEEL PIPE |
| CO. | COUNTY |
| CONC | CONCRETE |
| CONT | CONTINUOUS |
| CONST | CONSTRUCTION |
| CR GR | CROWN GRADE |
| DHV | DESIGN HOURLY VOLUME |
| DI | DROP INLET |
| DIA | DIAMETER |
| DIP | DUCTILE IRON PIPE |
| DW | STEADY DON'T WALK - PORTLAND ORANGE |
| DWY | DRIVEWAY |
| ELEV (or EL.) | ELEVATION |
| EMB | EMBANKMENT |
| EOP | EDGE OF PAVEMENT |
| EXIST (or EX) | EXISTING |
| EXC | EXCAVATION |
| F&C | FRAME AND COVER |
| F&G | FRAME AND GRATE |
| FDN. | FOUNDATION |
| FLDSTN | FIELDSTONE |
| GAR | GARAGE |
| GD | GROUND |
| GG | GAS GATE |
| GI | GUTTER INLET |
| GIP | GALVANIZED IRON PIPE |
| GRAN | GRANITE |
| GRAV | GRAVEL |
| GRD | GUARD |
| HDW | HEADWALL |
| HMA | HOT MIX ASPHALT |
| HOR | HORIZONTAL |
| HYD | HYDRANT |
| INV | INVERT |
| JCT | JUNCTION |
| L | LENGTH OF CURVE |
| LB | LEACH BASIN |
| LP | LIGHT POLE |
| LT | LEFT |
| MAX | MAXIMUM |
| MB | MAILBOX |
| MH | MANHOLE |
| MHB | MASSACHUSETTS HIGHWAY BOUND |
| MIN | MINIMUM |
| NIC | NOT IN CONTRACT |
| NO. | NUMBER |
| PC | POINT OF CURVATURE |
| PCC | POINT OF COMPOUND CURVATURE |
| P.G.L. | PROFILE GRADE LINE |
| PI | POINT OF INTERSECTION |
| POC | POINT ON CURVE |
| POT | POINT ON TANGENT |
| PRC | POINT OF REVERSE CURVATURE |
| PROJ | PROJECT |
| PROP | PROPOSED |
| PSB | PLANTABLE SOIL BORROW |
| 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 |

ABBREVIATIONS (cont.)

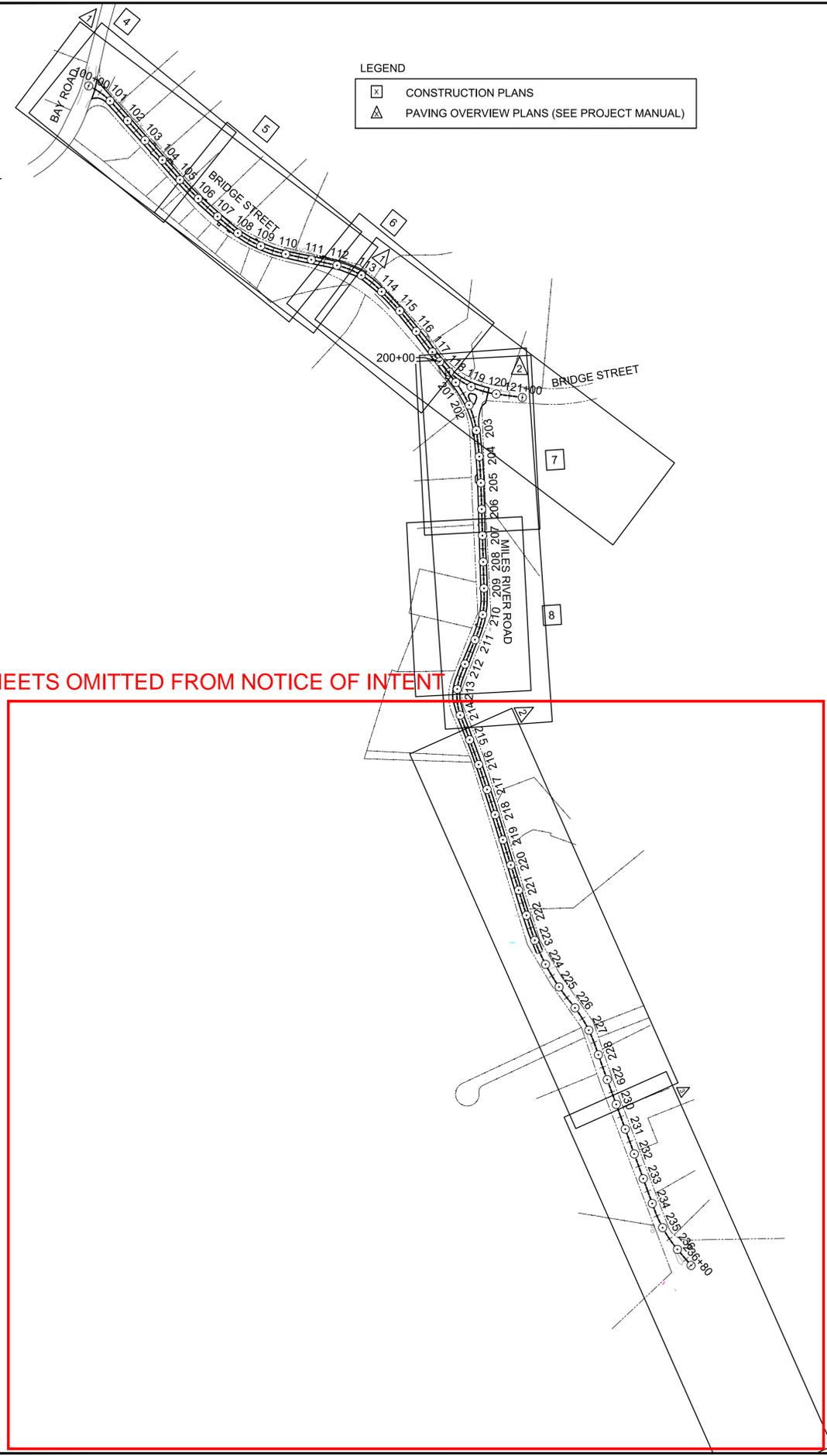
| GENERAL | DESCRIPTION |
|----------|-----------------------------------|
| R | RADIUS OF CURVATURE |
| R&D | REMOVE AND DISPOSE |
| RCP | REINFORCED CONCRETE PIPE |
| RD | ROAD |
| RDWY | ROADWAY |
| REM | REMOVE |
| RET | RETAIN |
| RET WALL | RETAINING WALL |
| ROW | RIGHT OF WAY |
| RR | RAILROAD |
| R&R | REMOVE AND RESET |
| R&S | REMOVE AND STACK |
| RT | RIGHT |
| SB | STONE BOUND |
| SHLD | SHOULDER |
| SMH | SEWER MANHOLE |
| ST | STREET |
| STA | STATION |
| SSD | STOPPING SIGHT DISTANCE |
| SHLO | STATE HIGHWAY LAYOUT LINE |
| SW | SIDEWALK |
| T | TANGENT DISTANCE OF CURVE/TRUCK % |
| TAN | TANGENT |
| TEMP | TEMPORARY |
| TC | TOP OF CURB |
| TOS | TOP OF SLOPE |
| TYP | TYPICAL |
| UP | UTILITY POLE |
| VAR | VARIES |
| VERT | VERTICAL |
| VC | VERTICAL CURVE |
| WCR | WHEEL CHAIR RAMP |
| WG | WATER GATE |
| WIP | WROUGHT IRON PIPE |
| WM | WATER METER/WATER MAIN |
| X-SECT | CROSS SECTION |

HAMILTON
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VILLAGE LANE, BEECH ST, & LAKE SHORE AVE
LEGEND & ABBREVIATIONS
SHEET 2 OF 16

