

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION

| SPENCER MAIN STREET | | | |
|------------------------|--------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | ---- | 1 | 34 |
| PROJECT FILE NO. | | 606207 | |
| TITLE SHEET & INDEX | | | |

PLAN AND PROFILE OF
MAIN STREET (ROUTE 9) AND PLEASANT STREET (ROUTE 31)

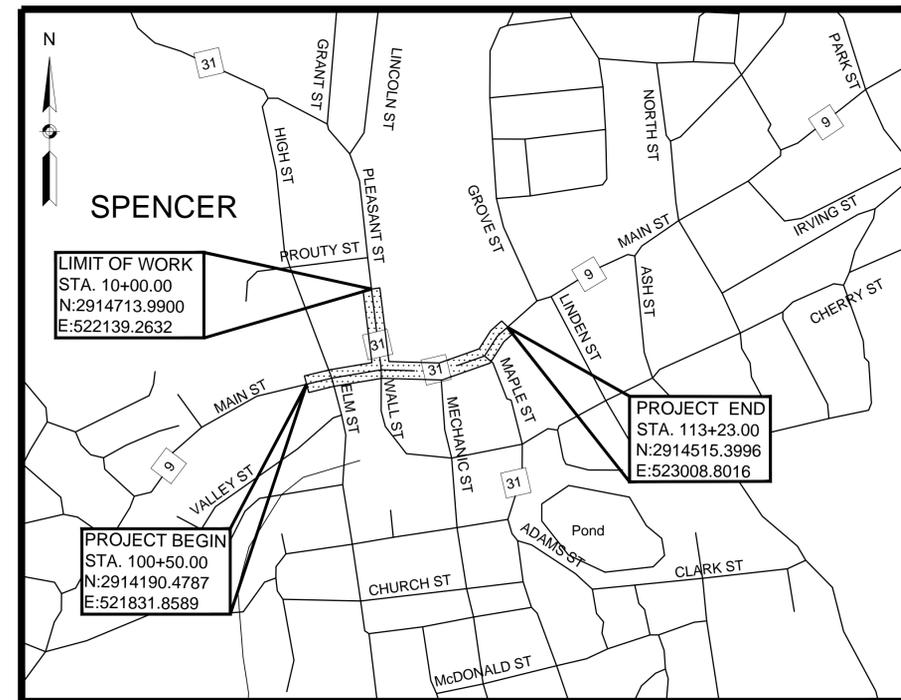
IN THE TOWN OF
SPENCER
WORCESTER COUNTY

FEDERAL AID PROJECT NO.

25% SUBMITTAL

THE MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DATED 1988, AS AMENDED, THE SUPPLEMENTAL SPECIFICATIONS DATED JUNE 12, 2012, THE INTERIM SUPPLEMENTAL SPECIFICATIONS DATE MARCH 21, 2014, THE 2014 CONSTRUCTION STANDARD DETAILS, THE 1996 CONSTRUCTION AND TRAFFIC STANDARD DETAILS (AS RELATES TO TRAFFIC STANDARD DETAILS ONLY), THE 2009 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.

| SHEET NO. | INDEX |
|-------------|-----------------------------------|
| DESCRIPTION | |
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DESIGN DESIGNATION (MAIN STREET/RTE 9)

| | |
|---------------------------|--------------------|
| DESIGN SPEED | 30 MPH |
| ADT (2011) | 14,764 VPD |
| ADT (2021) | 15,909 VPD |
| K | 6% |
| D | 59.4% |
| T (PEAK HOUR) | 1.7% |
| T (AVERAGE DAY) | 1.5% |
| DHV | 1,019 VPH |
| DDHV | 606 VPH |
| FUNCTIONAL CLASSIFICATION | PRINCIPAL ARTERIAL |

DESIGN DESIGNATION (PLEASANT STREET/RTE 31)

| | |
|---------------------------|----------------------|
| DESIGN SPEED | 30 MPH |
| ADT (2011) | 5,657 VPD |
| ADT (2021) | 6,096 VPD |
| K | 10% |
| D | 55.6% |
| T (PEAK HOUR) | 1.3% |
| T (AVERAGE DAY) | 1.3% |
| DHV | 595 VPH |
| DDHV | 331 VPH |
| FUNCTIONAL CLASSIFICATION | URBAN MINOR ARTERIAL |

| DATE | DESCRIPTION | REV # |
|------|-------------|-------|
| | | |
| | | |
| | | |
| | | |

500 0 500 1000
SCALE 1" = 500'
LENGTH OF PROJECT = 1273.00 FEET = 0.241 MILES

SEPTEMBER 19, 2014

| | | |
|---|---|--------------------------------|
| (ERASE IF NOT APPLICABLE) PE Stamp & Signature Consultant Name |  Massachusetts Department of Transportation Highway Division | |
| | RECOMMENDED FOR APPROVAL | |
| DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION APPROVED: | _____ CHIEF ENGINEER | _____ DATE |
| | APPROVED | |
| _____ DIVISION ADMINISTRATOR | _____ DATE | _____ HIGHWAY ADMINISTRATOR |
| | | _____ DATE |

LEGEND

GENERAL SYMBOLS

| EXISTING | PROPOSED | DESCRIPTION |
|----------|----------|--|
| | | JERSEY BARRIER ON BRIDGE OR JERSEY BARRIER |
| | | CATCH BASIN |
| | | CURB INLET |
| | | BUOY |
| | | FLAG POLE |
| | | GAS PUMP |
| | | DROP INLET |
| | | MAIL BOX |
| | | GRANITE POST |
| | | PLANTER |
| | | POST |
| | | TELEPHONE BOOTH |
| | | VAULT |
| | | VALVE |
| | | WELL |
| | | ELECTRIC MANHOLE (HANDHOLE) |
| | | GATE POST |
| | | FLOW LINE |
| | | GAS GATE |
| | | BORING HOLE |
| | | MONITORING WELL |
| | | TEST PIT |
| | | CONCRETE HEADWALL |
| | | HANDHOLE |
| | | STONE HEADWALL |
| | | HYDRANT |
| | | LIGHT POLE |
| | | COUNTY BOUND |
| | | GPS POINT |
| | | CABLE MANHOLE |
| | | DRAINAGE MANHOLE |
| | | ELECTRIC MANHOLE |
| | | GAS MANHOLE |
| | | MISC MANHOLE |
| | | OTHER MANHOLE |
| | | SEWER MANHOLE |
| | | TELEPHONE MANHOLE |
| | | WATER MANHOLE |
| | | MHD BOUND |
| | | MONUMENT |
| | | STONE BOUND |
| | | TOWN OR CITY BOUND |
| | | TRAVERSE OR TRIANGULATION STATION |
| | | TROLLEY POLE OR GUY POLE |
| | | TRANS. POLE |
| | | UP WITH FIREBOX |
| | | POLE WITH DOUBLE LIGHT |
| | | UP WITH LIGHT |
| | | UTILITY POLE |
| | | BUSH |
| | | TREE |
| | | STUMP |
| | | SWAMP / MARSH |
| | | WATER GATE |
| | | FIRE ALARM BOX |
| | | PARKING METER |
| | | ELECTRICAL GROUND |
| | | GATE VALVE |
| | | RIP RAP |
| | | OVERHEAD CABLE |
| | | DIRECT BURIAL CABLE |
| | | CURBING |
| | | CONTOURS |
| | | DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER) |
| | | ELECTRIC DUCT |
| | | GAS MAIN |
| | | SEWER MAIN |
| | | TELEPHONE DUCT |
| | | WATER MAIN |
| | | BALANCE STONE WALL |
| | | CULVERT |
| | | GUARD RAIL |
| | | GUTTER LINE AT DRIVEWAYS |
| | | CHAIN LINK FENCE |
| | | STOCKADE FENCE |
| | | METAL HANDRAIL |

GENERAL SYMBOLS (CONT.)

| EXISTING | PROPOSED | DESCRIPTION |
|----------|----------|--|
| | | HAY BALES/SILT FENCE |
| | | RETAINING WALL |
| | | TREE LINE OR LIMIT OF CLEARING AND GRUBBING |
| | | SAWCUT LINE |
| | | TOP OR BOTTOM OF SLOPE |
| | | LIMIT OF EDGE OF PAVEMENT OR COLD PLAN & OVERLAY |
| | | BANK OF RIVER OR STREAM |
| | | BORDER OF WETLAND |
| | | 100 FT WETLAND OR 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 |
| | | FULL DEPTH PAVEMENT |

TRAFFIC SIGNAL SYMBOLS

| EXISTING | PROPOSED | DESCRIPTION |
|----------|----------|--|
| | | CONTROLLER PHASE ACTUATED |
| | | TRAFFIC SIGNAL HEAD (SIZE AS NOTED) |
| | | WIRE LOOP DETECTOR (6' X 6' TYPICAL UNLESS OTHERWISE SPECIFIED) |
| | | VIDEO SURVEILLANCE CAMERA |
| | | MICROWAVE DETECTOR |
| | | MAGNETOMETER (2 SHOWN) |
| | | PEDESTRIAN PUSH BUTTON, SIGN (DIRECTIONAL ARROW AS SHOWN) AND SADDLE |
| | | OPTICOM CONFIRMATION STROBE LIGHT |
| | | VEHICULAR SIGNAL HEAD |
| | | VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED |
| | | FLASHING BEACON |
| | | PEDESTRIAN SIGNAL HEAD (TYPE AS NOTED OR AS SPECIFIED) |
| | | PEDESTRIAN SIGNAL HEAD, OPTICALLY PROGRAMMED |
| | | PEDESTRIAN SIGNAL POST AND BASE |
| | | RAILROAD SIGNAL |
| | | SIGNAL POST AND BASE (ALPHA-NUMERIC DESIGNATION NOTED) |
| | | STEEL OR ALUMINUM MAST ARM, SHAFT AND BASE (ARM LENGTH AS NOTED) |
| | | HIGH MAST POLE OR TOWER |
| | | SIGN AND POST |
| | | SIGN AND POST (TWO POSTS) |
| | | SIGNAL AND LIGHTING MAST ARM (OPTICOM) |
| | | EMERGENCY PRE-EMPTION DETECTOR |
| | | CONTROL CABINET, GROUND MOUNTED |
| | | CONTROL CABINET, POLE MOUNTED |
| | | FLASHING BEACON CONTROL & METER PEDESTAL |
| | | LOAD CENTER ASSEMBLY |
| | | PULL BOX 12"X12" (AND AS NOTED) |
| | | ELECTRIC HANDHOLE 12" X 24" |
| | | TRAFFIC SIGNAL INTERCONNECT CONDUIT |
| | | TRAFFIC SIGNAL CONDUIT (TYPE AS NOTED) |

PAVEMENT MARKINGS AND SIGNING SYBSOLS

| EXISTING | PROPOSED | DESCRIPTION |
|----------|----------|---|
| | | PAVEMENT ARROW - WHITE |
| | | LEGEND "ONLY" - WHITE |
| | | STOP LINE - 12" |
| | | CROSSWALK |
| | | SOLID WHITE LANE LINE |
| | | BROKEN WHITE LANE LINE (10' LINE, 30' SPACE TYP.) |
| | | SOLID WHITE EDGE LINE |
| | | YELLOW GORE LINE - 12" |
| | | DOUBLE YELLOW CENTER LINE |
| | | SOLID WHITE CHANNELIZATION LINE - 8" |
| | | WHITE GORE LINE - 12" |
| | | SOLID YELLOW EDGE LINE |
| | | BROKEN YELLOW CENTER LINE (10' LINE, 30' SPACE TYP.) - 4" |
| | | SOLID YELLOW CENTER LINE |
| | | DOTTED WHITE LANE LINE - 4" (2' LINE, 4' SPACE) |
| | | DIRECTION OF TRAFFIC FLOW |

ABBREVIATIONS

GENERAL

| | |
|---------------|--------------------------------------|
| AADT | ANNUAL AVERAGE DAILY TRAFFIC |
| ABAN | ABANDON |
| ADJ | ADJUST |
| APPROX. | APPROXIMATE |
| A.C. | ASPHALT CONCRETE |
| ACCM PIPE | ASPHALT COATED CORRUGATED METAL PIPE |
| ALT | ALTERATION |
| BIT. | BITUMINOUS |
| BC | BOTTOM OF CURB |
| BD. | BOUND |
| BL | BASELINE |
| BLDG | BUILDING |
| BM | BENCH MARK |
| (BO) | BY OTHERS |
| BOS | BOTTOM OF SLOPE |
| BR. | BRIDGE |
| CB | CATCH BASIN |
| CB CI | 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 | LEACHING BASIN |
| LP | LIGHT POLE |
| LT | LEFT |
| MAX | MAXIMUM |
| MB | MAIL BOX |
| MH | MANHOLE |
| MHB | MASSACHUSETTS HIGHWAY BOUND |
| MIN | MINIMUM |
| NIC | NOT IN CONTRACT |
| NO. | NUMBER |
| PA | PLANTED AREA |
| PC | POINT OF CURVATURE |
| PCC | POINT OF COMPOUND CURVATURE |
| PGL | 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 |

SPENCER MAIN STREET

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LEGEND & ABBREVIATIONS

GENERAL (CONT.)

| | |
|----------|--|
| 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 PERCENTAGE |
| 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 | WHEELCHAIR RAMP |
| WG | WATER GATE |
| WIP | WROUGHT IRON PIPE |
| WM | WATER METER/WATER MAIN |
| X-SECT | CROSS SECTION |