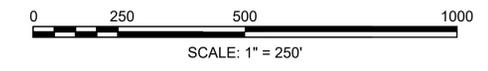
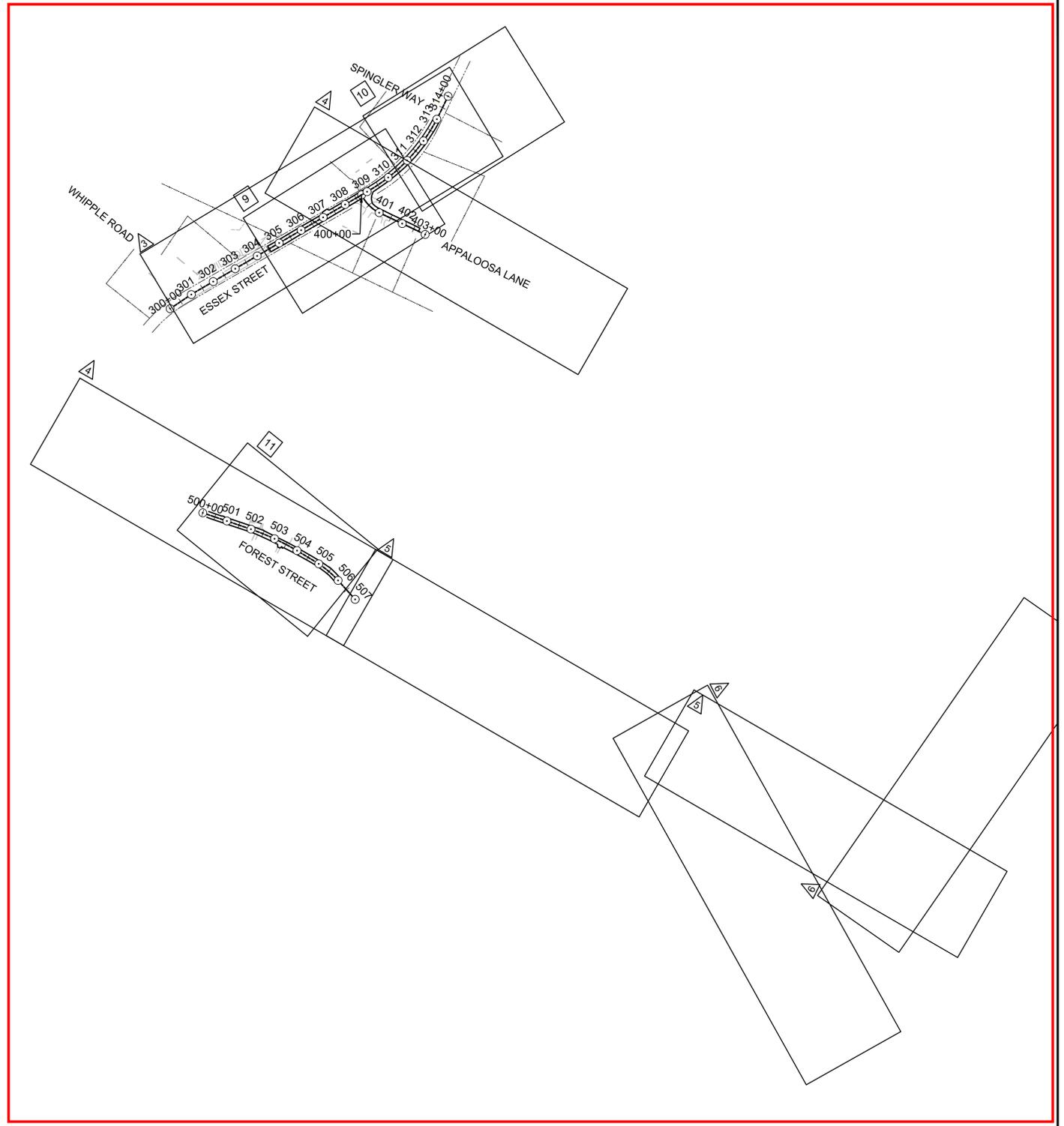


LEGEND

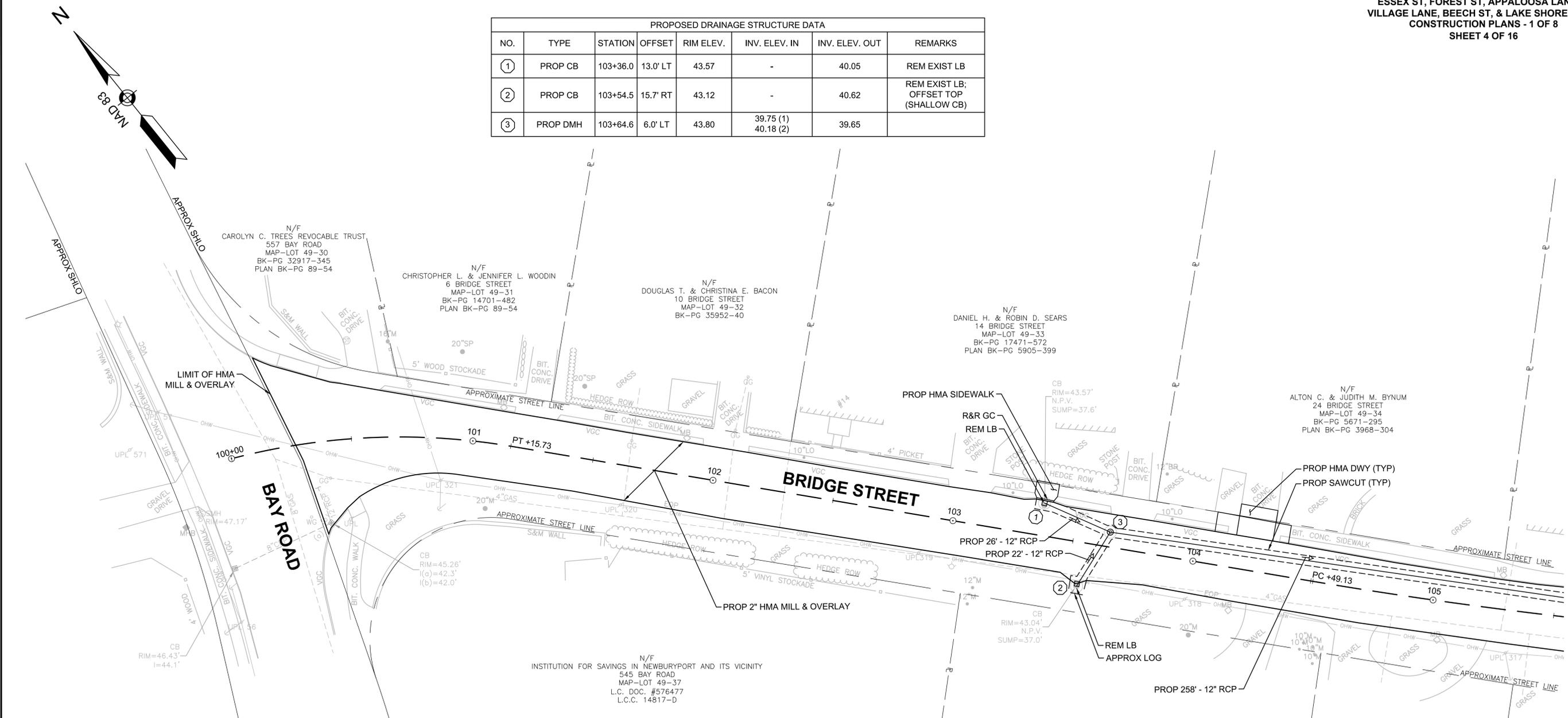
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|--|--|
| | CONSTRUCTION PLANS |
| | PAVING OVERVIEW PLANS (SEE PROJECT MANUAL) |



SHEETS OMITTED FROM NOTICE OF INTENT

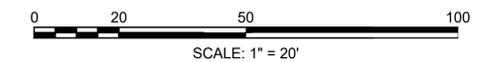


| PROPOSED DRAINAGE STRUCTURE DATA | | | | | | | |
|----------------------------------|----------|----------|----------|-----------|------------------------|----------------|---|
| NO. | TYPE | STATION | OFFSET | RIM ELEV. | INV. ELEV. IN | INV. ELEV. OUT | REMARKS |
| ① | PROP CB | 103+36.0 | 13.0' LT | 43.57 | - | 40.05 | REM EXIST LB |
| ② | PROP CB | 103+54.5 | 15.7' RT | 43.12 | - | 40.62 | REM EXIST LB; OFFSET TOP (SHALLOW CB) |
| ③ | PROP DMH | 103+64.6 | 6.0' LT | 43.80 | 39.75 (1) 40.18 (2) | 39.65 | |

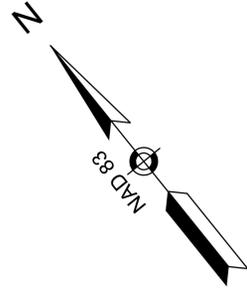


CONSTRUCTION NOTES:

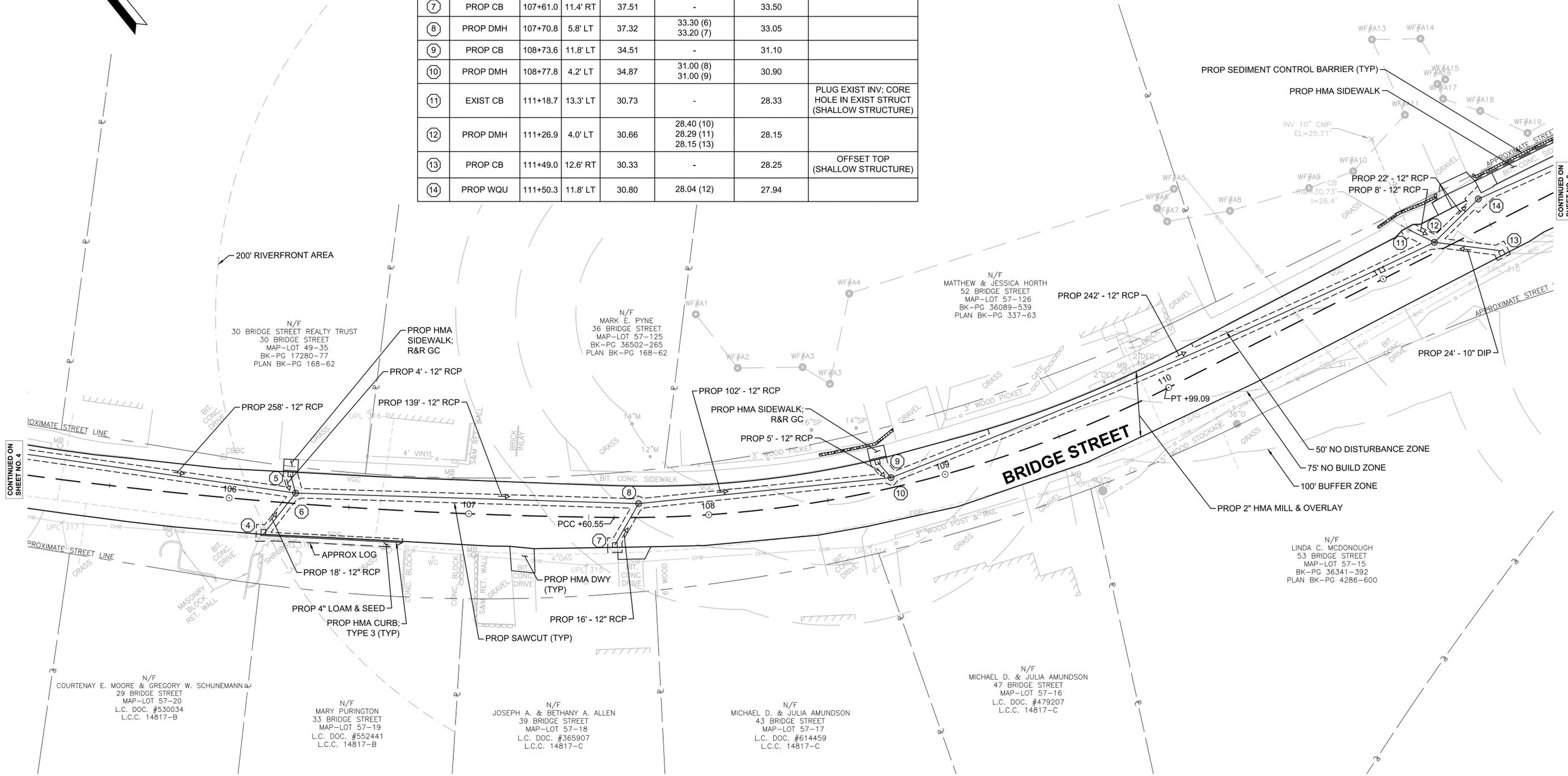
- EXISTING CONDITIONS INFORMATION COMPILED FROM AN ON-THE-GROUND INSTRUMENT SURVEY PERFORMED BY HANCOCK ASSOCIATES IN APRIL & MAY OF 2021.
 HORIZONTAL DATUM = NAD83 (MASSACHUSETTS STATE PLANE COORDINATES)
 VERTICAL DATUM = NAVD88
- THE CONTRACTOR SHALL CONTACT DIGSAFE (1-888-DIGSAFE) A MINIMUM OF 72 HOURS PRIOR TO ANY CONSTRUCTION TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
- ALL MUNICIPALLY OWNED UTILITY STRUCTURES (CATCH BASINS, DRAIN MANHOLES, WATER GATES, ETC.) SHALL BE ADJUSTED BY THE CONTRACTOR TO FINISHED GRADE UNLESS DIRECTED OTHERWISE.
- ALL PRIVATELY OWNED UTILITY STRUCTURES (GAS GATES, ELECTRIC /TELEPHONE MANHOLES, ETC.) SHALL BE ADJUSTED TO FINISHED GRADE BY THE PRIVATE UTILITY COMPANY, UNLESS DIRECTED OTHERWISE. THE CONTRACTOR SHALL COORDINATE WITH PRIVATE UTILITY COMPANIES FOR THE ALTERATION AND ADJUSTMENT, AS NECESSARY.
- AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTORS EXPENSE.
- THE TERM "PROPOSED" (PROP) MEANS WORK TO BE CONSTRUCTED USING NEW MATERIALS OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE AND RESET" (R&R), AS APPROVED BY THE ENGINEER.
- THE TERM "MEET EXIST" MEANS TO MEET BOTH THE EXISTING ALIGNMENT AND ELEVATION.
- ALL EXISTING TREES WITHIN THE PROJECT LIMITS SHALL BE RETAINED UNLESS INDICATED OTHERWISE ON THE DRAWINGS. ALL PROVIDED DIMENSIONS REFER TO THE DIAMETER AT BREAST HEIGHT.
- ALL AREAS BETWEEN THE BACK OF SIDEWALK OR CURB TO THE LIMIT OF GRADING, OR AREAS DISTURBED BY THE CONTRACTORS OPERATIONS SHALL BE RESTORED WITH 4 INCHES OF LOAM AND SEED.



CONTINUED ON SHEET NO. 5

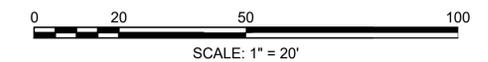


| PROPOSED DRAINAGE STRUCTURE DATA | | | | | | | |
|----------------------------------|----------|----------|----------|-----------|--|----------------|---|
| NO. | TYPE | STATION | OFFSET | RIM ELEV. | INV. ELEV. IN | INV. ELEV. OUT | REMARKS |
| ④ | PROP CB | 106+15.4 | 13.7' RT | 41.70 | - | 37.70 | OFFSET TOP |
| ⑤ | PROP CB | 106+24.7 | 11.9' LT | 41.70 | - | 37.70 | |
| ⑥ | PROP DMH | 106+27.5 | 4.3' LT | 41.72 | 36.20 (3) 37.35 (4) 37.60 (5) | 36.10 | |
| ⑦ | PROP CB | 107+61.0 | 11.4' RT | 37.51 | - | 33.50 | |
| ⑧ | PROP DMH | 107+70.8 | 5.8' LT | 37.32 | 33.30 (6) 33.20 (7) | 33.05 | |
| ⑨ | PROP CB | 108+73.6 | 11.8' LT | 34.51 | - | 31.10 | |
| ⑩ | PROP DMH | 108+77.8 | 4.2' LT | 34.87 | 31.00 (8) 31.00 (9) | 30.90 | |
| ⑪ | EXIST CB | 111+18.7 | 13.3' LT | 30.73 | - | 28.33 | PLUG EXIST INV. CORE HOLE IN EXIST STRUCT (SHALLOW STRUCTURE) |
| ⑫ | PROP DMH | 111+26.9 | 4.0' LT | 30.66 | 28.40 (10) 28.29 (11) 28.15 (13) | 28.15 | |
| ⑬ | PROP CB | 111+49.0 | 12.6' RT | 30.33 | - | 28.25 | OFFSET TOP (SHALLOW STRUCTURE) |
| ⑭ | PROP WQU | 111+50.3 | 11.8' LT | 30.80 | 28.04 (12) | 27.94 | |