TRAFFIC SIGNAL

| | |
|--------|---------------------------------------|
| CAB. | CABINET |
| CCVE | CLOSED CIRCUIT VIDEO EQUIPMENT |
| DW | STEADY DON'T WALK - PORTLAND ORANGE |
| FDW | FLASHING DON'T WALK - PORTLAND ORANGE |
| FVY | FLASHING AMBER VERTICAL ARROW |
| FR | FLASHING CIRCULAR RED |
| FW | FLASHING WALK - LUNAR WHITE |
| FY | FLASHING CIRCULAR AMBER |
| FRL | FLASHING RED LEFT ARROW |
| FRR | FLASHING RED RIGHT ARROW |
| FRV | FLASHING RED VERTICAL 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 |
| OP | OPTICOM |
| PED | PEDESTRIAN |
| PTZ | PAN, TILE, ZOOM |
| R | STEADY CIRCULAR RED |
| RV | STEADY RED VERTICAL ARROW |
| RL | STEADY RED LEFT ARROW |
| RR | STEADY RED RIGHT ARROW |
| TR SIG | TRAFFIC SIGNAL |
| TSC | TRAFFIC SIGNAL CONDUIT |
| W | STEADY WALK - LUNAR WHITE |
| Y | STEADY CIRCULAR AMBER |
| YL | STEADY AMBER LEFT ARROW |
| YR | STEADY AMBER RIGHT ARROW |
| YV | STEADY AMBER VERTICAL ARROW |

GENERAL NOTES

1. TOPOGRAPHICAL INFORMATION FROM A SURVEY PROVIDED BY HANNIGAN ENGINEERING, INC., OF LEOMINSTER, MASSACHUSETTS PERFORMED IN 2005 AND SUPPLEMENTAL SURVEY PERFORMED IN JULY 2013. THE HORIZONTAL COORDINATE SYSTEM IS ON THE MASS GRID SYSTEM NAD83 AND THE VERTICAL COORDINATE SYSTEM IS NAVD 1988.
2. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
3. 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.
4. THE CONTRACTOR SHALL ALTER THE MASONRY OF THE TOP SECTION OF ALL EXISTING DRAINAGE STRUCTURES AS NECESSARY FOR CHANGES IN GRADE, AND RESET ALL WATER AND DRAINAGE FRAMES, GRATES AND BOXES TO THE PROPOSED FINISH SURFACE GRADE. REQUIRED NEW MASONRY SHALL BE CLAY BRICK.
5. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, CATV AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES.
6. THE CONTRACTOR SHALL COORDINATE WITH THE TOWN OF SPENCER FORESTRY SUPERVISOR PRIOR TO REMOVAL OF ANY TREES AS SHOWN ON THE PLANS AND WITHIN THE LIMITS OF WORK. THE TOWN OF SPENCER WILL TRANSPLANT VIABLE TREES TO A LOCATION OUTSIDE THE PROJECT LIMITS.
7. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT NO EXPENSE TO THE OWNER.
8. 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).
9. SAWCUT SURFACES ABUTTING THE PAVEMENT TOP COURSE SHALL BE COATED WITH HOT-POURED RUBBERIZED ASPHALT SEALANT.
10. EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND STACKED UNLESS INDICATED OTHERWISE ON THE PLANS.
11. LATERAL DRAIN PIPES SHALL BE INSTALLED WITH A PITCH OF 0.01 FOOT PER FOOT (MINIMUM) UNLESS NOTED OTHERWISE ON THE DRAWINGS.
12. ALL EXISTING GRANITE CURB & EDGING SHALL BE REMOVED AND STACKED AT THE TOWN HIGHWAY DEPARTMENT UNLESS NOTED OTHERWISE. ALL PROPOSED WORK SHALL BE GRANITE CURB TYPE VA4 UNLESS NOTED OTHERWISE.

SPENCER MAIN STREET

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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GENERAL NOTES

**SPENCER
MAIN STREET**

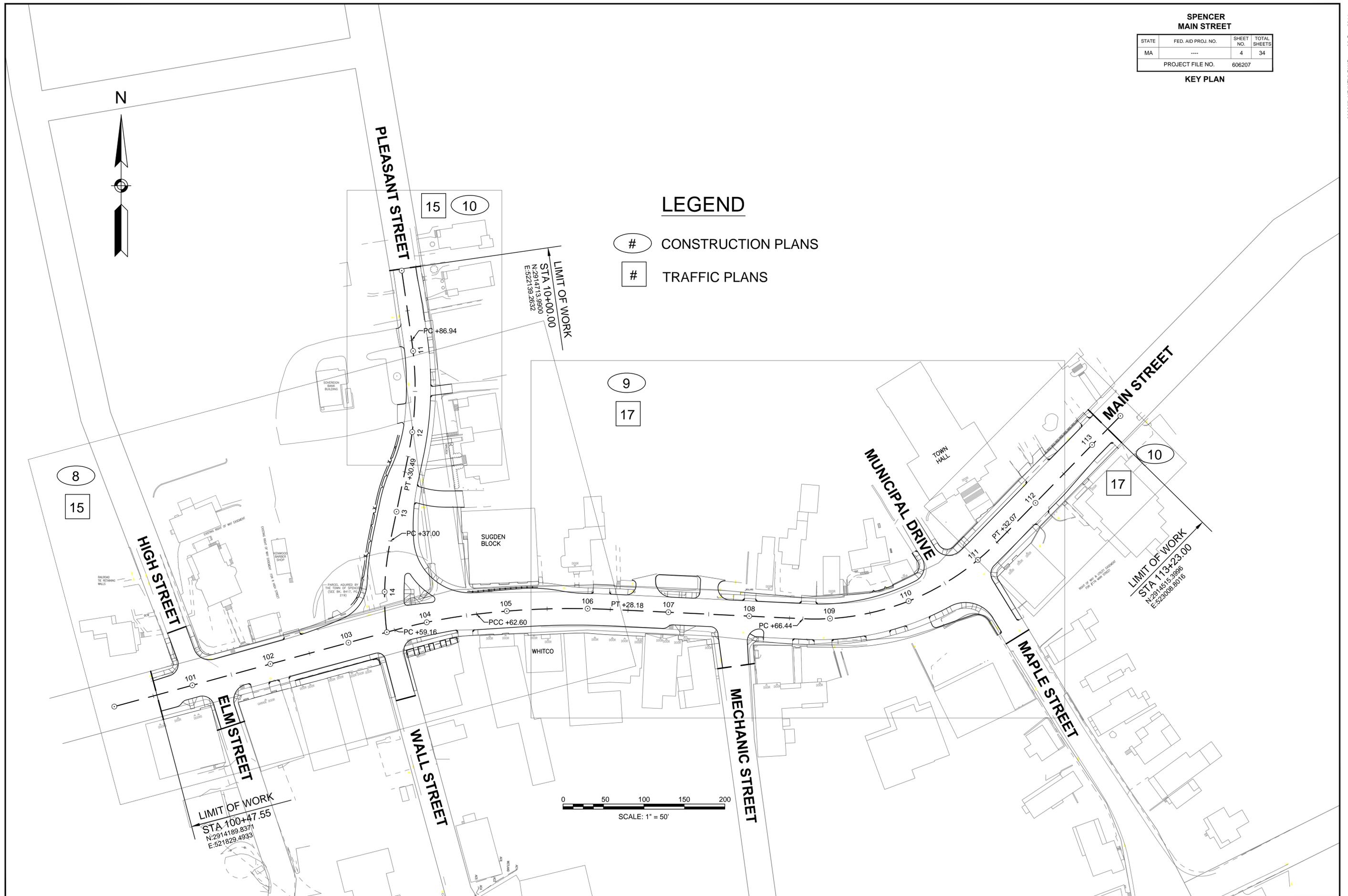
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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KEY PLAN



LEGEND

- # CONSTRUCTION PLANS
- # TRAFFIC PLANS



SPENCER
MAIN STREET

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|--------------------|-----------|--------------|
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TYPICAL SECTIONS &
PAVEMENT NOTES

PAVEMENT NOTES

PROPOSED FULL DEPTH PAVEMENT

SURFACE: 4" HOT MIX ASPHALT
(1.75" SUPERPAVE SURFACE COURSE - 12.5 (SSC-12.5)
OVER 2.25" SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC 19.0))

BASE: 4" HOT MIX ASPHALT
SUPERPAVE BASE COURSE - 37.5 (SBC-37.5)

SUBBASE: 4" DENSE GRADED CRUSHED STONE OVER
8" GRAVEL BORROW, TYPE b.

PROPOSED FULL DEPTH PAVEMENT - WIDENING (LESS THAN 4.00' WIDE)

SURFACE: 4" HOT MIX ASPHALT
(1.75" SUPERPAVE SURFACE COURSE - 12.5 (SSC-12.5)
OVER 2.25" SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC 19.0))

BASE: 6" HIGH EARLY STRENGTH CEMENT
CONCRETE BASE COURSE

SUBBASE: 8" GRAVEL BORROW, TYPE b.

PROPOSED PAVEMENT MILLING & OVERLAY (MAIN STREET/PLEASANT STREET)

SURFACE: 4" HOT MIX ASPHALT
(1.75" SUPERPAVE SURFACE COURSE - 12.5 (SSC-12.5)
OVER 2.25" SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC 19.0))

BITUMEN FOR TACK COAT (RS-1) AT
0.10 GAL/SY OVER EXISTING PAVEMENT.

4" PAVEMENT MICROMILLING DEPTH

PROPOSED PAVEMENT MILLING & OVERLAY - SIDE STREETS

SURFACE: 1.75" HOT MIX ASPHALT
(1.75" SUPERPAVE SURFACE COURSE - 12.5 (SSC-12.5))

BITUMEN FOR TACK COAT (RS-1) AT
0.10 GAL/SY OVER EXISTING PAVEMENT.

1.75" PAVEMENT MICROMILLING DEPTH

PROPOSED CEMENT CONCRETE WALK/ WHEELCHAIR RAMP

SURFACE: 4" CEMENT CONCRETE
AIR ENTRAINED 4000 PSI, 3/4", 610

FOUNDATION: 8" GRAVEL BORROW, TYPE b

PROPOSED CEMENT CONCRETE DRIVEWAY

SURFACE: 6" CEMENT CONCRETE
AIR ENTRAINED 4000 PSI, 3/4", 610

FOUNDATION: 8" GRAVEL BORROW, TYPE b

PROPOSED HOT MIX ASPHALT DRIVEWAY

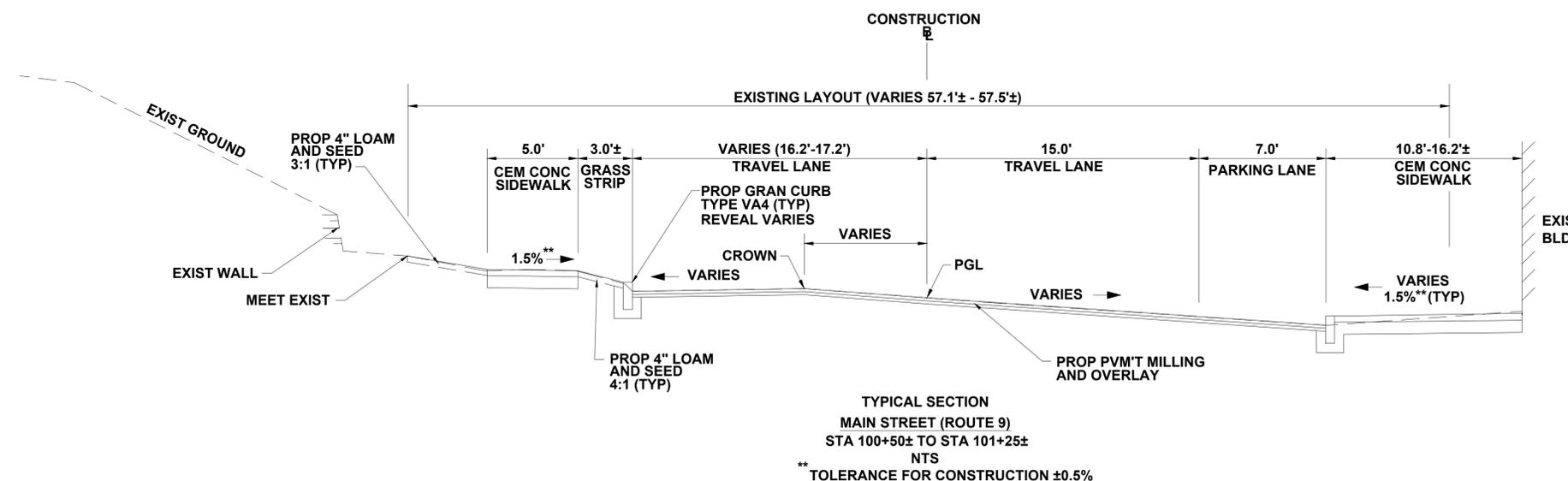
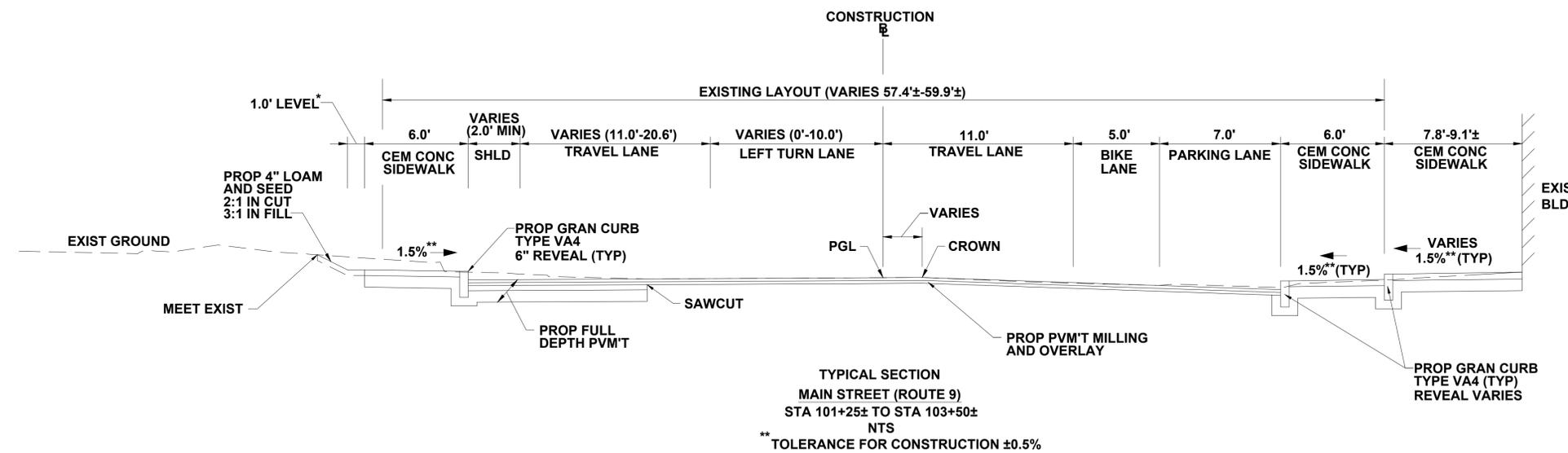
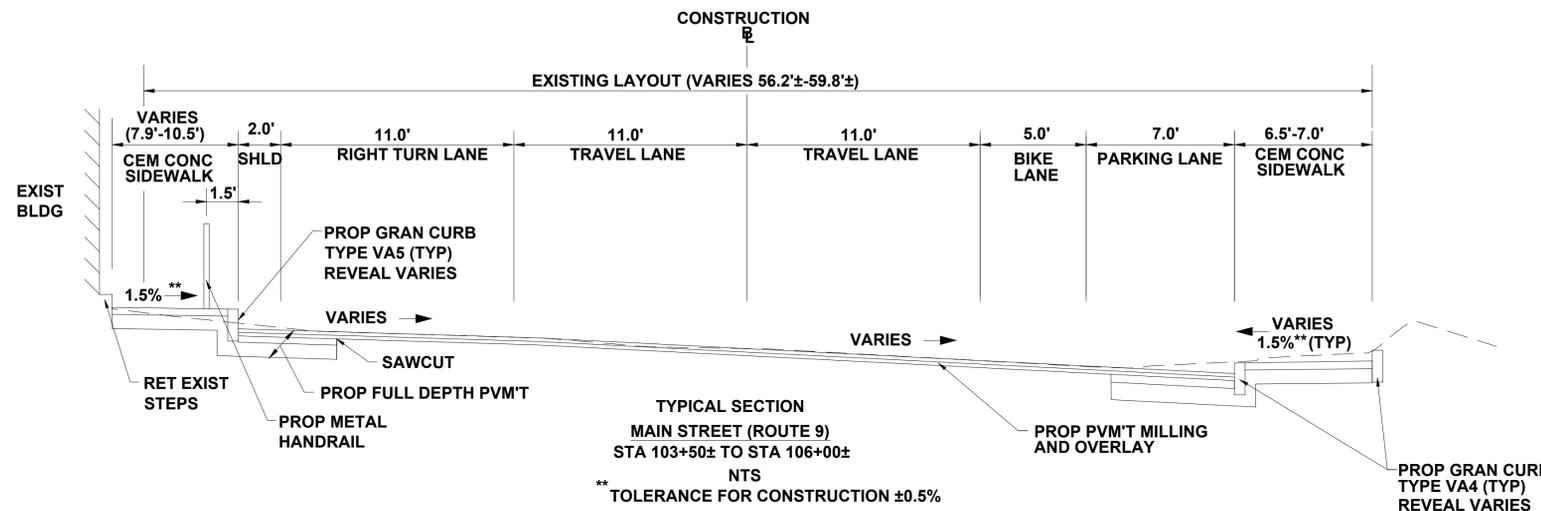
SURFACE: 3 1/2" HOT MIX ASPHALT
(1 1/2" SUPERPAVE SURFACE COURSE - 9.5 (SSC-9.5)
2" SUPERPAVE INTERMEDIATE COURSE - 12.5 (SIC-12.5))

FOUNDATION: 8" GRAVEL BORROW, TYPE b

PROPOSED HOT MIX ASPHALT SIDEWALK

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

FOUNDATION: 8" GRAVEL BORROW, TYPE b

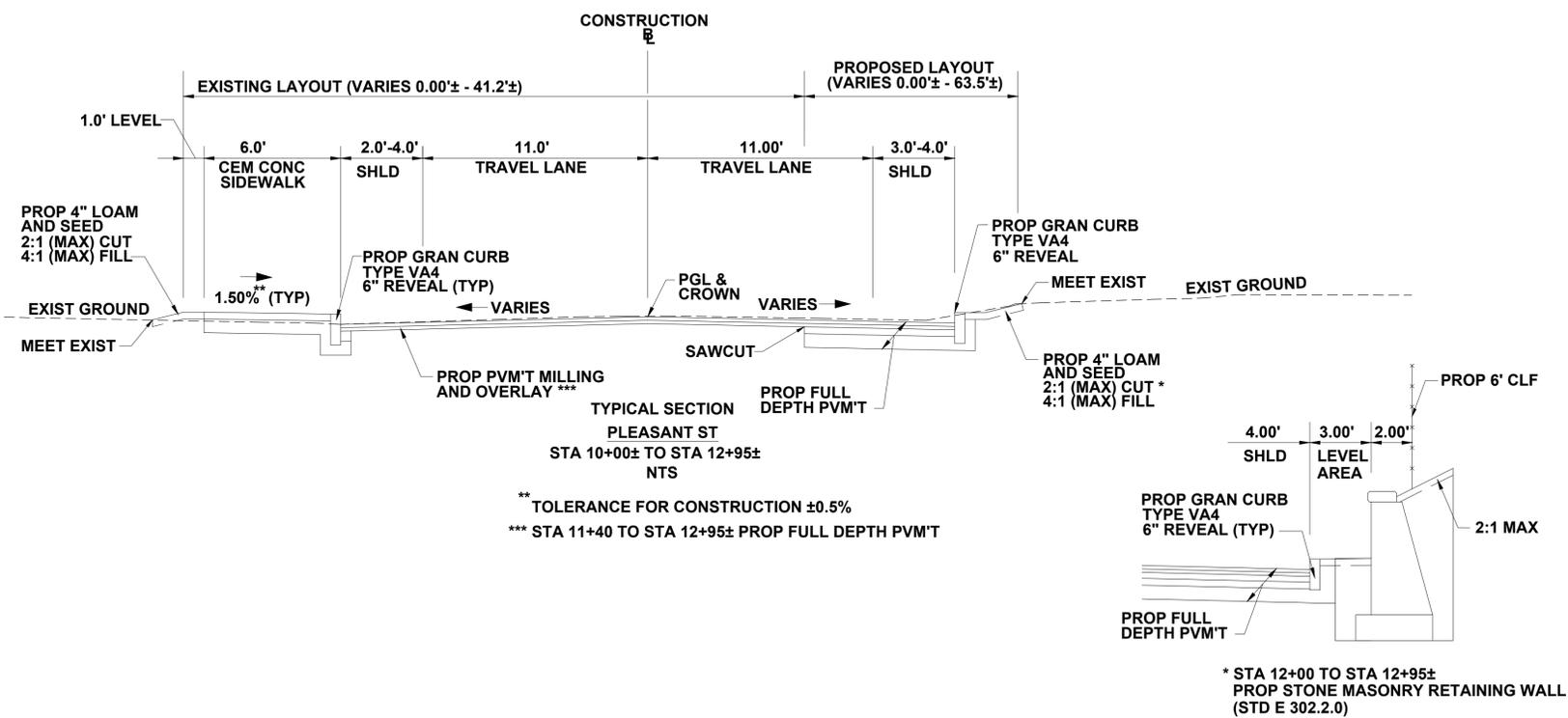
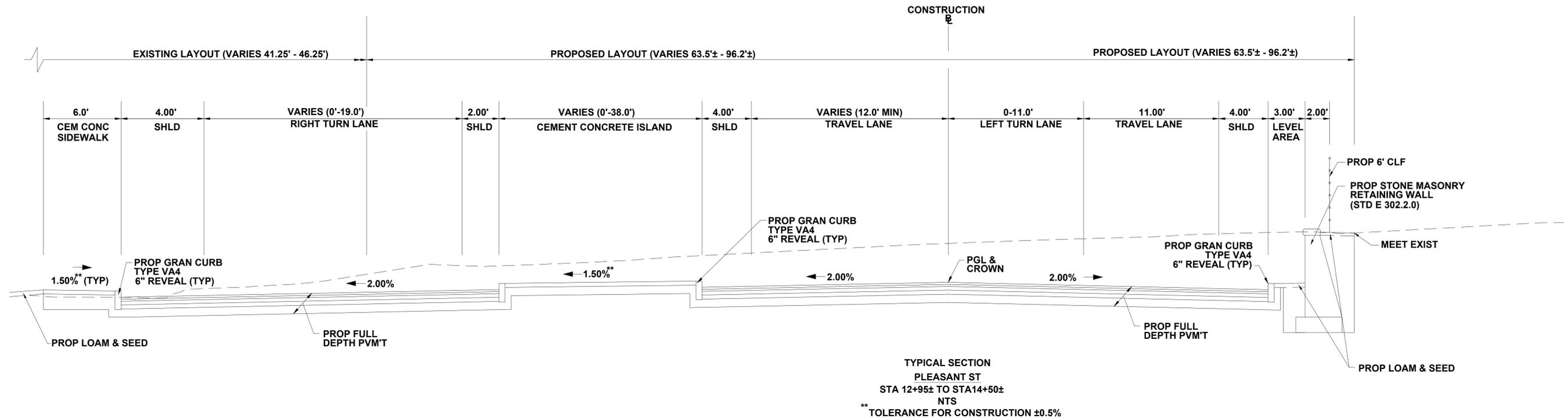


**SPENCER
MAIN STREET**

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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**TYPICAL SECTIONS &
PAVEMENT NOTES**

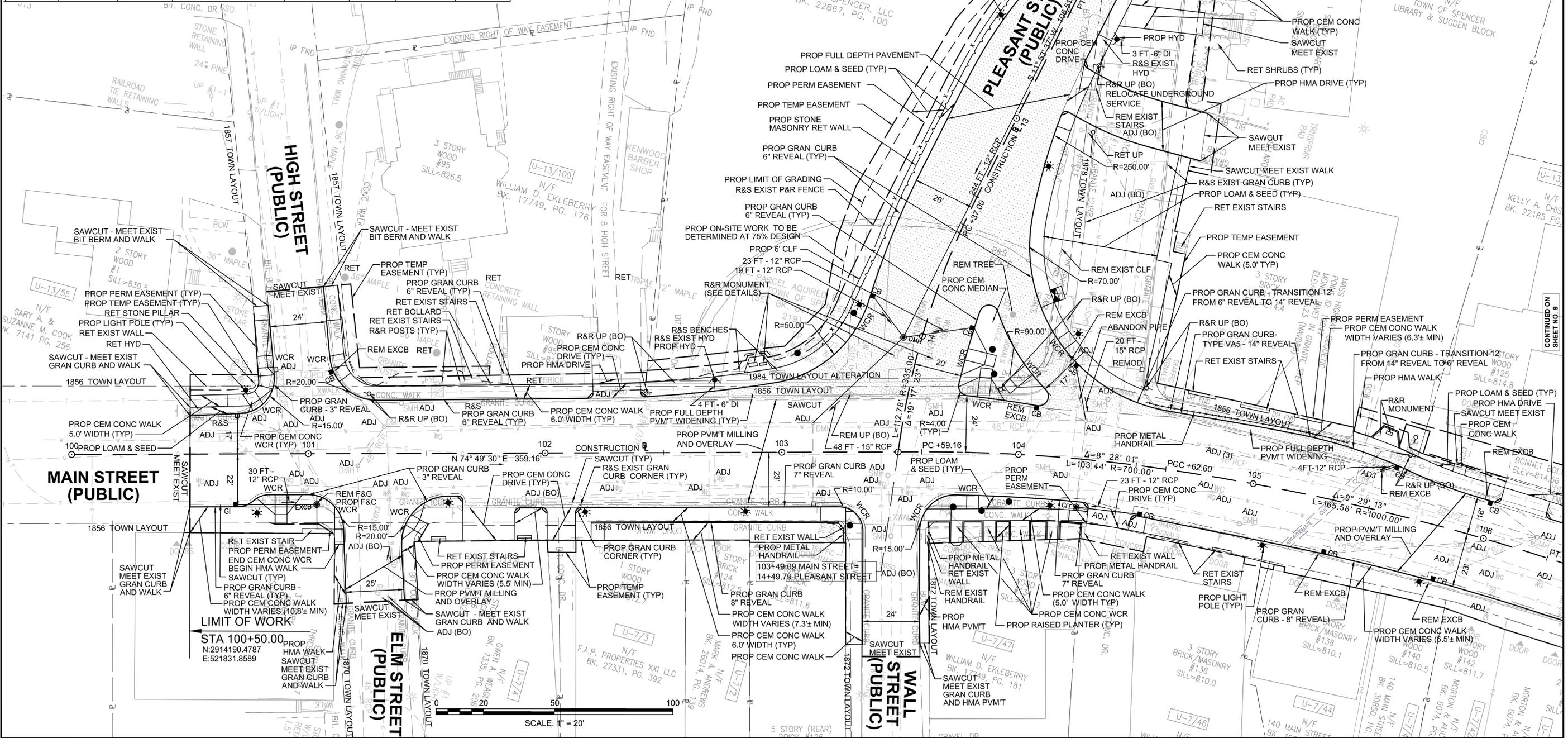
SEE SHEET NO. 5
FOR PAVEMENT NOTES



| MAIN STREET CONSTRUCTION BASELINE DATA | | | | | | | |
|--|-------------|------------|---|--------------------------|----------------|-------------|------------|
| STARTING STATION | NORTHING | EASTING | CURVE DATA | LINE DATA | ENDING STATION | NORTHING | EASTING |
| 100+00.00 | 2914177.390 | 521783.602 | | N74° 49' 30"E 359.16' | 103+59.16 | 2914271.406 | 522130.235 |
| 103+59.16 | 2914271.406 | 522130.235 | R=700.00' Δ=8°28'01" L=103.44' T=51.82' | | 104+62.60 | 2914291.022 | 522231.705 |
| 104+62.60 | 2914291.022 | 522231.705 | R=1000.00' Δ=9°29'13" L=165.58' T=82.98' | | | | |

| PLEASANT STREET CONSTRUCTION BASELINE DATA | | | | | | | |
|--|-------------|------------|---|--------------------------|----------------|-------------|------------|
| STARTING STATION | NORTHING | EASTING | CURVE DATA | LINE DATA | ENDING STATION | NORTHING | EASTING |
| 10+00.00 | 2914713.990 | 522139.263 | | S8° 10' 03"E 86.94' | 10+86.94 | 2914627.933 | 522151.614 |
| 10+86.94 | 2914627.933 | 522151.614 | R=410.00' Δ=20°03'39" L=143.55' T=72.52' | | 12+30.49 | 2914485.188 | 522146.971 |
| 12+30.49 | 2914485.188 | 522146.971 | | S11° 53' 37"W 106.51' | 13+37.00 | 2914380.962 | 522125.020 |
| 13+37.00 | 2914380.962 | 522125.020 | R=335.00' Δ=19°17'23" L=112.78' T=56.93' | | | | |

| SPENCER MAIN STREET | | | |
|------------------------|--------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | --- | 8 | 34 |
| PROJECT FILE NO. | | 606207 | |
| CONSTRUCTION PLANS | | | |