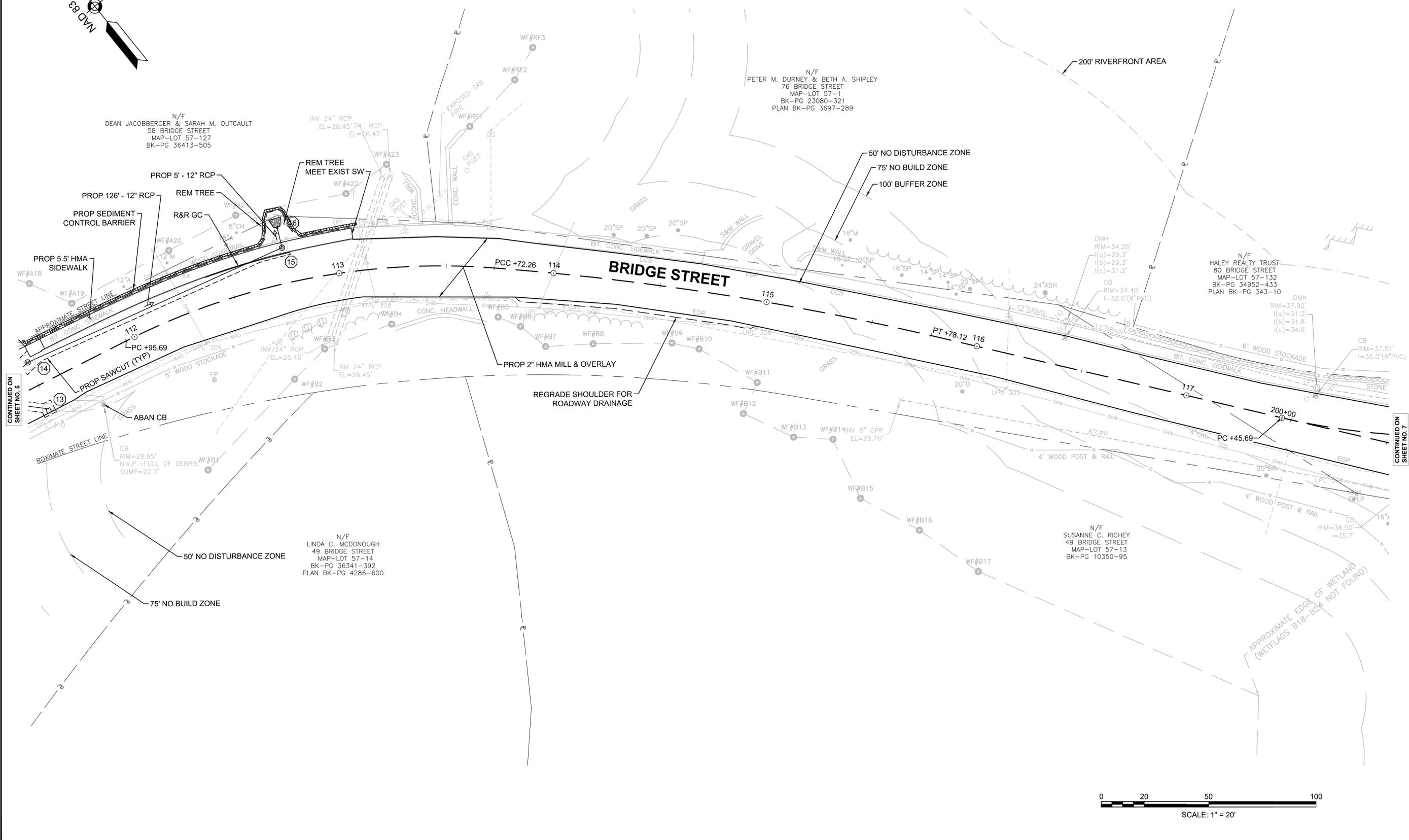
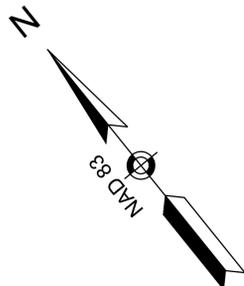


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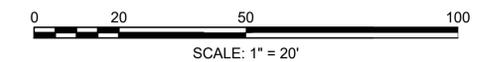


| PROPOSED DRAINAGE STRUCTURE DATA | | | | | | | |
|----------------------------------|----------|----------|----------|-----------|---------------|----------------|---------|
| NO. | TYPE | STATION | OFFSET | RIM ELEV. | INV. ELEV. IN | INV. ELEV. OUT | REMARKS |
| 15 | PROP DMH | 112+76.6 | 16.5' LT | 32.04 | 27.31 (14) | 27.21 | |
| 16 | PROP FES | 112+76.3 | 26.4' LT | - | - | 27.2 | |

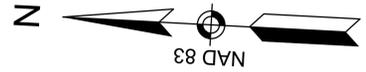


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SHEET NO. 5

CONTINUED ON
SHEET NO. 7



N/F
 TIMOTHY C. & LAUREN C. LEDBETTER
 106 BRIDGE STREET
 MAP-LOT 57-128
 BK-PG 33795-22
 PLAN BK-PG 352-93



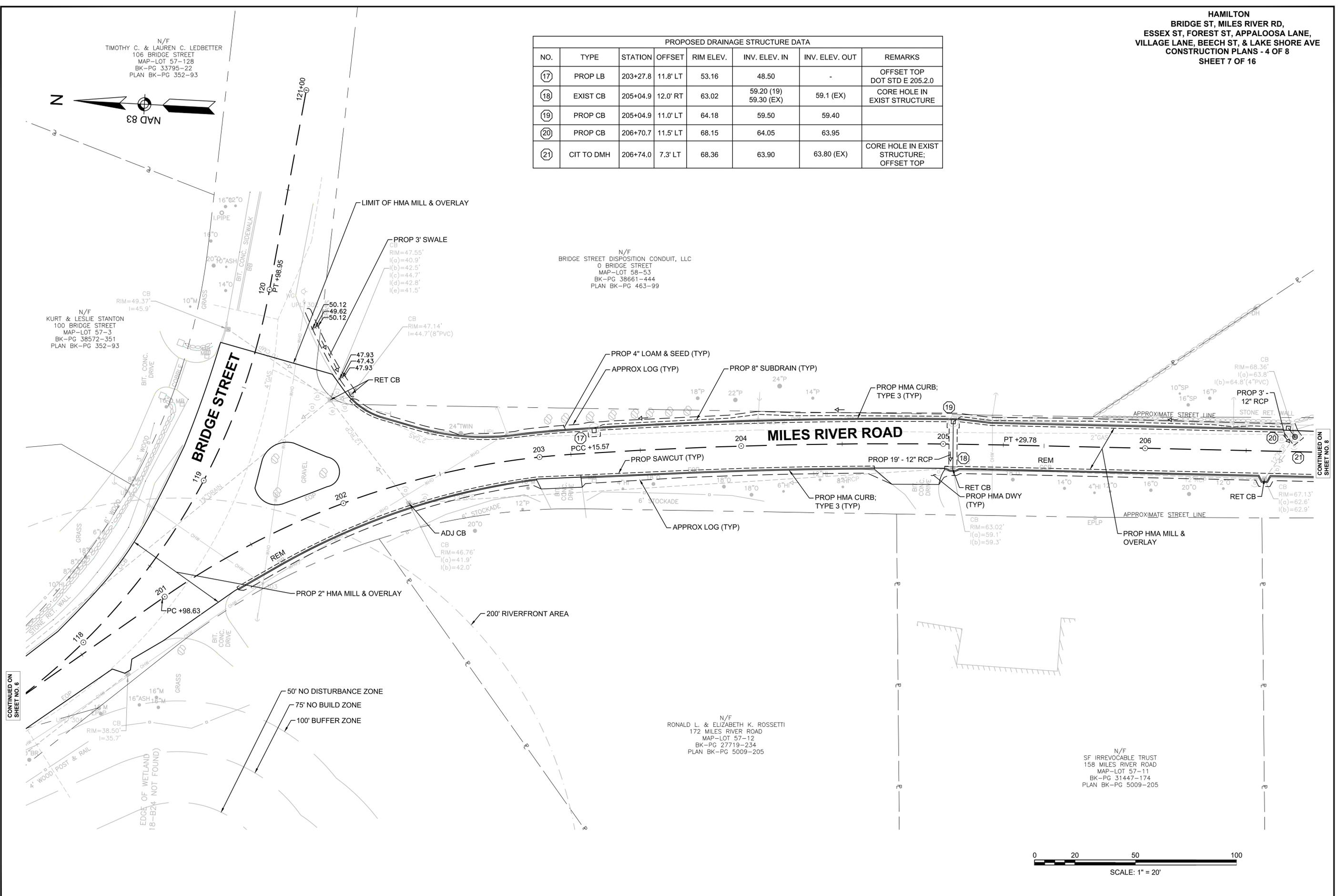
| PROPOSED DRAINAGE STRUCTURE DATA | | | | | | | |
|----------------------------------|------------|----------|----------|-----------|--------------------------|----------------|--|
| NO. | TYPE | STATION | OFFSET | RIM ELEV. | INV. ELEV. IN | INV. ELEV. OUT | REMARKS |
| 17 | PROP LB | 203+27.8 | 11.8' LT | 53.16 | 48.50 | - | OFFSET TOP DOT STD E 205.2.0 |
| 18 | EXIST CB | 205+04.9 | 12.0' RT | 63.02 | 59.20 (19) 59.30 (EX) | 59.1 (EX) | CORE HOLE IN EXIST STRUCTURE |
| 19 | PROP CB | 205+04.9 | 11.0' LT | 64.18 | 59.50 | 59.40 | |
| 20 | PROP CB | 206+70.7 | 11.5' LT | 68.15 | 64.05 | 63.95 | |
| 21 | CIT TO DMH | 206+74.0 | 7.3' LT | 68.36 | 63.90 | 63.80 (EX) | CORE HOLE IN EXIST STRUCTURE; OFFSET TOP |