606207_HD(GEN).DWG 26-Sep-2014

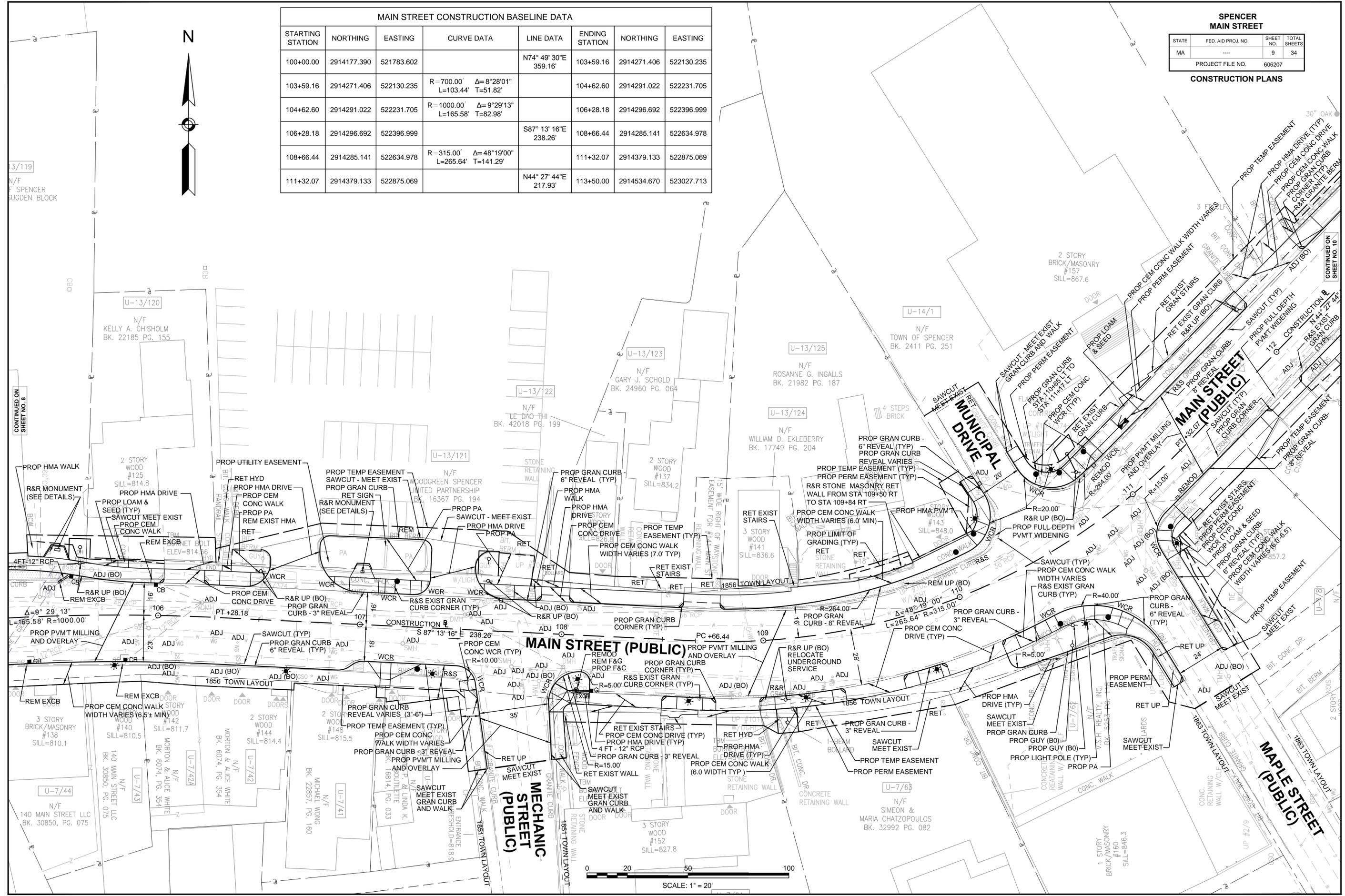
**SPENCER
MAIN STREET**

| | | | |
|-------------------------|--------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | --- | 9 | 34 |
| PROJECT FILE NO. 606207 | | | |

CONSTRUCTION PLANS

MAIN STREET CONSTRUCTION BASELINE DATA

| STARTING STATION | NORTHING | EASTING | CURVE DATA | LINE DATA | ENDING STATION | NORTHING | EASTING |
|------------------|-------------|------------|--|--------------------------|----------------|-------------|------------|
| 100+00.00 | 2914177.390 | 521783.602 | | N74° 49' 30"E 359.16' | 103+59.16 | 2914271.406 | 522130.235 |
| 103+59.16 | 2914271.406 | 522130.235 | R=700.00' Δ=8°28'01" L=103.44' T=51.82' | | 104+62.60 | 2914291.022 | 522231.705 |
| 104+62.60 | 2914291.022 | 522231.705 | R=1000.00' Δ=9°29'13" L=165.58' T=82.98' | | 106+28.18 | 2914296.692 | 522396.999 |
| 106+28.18 | 2914296.692 | 522396.999 | | S87° 13' 16"E 238.26' | 108+66.44 | 2914285.141 | 522634.978 |
| 108+66.44 | 2914285.141 | 522634.978 | R=315.00' Δ=48°19'00" L=265.64' T=141.29' | | 111+32.07 | 2914379.133 | 522875.069 |
| 111+32.07 | 2914379.133 | 522875.069 | | N44° 27' 44"E 217.93' | 113+50.00 | 2914534.670 | 523027.713 |



3/119

CONTINUED ON SHEET NO. 8

CONTINUED ON SHEET NO. 10

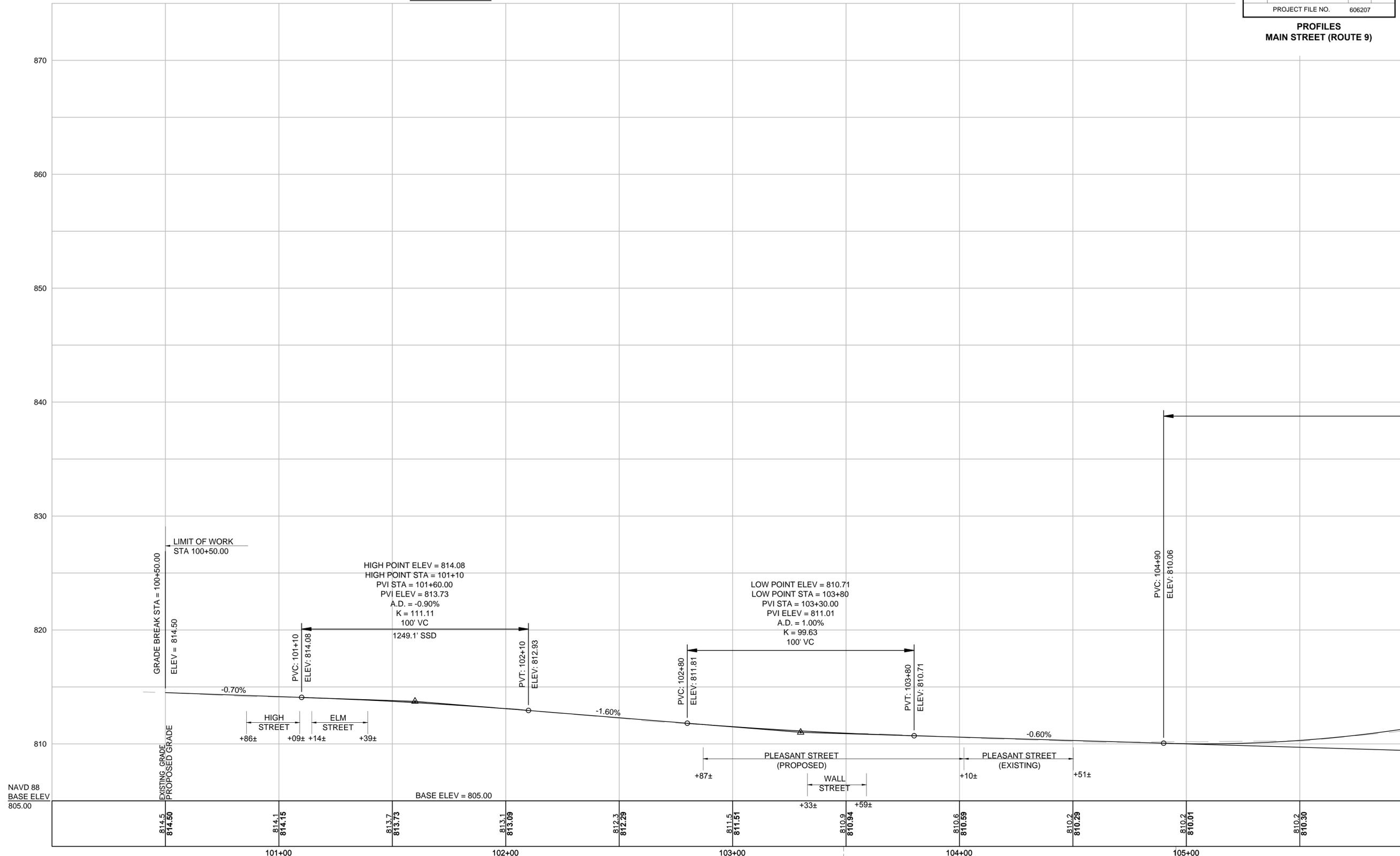
SCALE: 1" = 20'

**SPENCER
MAIN STREET**

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|--------------------|-----------|--------------|
| MA | --- | 11 | 34 |
| PROJECT FILE NO. | | 606207 | |

**PROFILES
MAIN STREET (ROUTE 9)**

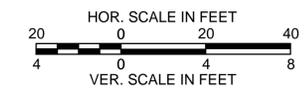
Main Street



NAVD 88
BASE ELEV
805.00

STA 103+49.09 MAIN ST R =
STA 14+49.79 PLEASANT ST R

Benchmark
Mass-Highway Geodetic
Disc# 15047
Monel Rivet in
Granite Step
Elevation = 813.23'
Sta. 104+94.41, 32.63'LT



FOR CONSTRUCTION PLANS:
SEE SHEET NOS. 8-9

CONTINUED ON
SHEET NO. 12

Main Street

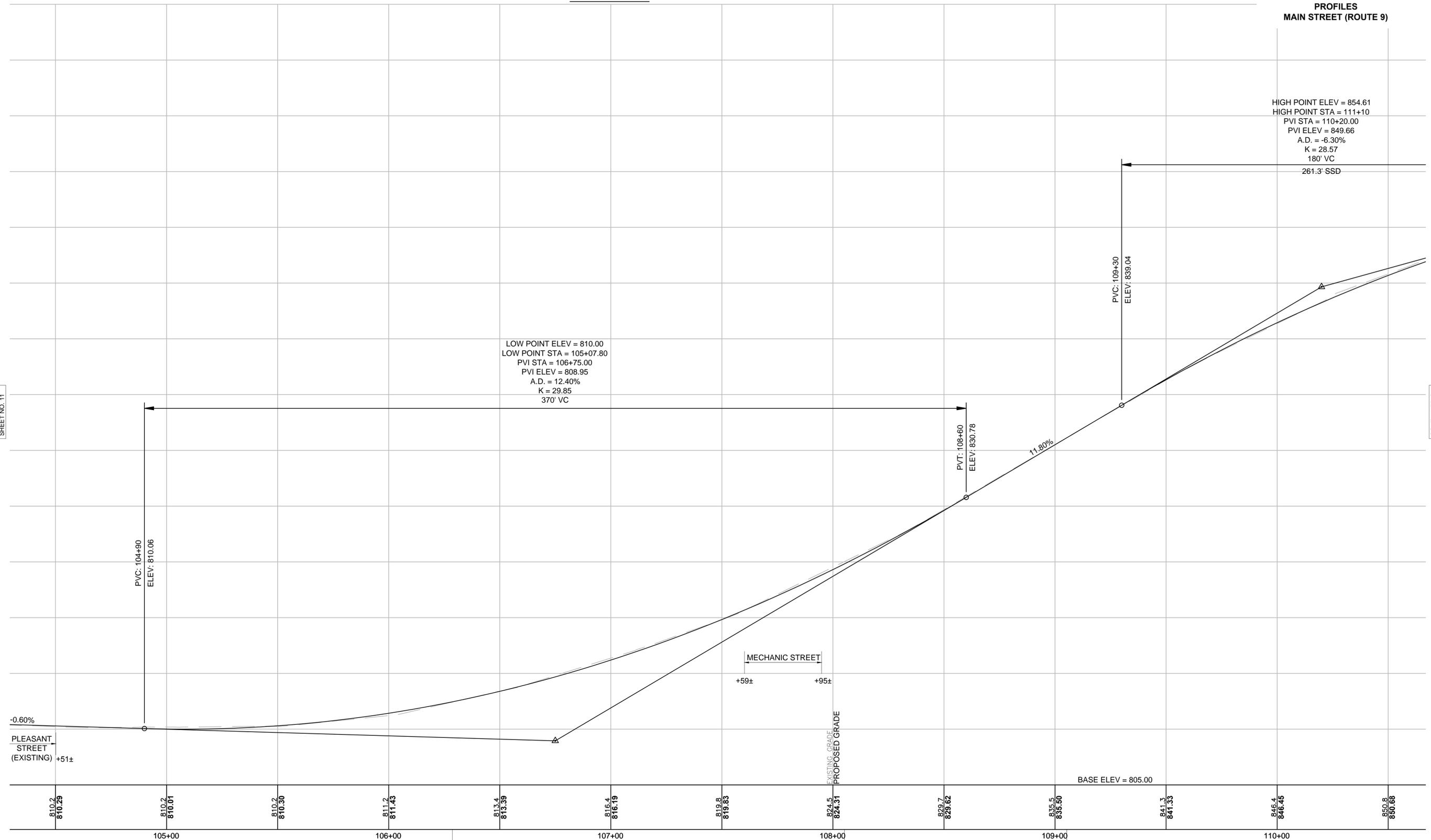
SPENCER MAIN STREET

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|-------------------------|--------------------|-----------|--------------|
| MA | --- | 12 | 34 |
| PROJECT FILE NO. 606207 | | | |

PROFILES MAIN STREET (ROUTE 9)

HIGH POINT ELEV = 854.61
HIGH POINT STA = 111+10
PVI STA = 110+20.00
PVI ELEV = 849.66
A.D. = -6.30%
K = 28.57
180' VC
261.3' SSD

LOW POINT ELEV = 810.00
LOW POINT STA = 105+07.80
PVI STA = 106+75.00
PVI ELEV = 808.95
A.D. = 12.40%
K = 29.85
370' VC



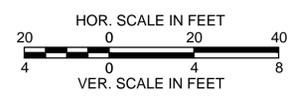
CONTINUED ON
SHEET NO. 11

CONTINUED ON
SHEET NO. 13

Temp. Benchmark
Bonnet Bolt on
Hydrant
Elevation = 814.56'
Sta. 106+28.66, 27.08' LT

Temp. Benchmark
Bonnet Bolt on
Hydrant
Elevation = 821.68'
Sta. 108+05.25, 76.02' RT

Temp. Benchmark
Bonnet Bolt on
Hydrant
Elevation = 840.32'
Sta. 109+05.27, 39.12' RT

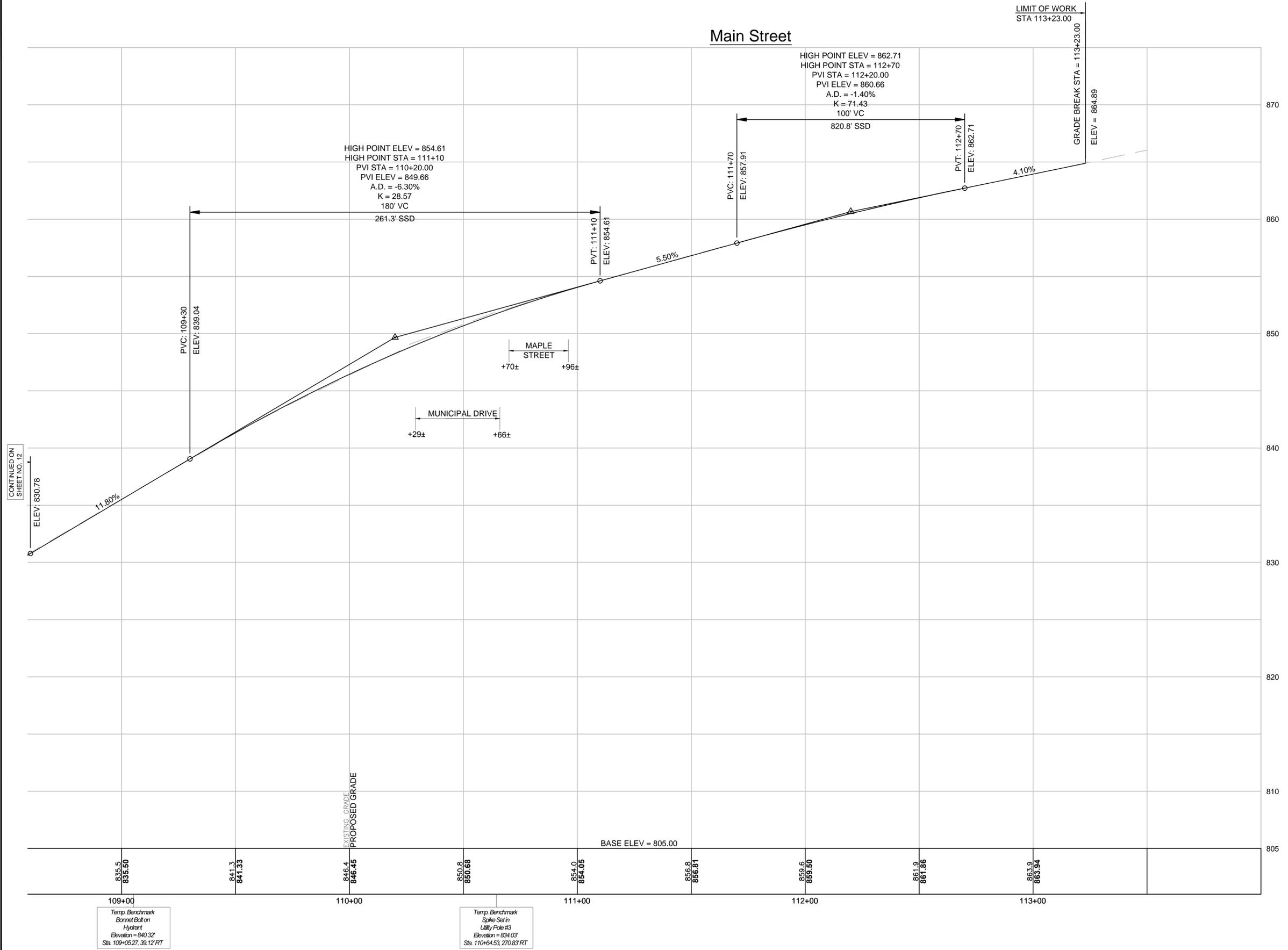


FOR CONSTRUCTION PLANS:
SEE SHEET NOS. 9-10

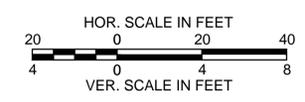
**SPENCER
MAIN STREET**

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|--------------------|-----------|--------------|
| MA | --- | 13 | 34 |
| PROJECT FILE NO. | | 606207 | |

**PROFILES
MAIN STREET (ROUTE 9)**



CONTINUED ON
SHEET NO. 12



FOR CONSTRUCTION PLANS:
SEE SHEET NO. 10

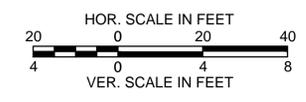
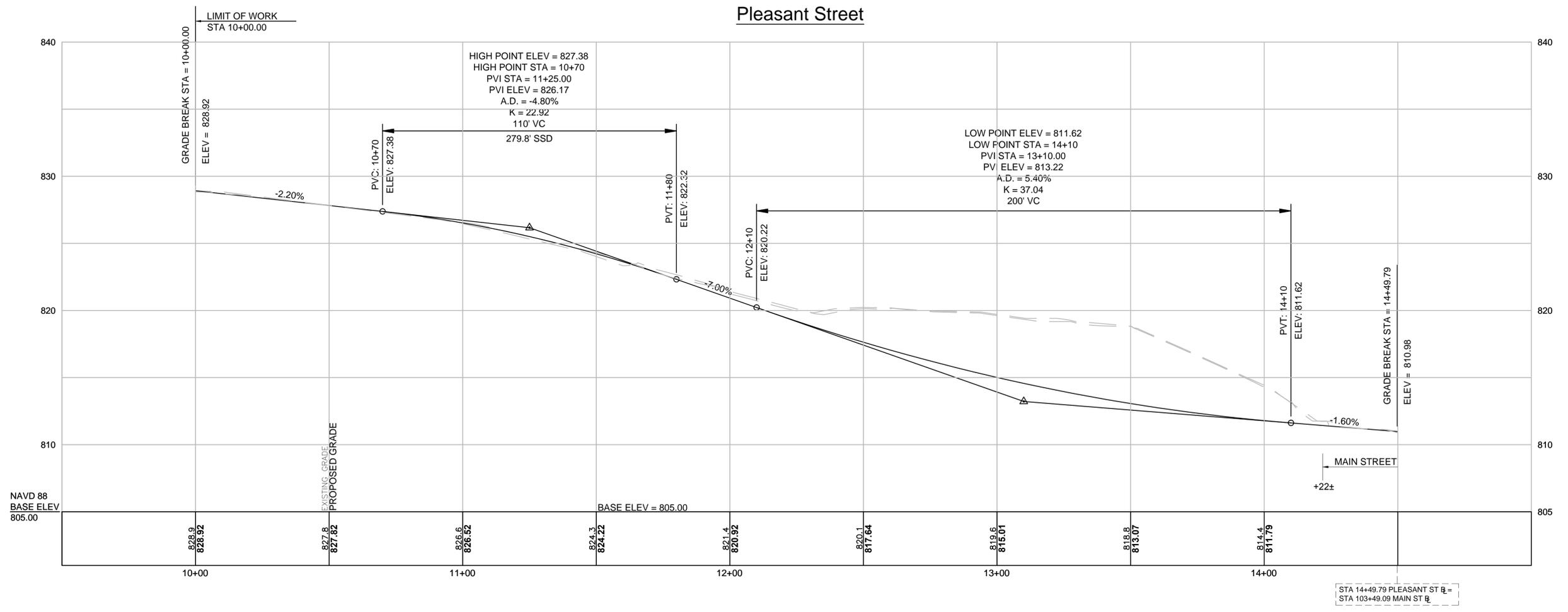
**SPENCER
MAIN STREET**

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|--------------------|-----------|--------------|
| MA | --- | 14 | 34 |
| PROJECT FILE NO. | | 606207 | |

**PROFILES
PLEASANT STREET (ROUTE 31)**

606207_HD(PROP).DWG 26-Sep-2014

Pleasant Street



FOR CONSTRUCTION PLANS:
SEE SHEET NOS. 8 & 10

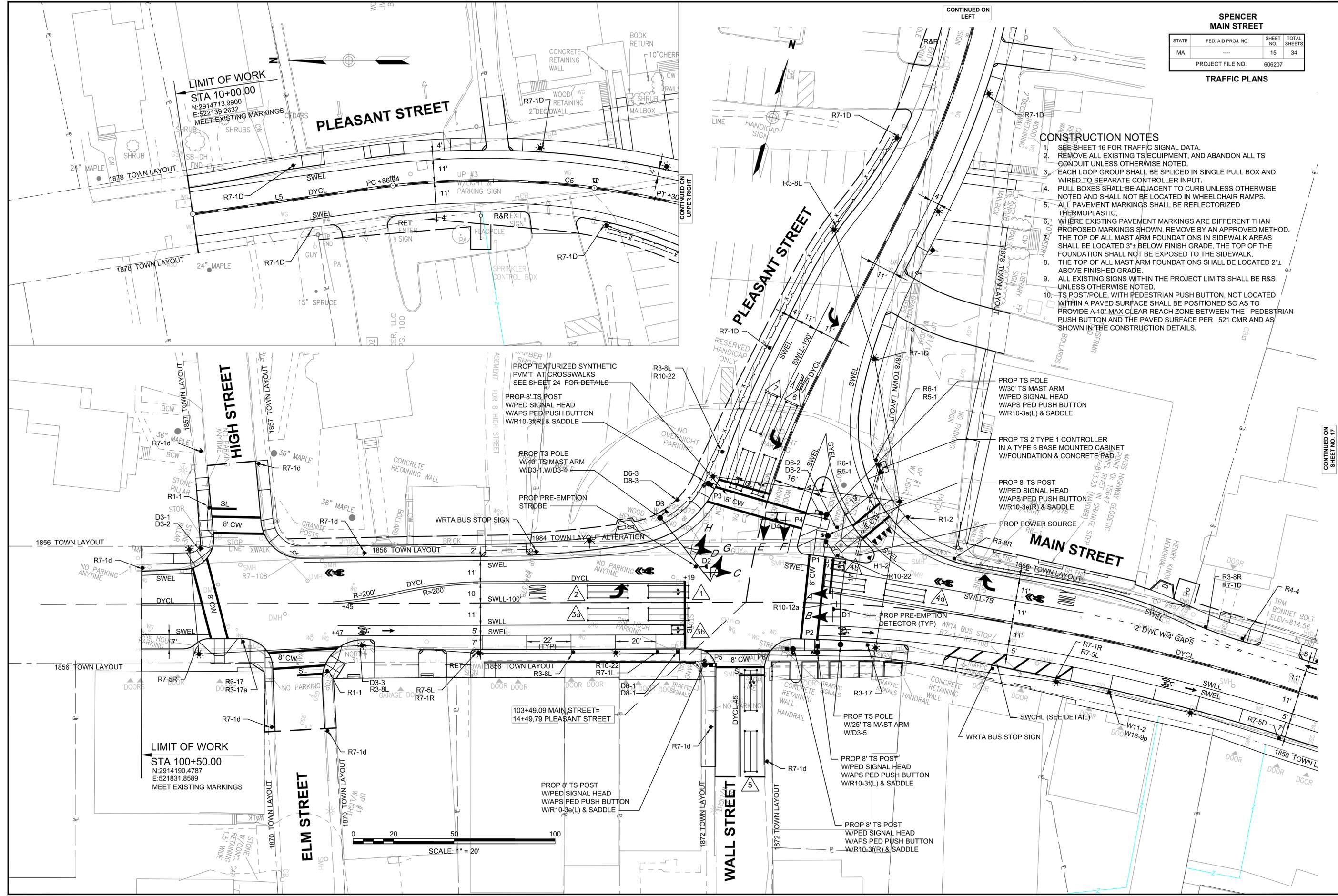
**SPENCER
MAIN STREET**

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|--------------------|-----------|--------------|
| MA | --- | 15 | 34 |
| PROJECT FILE NO. | | 606207 | |