N/F
 BRIDGE STREET DISPOSITION CONDUIT, LLC
 0 BRIDGE STREET
 MAP-LOT 58-53
 BK-PG 38661-444
 PLAN BK-PG 463-99

N/F
 KURT & LESLIE STANTON
 100 BRIDGE STREET
 MAP-LOT 57-3
 BK-PG 38572-351
 PLAN BK-PG 352-93

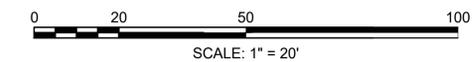
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 RONALD L. & ELIZABETH K. ROSSETTI
 172 MILES RIVER ROAD
 MAP-LOT 57-12
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N/F
 SF IRREVOCABLE TRUST
 158 MILES RIVER ROAD
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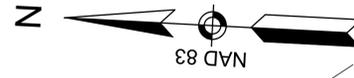


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 SHEET NO. 8

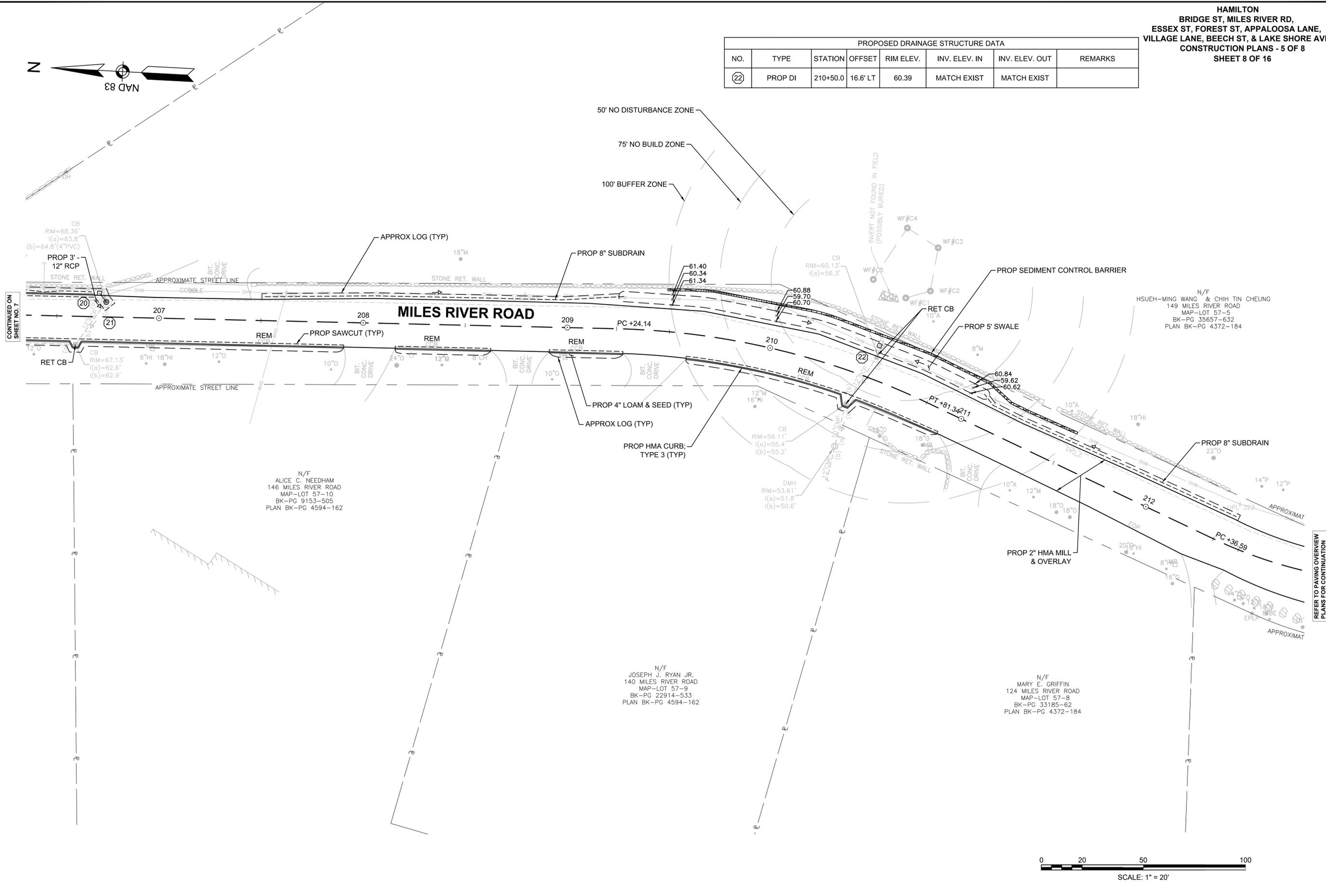


| PROPOSED DRAINAGE STRUCTURE DATA | | | | | | | |
|----------------------------------|---------|----------|----------|-----------|---------------|----------------|---------|
| NO. | TYPE | STATION | OFFSET | RIM ELEV. | INV. ELEV. IN | INV. ELEV. OUT | REMARKS |
| (22) | PROP DI | 210+50.0 | 16.6' LT | 60.39 | MATCH EXIST | MATCH EXIST | |



CONTINUED ON SHEET NO. 7

REFER TO PAVING OVERVIEW PLANS FOR CONTINUATION

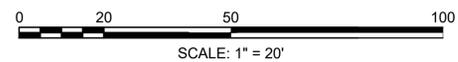


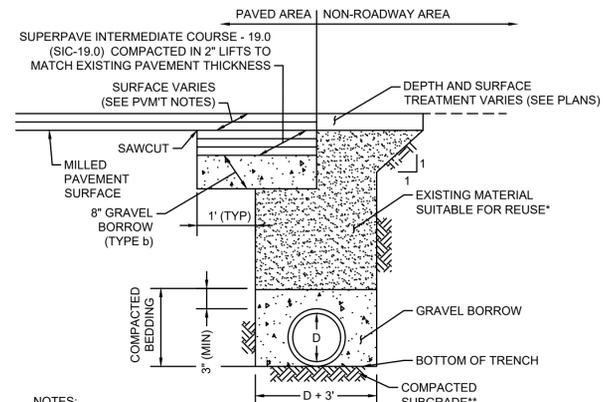
N/F
 ALICE C. NEEDHAM
 146 MILES RIVER ROAD
 MAP-LOT 57-10
 BK-PG 9153-505
 PLAN BK-PG 4594-162