TRAFFIC PLANS

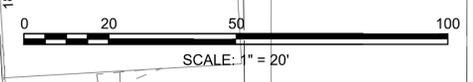
CONSTRUCTION NOTES

- SEE SHEET 16 FOR TRAFFIC SIGNAL DATA.
- REMOVE ALL EXISTING TS EQUIPMENT, AND ABANDON ALL TS CONDUIT UNLESS OTHERWISE NOTED.
- EACH LOOP GROUP SHALL BE SPLICED IN SINGLE PULL BOX AND WIRED TO SEPARATE CONTROLLER INPUT.
- PULL BOXES SHALL BE ADJACENT TO CURB UNLESS OTHERWISE NOTED AND SHALL NOT BE LOCATED IN WHEELCHAIR RAMPS.
- ALL PAVEMENT MARKINGS SHALL BE REFLECTORIZED THERMOPLASTIC.
- WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD. THE TOP OF ALL MAST ARM FOUNDATIONS IN SIDEWALK AREAS SHALL BE LOCATED 3"± BELOW FINISH GRADE. THE TOP OF THE FOUNDATION SHALL NOT BE EXPOSED TO THE SIDEWALK.
- THE TOP OF ALL MAST ARM FOUNDATIONS SHALL BE LOCATED 2"± ABOVE FINISHED GRADE.
- ALL EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE R&S UNLESS OTHERWISE NOTED.
- TS POST/POLE, WITH PEDESTRIAN PUSH BUTTON, NOT LOCATED WITHIN A PAVED SURFACE SHALL BE POSITIONED SO AS TO PROVIDE A 10" MAX CLEAR REACH ZONE BETWEEN THE PEDESTRIAN PUSH BUTTON AND THE PAVED SURFACE PER 521 CMR AND AS SHOWN IN THE CONSTRUCTION DETAILS.



LIMIT OF WORK
STA 10+00.00
 N:2914713.9900
 E:522139.2632
 MEET EXISTING MARKINGS

LIMIT OF WORK
STA 100+50.00
 N:2914190.4787
 E:521831.8589
 MEET EXISTING MARKINGS



CONTINUED ON LEFT

CONTINUED ON UPPER RIGHT

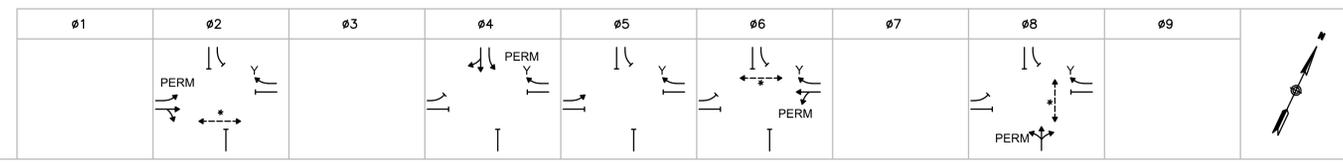
CONTINUED ON SHEET NO. 17

| SPENCER MAIN STREET | | | |
|------------------------|--------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | --- | 16 | 34 |
| PROJECT FILE NO. | | 606207 | |

TRAFFIC PLANS

SEQUENCE & TIMING NOTES:

- IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL NOT CHANGE DURING THE CLEARANCE INTERVAL.
- THE RIGHT OF WAY MAY BE ASSIGNED TO ANY PHASE OR ANY COMBINATION OF NON-CONFLICTING PHASES.
- IF CALLS EXIST ON ALL PHASES, THE ASSIGNMENT OF RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE PREFERENTIAL PHASE SEQUENCE.
- IF THE ASSIGNED RIGHT-OF-WAY FOR ANY TRAFFIC MOVEMENT IS TO CHANGE DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATION FOR THAT MOVEMENT WILL DISPLAY THE APPROPRIATE CLEARANCE INTERVALS.



SEQUENCE AND TIMING FOR FULL ACTUATED CONTROL (ISOLATED)

| APPROACH | DIRECTION | HOUSING | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | FLASH |
|------------------|-----------|---------|---|---|---|----|-----|----|---|---|---|----|----|----|-----|-----|----|----|-----|----|----|----|----|----|-----|----|----|----|----|-------|
| MAIN STREET | EB | A | | | | G | Y | R | | | | R | R | R | G-R | Y-R | R | R | R | R | | | | R | R | R | | | | FY |
| MAIN STREET | EB | B | | | | G | Y | R | | | | R | R | R | R | R | R | R | R | R | | | | R | R | R | | | | FY |
| MAIN STREET | WB | C,D | | | | R | R | R | | | | R | R | R | R | R | R | G | Y | R | | | | R | R | R | | | | FY |
| WALL STREET | NB | E,F | | | | R | R | R | | | | R | R | R | R | R | R | R | R | R | | | | G | Y | R | | | | FR |
| PLEASANT STREET | SB | G,H | | | | R | R | R | | | | G | Y | R | R | R | R | R | R | R | | | | R | R | R | | | | FR |
| PEDESTRIAN X-ING | NB-SB | P1-P2 | | | | DW | DW | DW | | | | DW | DW | DW | DW | DW | DW | DW | DW | DW | | | | W | FDW | DW | | | | OUT |
| PEDESTRIAN X-ING | EB-WB | P3-P4 | | | | DW | DW | DW | | | | DW | DW | DW | DW | DW | DW | W | FDW | DW | | | | DW | DW | DW | | | | OUT |
| PEDESTRIAN X-ING | EB-WB | P5-P6 | | | | W | FDW | DW | | | | DW | DW | DW | DW | DW | DW | DW | DW | DW | | | | DW | DW | DW | | | | OUT |

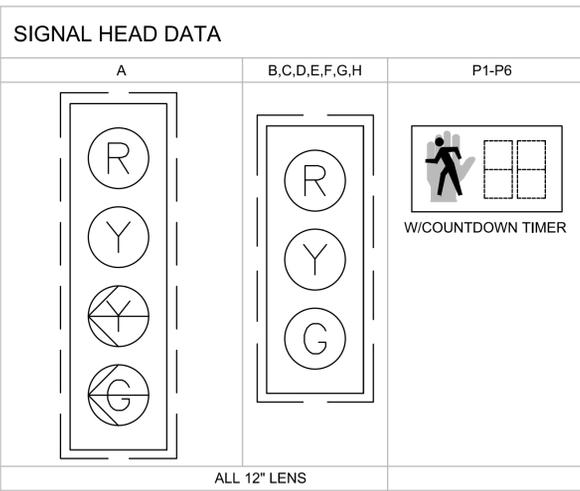
| | TIMING IN SECONDS | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|-------------------|--|--|--|--|---|----------|---|--|--|--|----------|---|--|---|--|----------|--|--|--|--|--|----------|---|--|--|--|--|--|
| MINIMUM GREEN (INITIAL) | | | | | | X | | | | | | X | | | X | | | | | | | | | X | | | | | |
| PASSAGE TIME (VEHICLE) | | | | | | X | | | | | | X | | | X | | | | | | | | | X | | | | | |
| MAXIMUM 1 | | | | | | X | | | | | | X | | | X | | | | | | | | X | | | | | | |
| MAXIMUM 2 | | | | | | X | | | | | | X | | | X | | | | | | | | X | | | | | | |
| YELLOW CLEARANCE | | | | | | | X | | | | | X | | | X | | | | | | | | X | | | | | | |
| RED CLEARANCE | | | | | | | | X | | | | | X | | | | X | | | | | | | X | | | | | |
| PEDESTRIAN WALK | | | | | | X | | | | | | X | | | X | | | | | | | | X | | | | | | |
| PEDESTRIAN CLEARANCE | | | | | | X | | | | | | X | | | X | | | | | | | | X | | | | | | |
| DETECTOR MEMORY | | | | | | | NON-LOCK | | | | | NON-LOCK | | | | | NON-LOCK | | | | | | NON-LOCK | | | | | | |
| RECALL | | | | | | | MIN | | | | | OFF | | | | | MIN | | | | | | OFF | | | | | | |

| COORDINATION DATA | | | COORDINATION PHASE SPLIT TIMES | | | | | | | | |
|-------------------|-------|--------|--------------------------------|----|----|----|----|---------|----|----|----|
| TIMING PLAN | CYCLE | OFFSET | ø1 | ø2 | ø3 | ø4 | ø5 | ø6 | ø7 | ø8 | ø9 |
| | X | X | | | | | | | | | |
| MODE | | | COORD ø | | | | | COORD ø | | | |

- NOTES:**
- AUTOMATIC FLASHING OPERATION PER 2009 M.U.T.C.D., AS AMENDED.
 - * NORMALLY DW, W/FDW UPON PEDESTRIAN PUSH BUTTON ACTUATION
 - OL = OVERLAP
 - PERM = PERMISSIVE
 - Y = YIELD CONTROL
 - ø4 & ø8 DUAL ENTRY
 - MAXIMUM 1 = NORMAL OPERATION
 - MAXIMUM 2 = NOT USED
 - STOP AND GO OPERATION FOR 24 HOURS PER DAY. FLASHING OPERATION FOR EMERGENCY ONLY.
 - DURING PEDESTRIAN INTERVAL, FDW THROUGH YELLOW OPERATION SHALL BE IN EFFECT.
 - INHIBIT MAX TERMINATION SHALL BE IN EFFECT DURING COORDINATION.

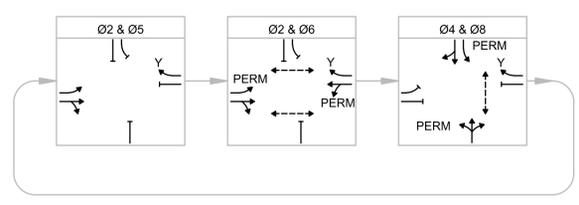
- EMERGENCY VEHICLE PRE-EMPTION OPERATION**
- EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE OPTICALLY TRANSMITTED BY OPTICAL EMITTERS MOUNTED IN EMERGENCY VEHICLES AND RECEIVED BY OPTICAL DETECTORS LOCATED AT EACH INTERSECTION.
 - PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH DETECTORS D1, D2, D3 OR D4 ASSIGNED DESCENDING PRIORITIES AS FOLLOWS: (D1 HIGHEST AND D4 LOWEST)
 - IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY OPTICAL DETECTOR D1 (OR D2, D3, D4) THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD IN EMERGENCY VEHICLE PRE-EMPTION PHASE #1 (OR #2, #3, #4) GREEN FOR A MINIMUM OF TEN (10) SECONDS OR UNTIL PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCES FOR THE ASSOCIATED PHASE(S) AS SHOWN IN THE SEQUENCE AND TIMING CHART AND SERVICE SUBSEQUENT EMERGENCY VEHICLE PRE-EMPTION PHASES AS NECESSARY.
 - MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
 - PRE-EMPTION STROBE SHALL BE ILLUMINATED WHENEVER ANY EMERGENCY VEHICLE PRE-EMPTION GREEN IS ON.
 - EMERGENCY VEHICLE PRE-EMPTION SHALL OVERRIDE COORDINATION.

| PRE-EMPTION PHASING & PRIORITY | | | |
|--------------------------------|---------------------------|----------|--------------------------|
| DETECTOR & PRIORITY | PRE-EMPT PHASE ASSIGNMENT | MOVEMENT | VEHICLE PHASE ASSIGNMENT |
| D1 | 1 | | ø2&ø5 |
| D2 | 2 | | ø6 |
| D3 | 3 | | ø4 |
| D4 | 4 | | ø8 |



- NOTES:**
- ALL SIGNAL HEADS SHALL BE RIGID MOUNTED.
 - ALL SIGNAL HEADS SHALL BE EQUIPPED WITH 5" LOUVERED BACKPLATES WITH 3" RETROREFLECTIVE BORDER, AND TUNNEL VISORS.
 - ALL SIGNAL DISPLAYS SHALL BE EQUIPPED WITH L.E.D. MODULES.

PREFERENTIAL PHASE SEQUENCE



LOOP DETECTOR DATA

| DETECTOR NO. | NO. SECTION/ SIZE | NO. OF TURNS | OPERATIONS | DELAY /EXT | CALL PHASE | LOOP CONNECTION |
|--------------|---------------------|--------------|------------|------------|------------|-----------------|
| 1 | 1-6'X20' QUADRUPOLE | 2-4-2 | PRESENCE | 0 | ø5 | SINGLE |
| 2 | 1-6'X20' QUADRUPOLE | 2-4-2 | PRESENCE | 0 | ø2 | SINGLE |
| 3a | 2-6'X20' QUADRUPOLE | 2-4-2 | PRESENCE | 0 | ø2 | SERIES |
| 3b | 1-4'X6' QUADRUPOLE | 2-4-2 | PRESENCE | 0 | ø2 | SINGLE |
| 4a | 2-6'X20' QUADRUPOLE | 2-4-2 | PRESENCE | 0 | ø6 | SERIES |
| 4b | 1-4'X6' QUADRUPOLE | 2-4-2 | PRESENCE | 0 | ø6 | SINGLE |
| 5 | 2-6'X20' QUADRUPOLE | 2-4-2 | PRESENCE | 0 | ø8 | SERIES |
| 6 | 2-6'X20' QUADRUPOLE | 2-4-2 | PRESENCE | 0 | ø4 | SERIES |
| 7 | 2-6'X20' QUADRUPOLE | 2-4-2 | PRESENCE | 0 | ø4 | SERIES |

NOTE: DELAY AND EXTENSION TIMINGS SHALL BE PROGRAMMED IN THE CONTROLLER ONLY

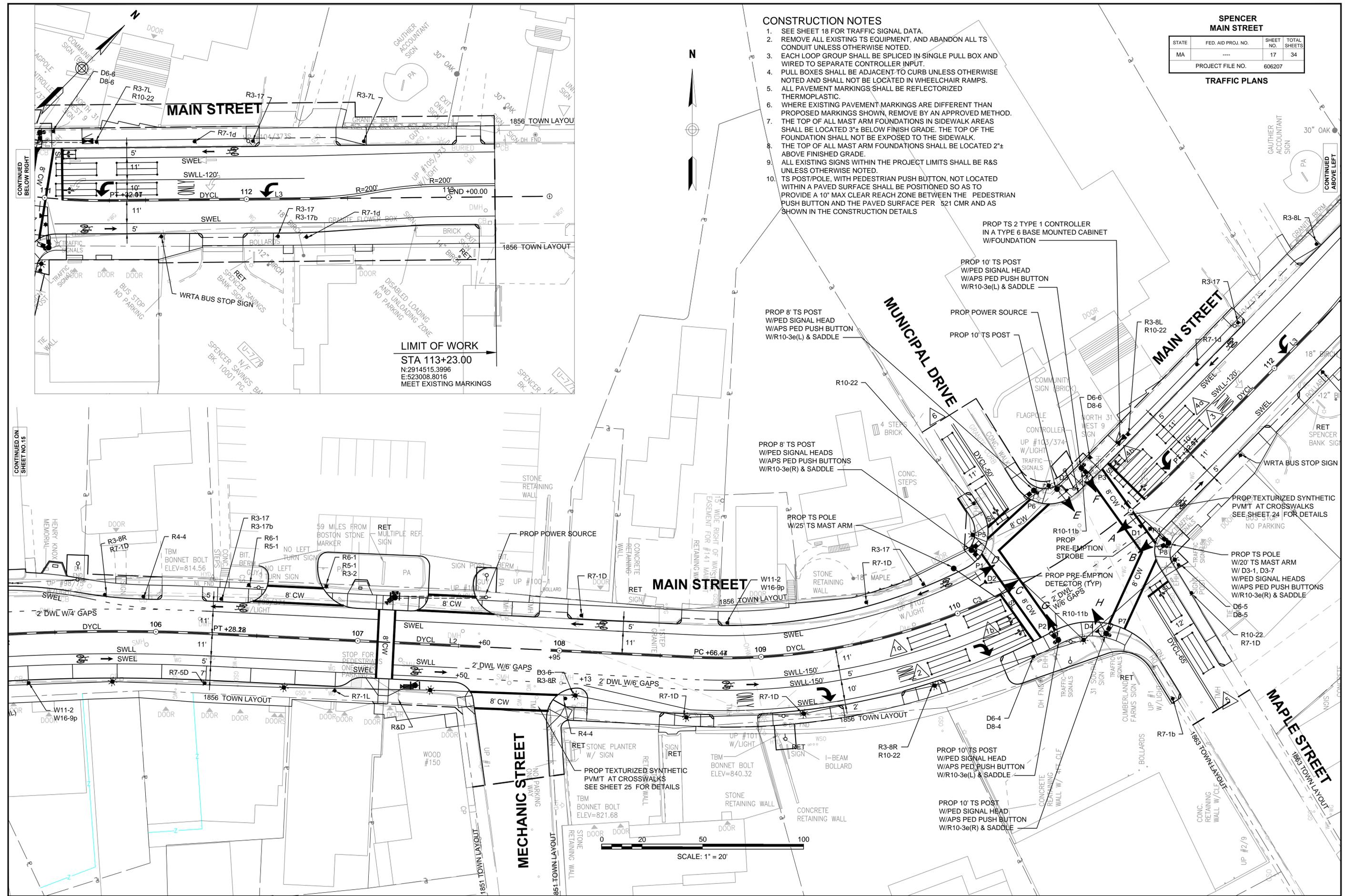
CONSTRUCTION NOTES

1. SEE SHEET 18 FOR TRAFFIC SIGNAL DATA.
2. REMOVE ALL EXISTING TS EQUIPMENT, AND ABANDON ALL TS CONDUIT UNLESS OTHERWISE NOTED.
3. EACH LOOP GROUP SHALL BE SPLICED IN SINGLE PULL BOX AND WIRED TO SEPARATE CONTROLLER INPUT.
4. PULL BOXES SHALL BE ADJACENT TO CURB UNLESS OTHERWISE NOTED AND SHALL NOT BE LOCATED IN WHEELCHAIR RAMPS.
5. ALL PAVEMENT MARKINGS SHALL BE REFLECTORIZED THERMOPLASTIC.
6. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
7. THE TOP OF ALL MAST ARM FOUNDATIONS IN SIDEWALK AREAS SHALL BE LOCATED 3"± BELOW FINISH GRADE. THE TOP OF THE FOUNDATION SHALL NOT BE EXPOSED TO THE SIDEWALK.
8. THE TOP OF ALL MAST ARM FOUNDATIONS SHALL BE LOCATED 2"± ABOVE FINISHED GRADE.
9. ALL EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE R&S UNLESS OTHERWISE NOTED.
10. TS POST/POLE, WITH PEDESTRIAN PUSH BUTTON, NOT LOCATED WITHIN A PAVED SURFACE SHALL BE POSITIONED SO AS TO PROVIDE A 10' MAX CLEAR REACH ZONE BETWEEN THE PEDESTRIAN PUSH BUTTON AND THE PAVED SURFACE PER 521 CMR AND AS SHOWN IN THE CONSTRUCTION DETAILS

**SPENCER
MAIN STREET**

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|--------------------|-----------|--------------|
| MA | --- | 17 | 34 |
| PROJECT FILE NO. | | 606207 | |

TRAFFIC PLANS



LIMIT OF WORK
 STA 113+23.00
 N:2914515.3996
 E:523008.8016
 MEET EXISTING MARKINGS

SCALE: 1" = 20'

**SPENCER
MAIN STREET**

| | | | |
|------------------|--------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | --- | 18 | 34 |
| PROJECT FILE NO. | | 606207 | |

TRAFFIC PLANS

SEQUENCE & TIMING NOTES:

- IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL NOT CHANGE DURING THE CLEARANCE INTERVAL.
- THE RIGHT OF WAY MAY BE ASSIGNED TO ANY PHASE OR ANY COMBINATION OF NON-CONFLICTING PHASES.
- IF CALLS EXIST ON ALL PHASES, THE ASSIGNMENT OF RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE PREFERENTIAL PHASE SEQUENCE.
- IF THE ASSIGNED RIGHT-OF-WAY FOR ANY TRAFFIC MOVEMENT IS TO CHANGE DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATION FOR THAT MOVEMENT WILL DISPLAY THE APPROPRIATE CLEARANCE INTERVALS.

SEQUENCE AND TIMING FOR FULL ACTUATED CONTROL (COORDINATED)

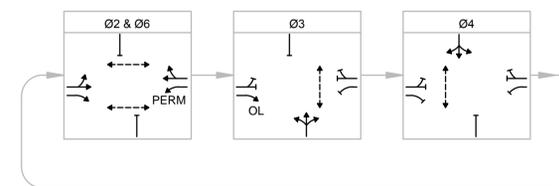
| APPROACH | DIRECTION | HOUSING | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | FLASH |
|--------------------|-----------|---------|---|---|---|----|-----|----|----|-----|----|----|-----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|-----|-------|
| MAIN STREET | EB | A | | | | G | Y | R | R | R | R | R | R | R | | | | R | R | R | | | | | | | | | | FY |
| MAIN STREET | EB | B | | | | G | Y | R | R | R | R | R | R | R | | | | R | R | R | | | | | | | | | | FY |
| MAIN STREET | WB | C,D | | | | R | R | R | G | Y | R | R | R | R | | | | G | Y | R | | | | | | | | | FY | |
| MAPLE STREET | NB | E | | | | R | R | R | R | R | R | R | R | R | | | | R | R | R | | | | | | | | | FR | |
| MAPLE STREET | NB | F | | | | R | R | R | R | R | R | R | R | R | | | | R | R | R | | | | | | | | | FR | |
| MUNICIPAL DRIVEWAY | SB | G | | | | R | R | R | R | R | R | R | R | R | | | | R | R | R | | | | | | | | | FR | |
| MUNICIPAL DRIVEWAY | SB | H | | | | R | R | R | R | R | R | R | R | R | | | | R | R | R | | | | | | | | | FR | |
| PEDESTRIAN X-ING | NB-SB | P1-P2 | | | | DW | DW | DW | DW | DW | DW | W | FDW | DW | | | | DW | DW | DW | | | | | | | | | OUT | |
| PEDESTRIAN X-ING | NB-SB | P3-P4 | | | | DW | DW | DW | W | FDW | DW | DW | DW | DW | | | | DW | DW | DW | | | | | | | | | OUT | |
| PEDESTRIAN X-ING | EB-WB | P5-P6 | | | | DW | DW | DW | DW | DW | DW | DW | DW | DW | | | | DW | DW | DW | | | | | | | | | OUT | |
| PEDESTRIAN X-ING | EB-WB | P7-P8 | | | | W | FDW | DW | DW | DW | DW | DW | DW | DW | | | | W | FDW | DW | | | | | | | | | OUT | |

TIMING IN SECONDS

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|--|--|--|--|--|---|---|----------|---|----------|---|----------|---|----------|--|--|--|----------|---|----------|--|--|--|--|--|--|--|--|--|--|
| MINIMUM GREEN (INITIAL) | | | | | | X | | | X | | | | | | | | | X | | | | | | | | | | | | |
| PASSAGE TIME (VEHICLE) | | | | | | X | | | X | | | | | | | | | X | | | | | | | | | | | | |
| MAXIMUM 1 | | | | | | X | | | X | | | | | | | | | X | | | | | | | | | | | | |
| MAXIMUM 2 | | | | | | X | | | X | | | | | | | | | X | | | | | | | | | | | | |
| YELLOW CLEARANCE | | | | | | | X | | | X | | | X | | | | | | X | | | | | | | | | | | |
| RED CLEARANCE | | | | | | | | X | | | X | | | X | | | | | | X | | | | | | | | | | |
| PEDESTRIAN WALK | | | | | | X | | | X | | | X | | | | | | X | | | | | | | | | | | | |
| PEDESTRIAN CLEARANCE | | | | | | X | | | X | | | X | | | | | | X | | | | | | | | | | | | |
| DETECTOR MEMORY | | | | | | | | NON-LOCK | | NON-LOCK | | NON-LOCK | | NON-LOCK | | | | NON-LOCK | | NON-LOCK | | | | | | | | | | |
| RECALL | | | | | | | | MIN | | OFF | | OFF | | OFF | | | | MIN | | MIN | | | | | | | | | | |

CONFLICT FLASH OPERATION ONLY

PREFERENTIAL PHASE SEQUENCE



COORDINATION DATA

| COORDINATION DATA | | | COORDINATION PHASE SPLIT TIMES | | | | | | | | | |
|-------------------|-------|--------|--------------------------------|----|----|----|----|---------|----|----|----|--|
| TIMING PLAN | CYCLE | OFFSET | ø1 | ø2 | ø3 | ø4 | ø5 | ø6 | ø7 | ø8 | ø9 | |
| | X | X | | | | | | | | | | |
| MODE | | | COORD ø | | | | | COORD ø | | | | |

- NOTES:**
- AUTOMATIC FLASHING OPERATION PER 2009 M.U.T.C.D., AS AMENDED.
 - * NORMALLY DW, W/FDW UPON PEDESTRIAN PUSH BUTTON ACTUATION
 - OL = OVERLAP
 - PERM = PERMISSIVE
 - MAXIMUM 1 = NORMAL OPERATION
 - MAXIMUM 2 = NOT USED
 - STOP AND GO OPERATION FOR 24 HOURS PER DAY. FLASHING OPERATION FOR EMERGENCY ONLY.
 - DURING PEDESTRIAN INTERVAL, FDW THROUGH YELLOW OPERATION SHALL BE IN EFFECT.
 - INHIBIT MAX TERMINATION SHALL BE IN EFFECT DURING COORDINATION.

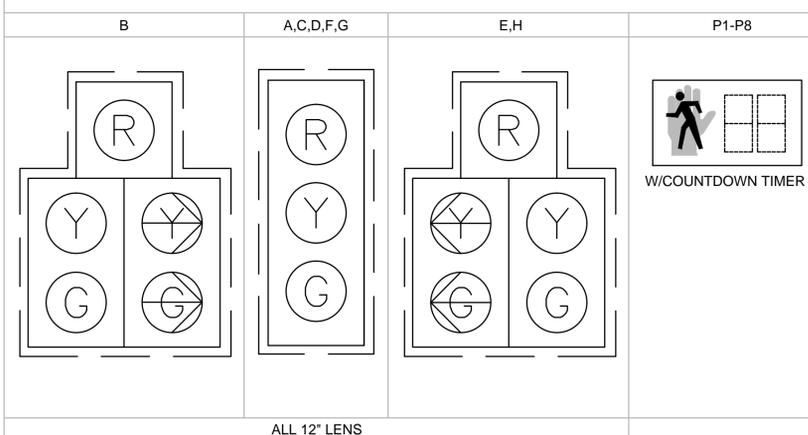
PRE-EMPTION PHASING & PRIORITY

| DETECTOR & PRIORITY | PRE-EMPT PHASE ASSIGNMENT | MOVEMENT | VEHICLE PHASE ASSIGNMENT |
|---------------------|---------------------------|----------|--------------------------|
| D1 | 1 | | ø2 |
| D2 | 2 | | ø6 |
| D3 | 3 | | ø3 |
| D4 | 4 | | ø4 |

EMERGENCY VEHICLE PRE-EMPTION OPERATION

- EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE OPTICALLY TRANSMITTED BY OPTICAL EMITTERS MOUNTED IN EMERGENCY VEHICLES AND RECEIVED BY OPTICAL DETECTORS LOCATED AT EACH INTERSECTION.
- PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH DETECTORS D1, D2, D3 OR D4 ASSIGNED DESCENDING PRIORITIES AS FOLLOWS: (D1 HIGHEST AND D4 LOWEST)
- IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY OPTICAL DETECTOR D1 (OR D2, D3, D4) THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD IN EMERGENCY VEHICLE PRE-EMPTION PHASE #1 (OR #2, #3, #4) GREEN FOR A MINIMUM OF TEN (10) SECONDS OR UNTIL PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCES FOR THE ASSOCIATED PHASE(S) AS SHOWN IN THE SEQUENCE AND TIMING CHART AND SERVICE SUBSEQUENT EMERGENCY VEHICLE PRE-EMPTION PHASES AS NECESSARY.
- MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
- PRE-EMPTION STROBE SHALL BE ILLUMINATED WHENEVER ANY EMERGENCY VEHICLE PRE-EMPTION GREEN IS ON.
- EMERGENCY VEHICLE PRE-EMPTION SHALL OVERRIDE COORDINATION.