N/F
 JOSEPH J. RYAN JR.
 140 MILES RIVER ROAD
 MAP-LOT 57-9
 BK-PG 22914-533
 PLAN BK-PG 4594-162

N/F
 MARY E. GRIFFIN
 124 MILES RIVER ROAD
 MAP-LOT 57-8
 BK-PG 33185-62
 PLAN BK-PG 4372-184

N/F
 HSUEH-MING WANG & CHIH TIN CHEUNG
 149 MILES RIVER ROAD
 MAP-LOT 57-5
 BK-PG 35657-632
 PLAN BK-PG 4372-184

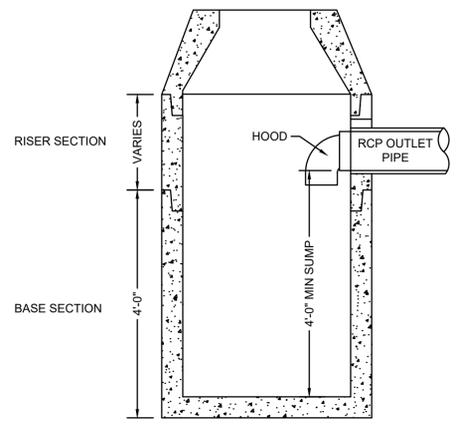




NOTES:

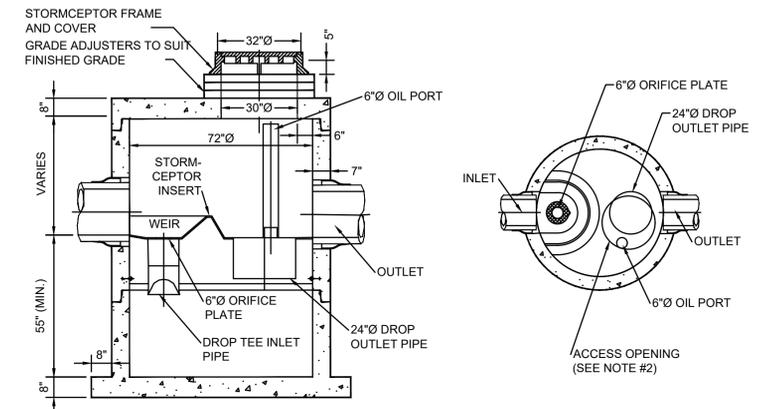
- * EXISTING MATERIAL OBTAINED FROM EXCAVATION THAT IS DETERMINED TO BE SUITABLE AND APPROVED BY THE ENGINEER SHALL BE USED. BACKFILL SHALL BE PLACED IN LAYERS NO MORE THAN 6" IN DEPTH AND THOROUGHLY COMPACTED. BACKFILLING TO A POINT 2' OVER THE PIPE SHALL CONTAIN NO STONES LARGER THAN 3".
- **SOFT OR UNSUITABLE MATERIAL EXISTING BELOW THE REQUIRED BEDDING GRADE SHALL BE REMOVED AS DIRECTED AND REPLACED WITH SAND, GRAVEL, CRUSHED STONE OR OTHER SUITABLE MATERIAL AND THOROUGHLY COMPACTED.

UTILITY TRENCH
 N.T.S.



NOTE:
 ALL CATCH BASINS SHALL CONFORM TO MASSDOT CONSTRUCTION STANDARD E 201.4.0 EXCEPT FOR 4' SUMP DEPTH AS SHOWN

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

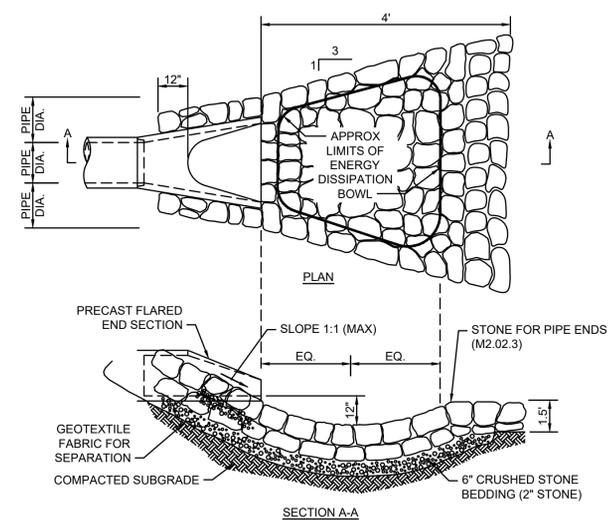


NOTES:

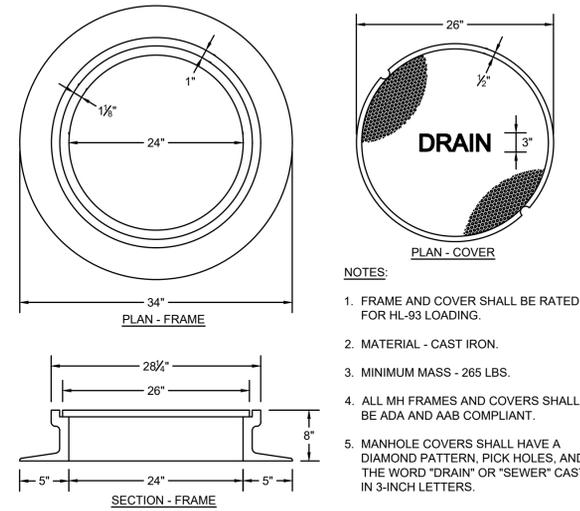
1. THE USE OF FLEXIBLE CONNECTION IS RECOMMENDED AT THE INLET AND OUTLET WHERE APPLICABLE.
2. THE COVER SHOULD BE POSITIONED OVER THE OUTLET DROP PIPE AND THE OIL PORT.
3. THE STORMCEPTOR SYSTEM IS PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: # 4985148, #5498331, #5725760, #5753115, #5849181, #6068765, #6371690.
4. CONTACT A CONCRETE PIPE DIVISION REPRESENTATIVE FOR FURTHER DETAILS NOT LISTED ON THIS DRAWING.
5. A COMPARABLE PRODUCT MAY BE PROPOSED BY THE CONTRACTOR, BUT ITS USE REQUIRES APPROVAL BY THE ENGINEER OF RECORD.

SOURCE:
 WWW.STORMCEPTOR.COM

STC 900 PRECAST CONCRETE STORMCEPTOR® (900 U.S. GALLON CAPACITY)
 N.T.S.



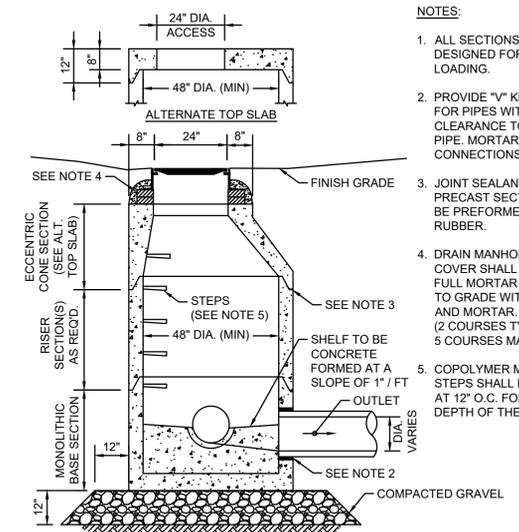
STONE AT FLARED END SECTION
 N.T.S.



NOTES:

1. FRAME AND COVER SHALL BE RATED FOR HL-93 LOADING.
2. MATERIAL - CAST IRON.
3. MINIMUM MASS - 265 LBS.
4. ALL MH FRAMES AND COVERS SHALL BE ADA AND AAB COMPLIANT.
5. MANHOLE COVERS SHALL HAVE A DIAMOND PATTERN, PICK HOLES, AND THE WORD "DRAIN" OR "SEWER" CAST IN 3-INCH LETTERS.

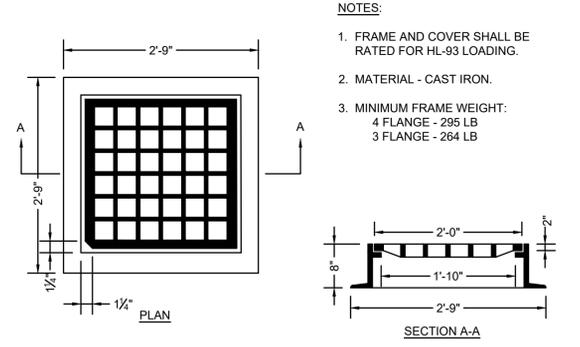
MANHOLE FRAME & COVER
 N.T.S.



NOTES:

1. ALL SECTIONS SHALL BE DESIGNED FOR HL-93 LOADING.
2. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. DRAIN MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR. (2 COURSES TYP 5 COURSES MAX)
5. COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.

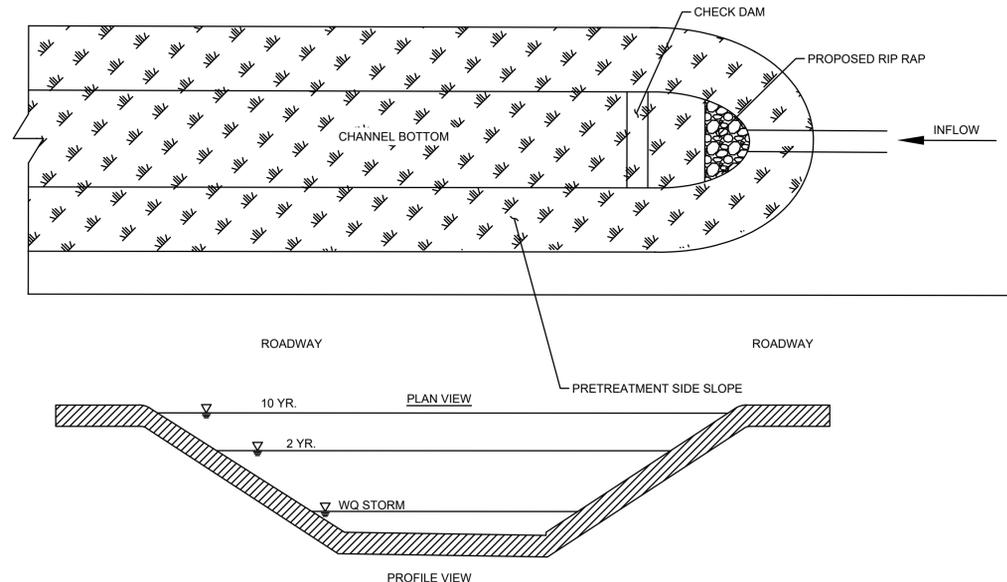
DRAIN MANHOLE
 N.T.S.



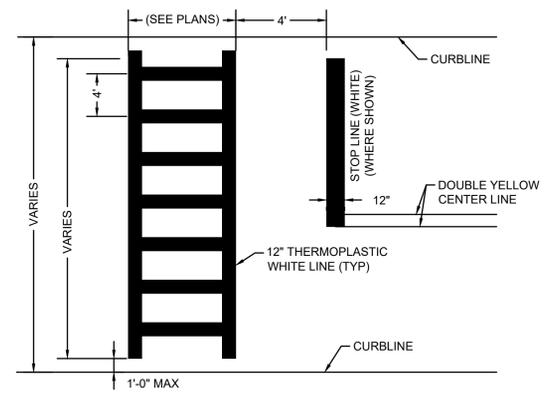
NOTES:

1. FRAME AND COVER SHALL BE RATED FOR HL-93 LOADING.
2. MATERIAL - CAST IRON.
3. MINIMUM FRAME WEIGHT:
 4 FLANGE - 295 LB
 3 FLANGE - 264 LB

CATCH BASIN FRAME & GRATE (MUNICIPAL STANDARD)
 N.T.S.



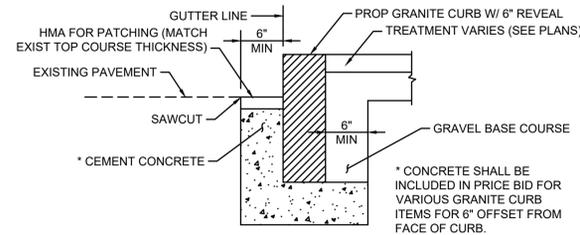
DRAINAGE SWALE
 N.T.S.



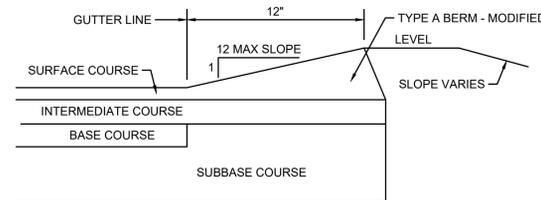
NOTES:

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 APPROVED BY THE ENGINEER PRIOR TO APPLICATION.

CROSSWALK PAVEMENT MARKING
 N.T.S.

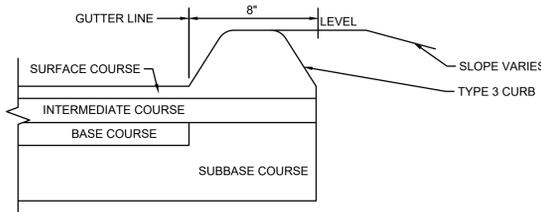


GRANITE CURB IN EXISTING PAVEMENT
 N.T.S.



FOR ALL OTHER DIMENSIONS, SEE MASSDOT E 106.1.0

MONOLITHIC BERM
 N.T.S.

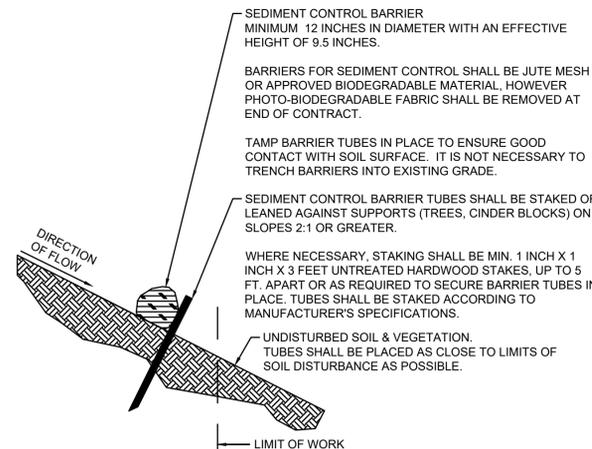


FOR ALL OTHER DIMENSIONS, SEE MASSDOT E 106.1.0

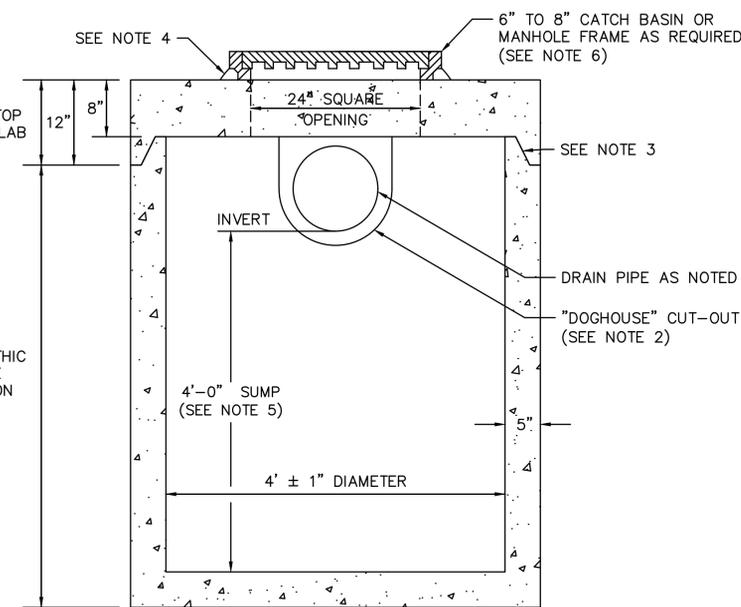
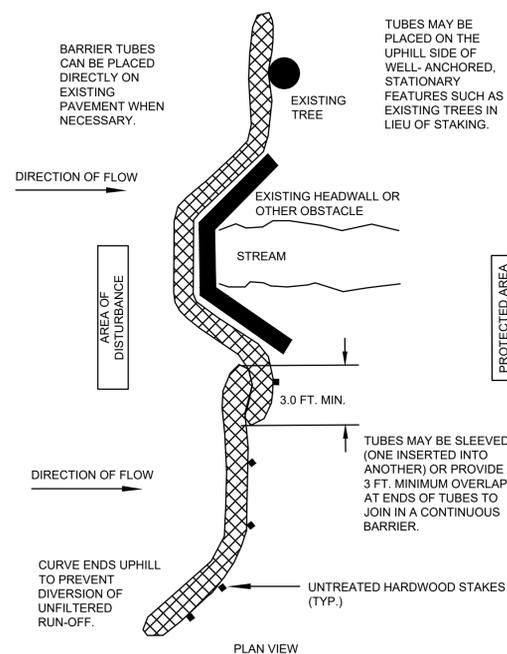
HMA CURB TYPE 3
 N.T.S.

NOTES:

1. PROVIDE A MINIMUM BARRIER TUBE DIAMETER OF 12 INCHES FOR SLOPES UP TO 50 FEET IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER TUBE DIAMETER OR ADDITIONAL COURSING OF TUBES TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATIONS WITH LONGER OR STEEPER SLOPES.
2. INSTALL BARRIER TUBES ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
3. TUBE LOCATION MAY BE SHIFTED TO ADJUST TO LANDSCAPE FEATURES, BUT SHALL PROTECT UNDISTURBED AREA AND VEGETATION TO MAXIMUM EXTENT POSSIBLE.
4. DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
5. ADDITIONAL BARRIER TUBES SHALL BE USED AT THE DIRECTION OF THE ENGINEER.
6. ADDITIONAL STAKING SHALL BE USED AT THE DIRECTION OF THE ENGINEER.



SEDIMENT CONTROL BARRIER
 N.T.S.

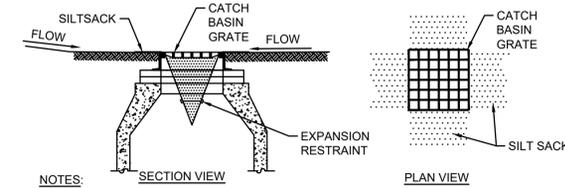


NOTES:

1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. PROVIDE DOGHOUSE OPENING FOR PIPE WITH 2" MAX CLEARANCE TO OUTSIDE OF PIPE. TOP SLAB SHALL NOT REST DIRECTLY ON PIPE. GROUT ALL PIPE CONNECTIONS WITH NON-SHRINK GROUT.
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. CATCH BASIN AND MANHOLE FRAMES SHALL BE SET IN FULL MORTAR BED.
5. OMIT 4' SUMP FOR MANHOLE STRUCTURES.
6. FRAME ELEVATION SHALL BE INSTALLED AT FINISH GRADE USING VARIABLE FRAME DEPTHS AND VARIABLE HEIGHT BRICK COURSES.

SPECIAL CATCH BASIN/MANHOLE (SHALLOW)

NOT TO SCALE



NOTES:

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

INLET PROTECTION SILT SACK IN CATCH BASIN
 N.T.S.

PAVEMENT NOTES

PROPOSED MILL & HOT MIX ASPHALT (HMA) OVERLAY

SURFACE: 2" SUPERPAVE SURFACE COURSE - 12.5 (SSC-12.5) OVER ASPHALT EMULSION TACK COAT OVER 2" PAVEMENT FINE MILLING

PROPOSED FULL DEPTH PAVEMENT LESS THAN 4' WIDE

SURFACE: 2" SUPERPAVE SURFACE COURSE - 12.5 (SSC-12.5) OVER ASPHALT EMULSION TACK COAT OVER

BASE: 6" HIGH EARLY STRENGTH CEMENT CONCRETE BASE COURSE OVER

SUBBASE: 12" GRAVEL BORROW, TYPE b

PROPOSED PERMANENT PAVEMENT TRENCH PATCH

SURFACE: VARIABLE DEPTH HMA FOR PATCHING TO MATCH EXISTING PAVEMENT PER SECTION 450.53 (COMPACTED IN 2" (MAX) LIFTS TO MATCH EXIST PAVEMENT THICKNESS)

BASE: 8" GRAVEL BORROW, TYPE b OVER

SUBBASE: EXISTING MATERIAL SUITABLE FOR RE-USE (SEE VARIOUS TRENCH DETAILS)

PROPOSED TEMPORARY PAVEMENT TRENCH PATCH

SURFACE: 2 1/2" TEMPORARY ASPHALT PATCHING

BASE: EXISTING MATERIAL SUITABLE FOR RE-USE (SEE VARIOUS TRENCH DETAILS)

PROPOSED HMA SIDEWALK

SURFACE: 1 1/4" SUPERPAVE SURFACE COURSE 9.5 (SSC -9.5) OVER 1 3/4" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC - 12.5) OVER

BASE: 8" SUITABLE EXISTING GRAVEL; ADD GRAVEL BORROW, TYPE b AS REQUIRED

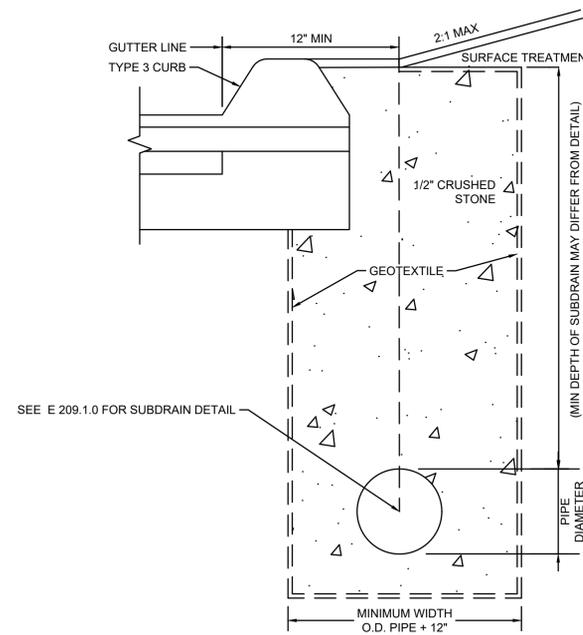
PROPOSED DRIVEWAY APRON REPAIR

SURFACE: 1 1/2" SUPERPAVE SURFACE COURSE 9.5 (SSC -9.5) OVER 2 1/2" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC - 12.5) OVER

BASE: 8" SUITABLE EXISTING GRAVEL; ADD GRAVEL BORROW, TYPE b AS REQUIRED

GENERAL PAVEMENT NOTES:

1. ASPHALT EMULSION FOR TACK COAT SHALL BE APPLIED BETWEEN ALL ASPHALT SURFACES AND SAWCUT JOINTS BEFORE PAVING. HMA JOINT SEALANT SHALL BE APPLIED TO ALL COLD JOINTS (LONGITUDINAL AND TRANSVERSE) BEFORE PAVING SURFACE COURSE. ASPHALT EMULSION FOR TACK COAT SHALL BE APPLIED IN ACCORDANCE WITH SUBSECTION 450.43. ALL SURFACES SHALL BE CLEAN OF ALL ORGANICS, DEBRIS, AND SAND PRIOR TO PAVING.
2. ALL HMA SHALL BE IN ACCORDANCE WITH SECTION 460.
3. ASPHALT EMULSION FOR TACK COAT SHALL BE RS-1H TO RESIST TRACKING OF TACK BY HAUL VEHICLES.
4. HMA FOR WALKS SHALL BE IN ACCORDANCE WITH SECTION 702.
5. ALL GRAVEL BORROW MEETING SPECIFICATION SHALL BE RETAINED IN PLACE, COMPACTED, AND LEVELED AS REQUIRED.



TYPICAL SUBDRAIN PLACEMENT
 N.T.S.