SIGNAL HEAD DATA



- NOTES:**
- ALL SIGNAL HEADS SHALL BE RIGID MOUNTED.
 - ALL SIGNAL HEADS SHALL BE EQUIPPED WITH 5"± LOUVERED BACKPLATES WITH 3" RETROREFLECTIVE BORDER, AND TUNNEL VISORS.
 - ALL SIGNAL DISPLAYS SHALL BE EQUIPPED WITH L.E.D. MODULES.

LOOP DETECTOR DATA

| DETECTOR NO. | NO. SECTION/ SIZE | NO. OF TURNS | OPERATIONS | DELAY /EXT | CALL PHASE | LOOP CONNECTION |
|--------------|---------------------|--------------|------------|------------|------------|-----------------|
| 1a | 2-6'X20' QUADRUPOLE | 2-4-2 | PRESENCE | 0 | ø2 | SERIES |
| 1b | 1-4'X6' QUADRUPOLE | 2-4-2 | PRESENCE | 0 | ø2 | SINGLE |
| 2 | 2-6'X20' QUADRUPOLE | 2-4-2 | PRESENCE | 0 | ø2 | SERIES |
| 3 | 2-6'X20' QUADRUPOLE | 2-4-2 | PRESENCE | 0 | ø6 | SERIES |
| 4a | 2-6'X20' QUADRUPOLE | 2-4-2 | PRESENCE | 0 | ø6 | SERIES |
| 4b | 1-4'X6' QUADRUPOLE | 2-4-2 | PRESENCE | 0 | ø6 | SINGLE |
| 5 | 2-6'X20' QUADRUPOLE | 2-4-2 | PRESENCE | 0 | ø3 | SERIES |
| 6 | 2-6'X20' QUADRUPOLE | 2-4-2 | PRESENCE | 0 | ø4 | SERIES |

NOTE: DELAY AND EXTENSION TIMINGS SHALL BE PROGRAMMED IN THE CONTROLLER ONLY

SPENCER
MAIN STREET

| | | | |
|-------------------------|--------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MASS. | ---- | 19 | 34 |
| PROJECT FILE NO. 606207 | | | |

SIGN SUMMARY

TRAFFIC SIGN SUMMARY

| IDENTIFICATION NUMBER | SIZE OF SIGN | | TEXT | TEXT DIMENSIONS (INCHES) | | | NUMBER OF SIGNS REQUIRED | COLOR | | | POST SIZE AND NUMBER REQUIRED | UNIT AREA (S.F.) | AREA IN SQUARE FEET |
|-----------------------|--------------|--------|------|---|------------------|-----------------|--------------------------|-------------|-----------|--------|-------------------------------|------------------|---------------------|
| | WIDTH | HEIGHT | | LETTER HEIGHT | VERTICAL SPACING | ARROW RTE. MKR. | | BACK-GROUND | LEGEND | BORDER | | | |
| R1-1 | 30" | 30" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | | RED | WHITE | WHITE | | 5.18 | |
| R1-2 | 36" | 36" | | | | | | RED | RED/WHITE | WHITE | | 3.90 | |
| R3-2 | 24" | 24" | | | | | | WHITE | RED/BLACK | BLACK | | 4.00 | |
| R3-5L | 30" | 36" | | | | | | WHITE | BLACK | BLACK | | 7.50 | |
| R3-5V | 30" | 36" | | | | | | WHITE | BLACK | BLACK | | 7.50 | |
| R3-8L | 36" | 30" | | | | | | WHITE | BLACK | BLACK | | 7.50 | |
| R3-8R | 36" | 30" | | | | | | WHITE | BLACK | BLACK | | 7.50 | |
| R3-17 | 30" | 24" | | | | | | WHITE | BLACK | BLACK | | 5.00 | |
| R3-17a | 30" | 12" | | | | | | WHITE | BLACK | BLACK | | 2.50 | |
| R3-17b | 30" | 12" | | | | | | WHITE | BLACK | BLACK | | 2.50 | |
| R4-4 | 36" | 30" | | | | | | WHITE | BLACK | BLACK | | 7.50 | |
| R4-7 | 24" | 30" | | | | | | WHITE | BLACK | BLACK | | 5.00 | |
| R5-1 | 30" | 30" | | | | | | WHITE | RED/WHITE | - | | 6.25 | |
| R6-1 | 36" | 12" | | | | | | BLACK | WHITE | WHITE | | 3.00 | |
| R6-1R(POS) | 36" | 12" | | | | | | BLACK | WHITE | WHITE | | 3.00 | |
| R7-1D | 12" | 18" | | | | | | WHITE | RED | RED | | 1.50 | |
| R7-1L | 12" | 18" | | | | | | WHITE | RED | RED | | 1.50 | |
| R7-1R | 12" | 18" | | | | | | WHITE | RED | RED | | 1.50 | |
| R7-5D | 12" | 18" | | | | | | WHITE | RED | RED | | 1.50 | |

TRAFFIC SIGN SUMMARY (CONTINUED)

| IDENTIFICATION NUMBER | SIZE OF SIGN | | TEXT | TEXT DIMENSIONS (INCHES) | | | NUMBER OF SIGNS REQUIRED | COLOR | | | POST SIZE AND NUMBER REQUIRED | UNIT AREA (S.F.) | AREA IN SQUARE FEET |
|-----------------------|--------------|--------|------|---|------------------|-----------------|--------------------------|-------------|--------------------|--------|-------------------------------|--------------------------------------|---------------------|
| | WIDTH | HEIGHT | | LETTER HEIGHT | VERTICAL SPACING | ARROW RTE. MKR. | | BACK-GROUND | LEGEND | BORDER | | | |
| R7-5L | 12" | 18" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | | WHITE | RED | RED | | 1.50 | |
| R7-5R | 12" | 18" | | | | | | WHITE | RED | RED | | 1.50 | |
| R10-3e(L) | 9" | 15" | | | | | | WHITE | WHITE/BLACK/ORANGE | BLACK | | INCLUDED UNDER ITEMS 816.01 & 816.02 | |
| R10-3e(R) | 9" | 15" | | | | | | WHITE | WHITE/BLACK/ORANGE | BLACK | | INCLUDED UNDER ITEMS 816.01 & 816.02 | |
| R10-11b | 30" | 30" | | | | | | WHITE | BLACK | BLACK | | 6.25 | |
| R10-12a | 24" | 30" | | | | | | WHITE | BLACK/YELLOW | BLACK | | 5.00 | |
| R10-22 | 18" | 24" | | | | | | WHITE | BLACK | BLACK | | 3.00 | |
| H1-2 | 24" | 24" | | | | | | YELLOW | YELLOW CLUSTER | --- | | INCLUDED UNDER ITEM 827.21 | |
| W11-2 | 30" | 30" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | | YELLOW | BLACK | BLACK | | 6.25 | |
| W16-7p(L) | 24" | 12" | | | | | | YELLOW | BLACK | BLACK | | 2.00 | |
| W16-7p(R) | 24" | 12" | | | | | | YELLOW | BLACK | BLACK | | 2.00 | |
| W16-9p | 24" | 12" | | | | | | YELLOW | BLACK | BLACK | | 2.00 | |
| SP-1 | 9" | 12" | | 1" | 1.5" | | | YELLOW | BLACK | BLACK | | 0.75 | |
| | | | | 1" | 1" | | | | | | | | |
| | | | | 1" | 1" | | | | | | | | |
| | | | | 1" | 1" | | | | | | | | |
| | | | | 1" | 1.5" | | | | | | | | |

NOTES:
1. SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION" FOR TEXT DIMENSIONS, AS AMENDED; THE MASSDOT SIGN LISTINGS 1993 EDITION, AS AMENDED.

SPENCER
MAIN STREET

| | | | |
|-------|--------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MASS. | ---- | 20 | 34 |

PROJECT FILE NO. 606207

SIGN SUMMARY

TRAFFIC SIGN SUMMARY (CONTINUED)

| IDENTIFICATION NUMBER | SIZE OF SIGN | | TEXT | TEXT DIMENSIONS (INCHES) | | | NUMBER OF SIGNS REQUIRED | COLOR | | | POST SIZE AND NUMBER REQUIRED | UNIT AREA (S.F.) | AREA IN SQUARE FEET |
|-----------------------|--------------|--------|------|--------------------------|-----------------------|--------------------|--------------------------|-------------------------------|-------------------------------|---|-------------------------------|------------------|-------------------------|
| | WIDTH | HEIGHT | | LETTER HEIGHT | VERTICAL SPACING | ARROW RTE. MKR. | | BACK-GROUND | LEGEND | BORDER | | | |
| D3-1 | VARIES | 12" | | 6"/4.5" 3"/2.25" | 3" 3" | N/A | | GREEN | WHITE | WHITE | | | INCLUDED UNDER ITEM 874 |
| D3-2 | VARIES | 12" | | 6"/4.5" 3"/2.25" | 3" 3" | N/A | | GREEN | WHITE | WHITE | | | INCLUDED UNDER ITEM 874 |
| D3-3 | VARIES | 12" | | 6"/4.5" 3"/2.25" | 3" 3" | N/A | | GREEN | WHITE | WHITE | | | INCLUDED UNDER ITEM 874 |
| D3-4 | VARIES | 12" | | 6"/4.5" 3"/2.25" | 3" 3" | N/A | | GREEN | WHITE | WHITE | | | INCLUDED UNDER ITEM 874 |
| D3-5 | VARIES | 12" | | 6"/4.5" 3"/2.25" | 3" 3" | N/A | | GREEN | WHITE | WHITE | | | INCLUDED UNDER ITEM 874 |
| D3-6 | VARIES | 12" | | 6"/4.5" 3"/2.25" | 3" 3" | N/A | | GREEN | WHITE | WHITE | | | INCLUDED UNDER ITEM 874 |
| D3-7 | VARIES | 12" | | 6"/4.5" 3"/2.25" | 3" 3" | N/A | | GREEN | WHITE | WHITE | | | INCLUDED UNDER ITEM 874 |
| D3-8 | VARIES | 12" | | 6"/4.5" 3"/2.25" | 3" 3" | N/A | | GREEN | WHITE | WHITE | | | INCLUDED UNDER ITEM 874 |
| D6-1 | 60" | 60" | | 6C 6C | 4 4 4 4 6 | 18/7C/6C 8"x36" | | REFL. GREEN H/I M9.30.0 | REFL. WHITE H/I M9.30.0 | REFL. WHITE SILVER H/I M9.30.0 | | 25.00 | |
| D6-2 | 60" | 60" | | 6C 6C | 4 4 4 4 6 | 18/7C/6C 8"x36" | | REFL. GREEN H/I M9.30.0 | REFL. WHITE H/I M9.30.0 | REFL. WHITE SILVER H/I M9.30.0 | | 25.00 | |
| D6-3 | 60" | 66" | | 6C 6C | 3 3 3 3 6 | 18/7C/6C 8"x36" | | REFL. GREEN H/I M9.30.0 | REFL. WHITE H/I M9.30.0 | REFL. WHITE SILVER H/I M9.30.0 | | 27.50 | |
| D6-4 | 60" | 60" | | 6C 6C | 4 4 4 4 6 | 18/7C/6C 8"x36" | | REFL. GREEN H/I M9.30.0 | REFL. WHITE H/I M9.30.0 | REFL. WHITE SILVER H/I M9.30.0 | | 25.00 | |
| D6-5 | 60" | 66" | | 6C 6C | 3 3 3 3 6 | 18/7C/6C 8"x36" | | REFL. GREEN H/I M9.30.0 | REFL. WHITE H/I M9.30.0 | REFL. WHITE SILVER H/I M9.30.0 | | 27.50 | |
| D6-6 | 60" | 60" | | 6C 6C | 4 4 4 4 6 | 18/7C/6C 8"x36" | | REFL. GREEN H/I M9.30.0 | REFL. WHITE H/I M9.30.0 | REFL. WHITE SILVER H/I M9.30.0 | | 25.00 | |

TRAFFIC SIGN SUMMARY (CONTINUED)

| IDENTIFICATION NUMBER | SIZE OF SIGN | | TEXT | TEXT DIMENSIONS (INCHES) | | | NUMBER OF SIGNS REQUIRED | COLOR | | | POST SIZE AND NUMBER REQUIRED | UNIT AREA (S.F.) | AREA IN SQUARE FEET |
|-----------------------|--------------|--------|------|--------------------------|--------------------------|-----------------|--------------------------|-------------------------------|-------------------------------|---|-------------------------------|------------------|---------------------|
| | WIDTH | HEIGHT | | LETTER HEIGHT | VERTICAL SPACING | ARROW RTE. MKR. | | BACK-GROUND | LEGEND | BORDER | | | |
| D8-1 | 48" | 42" | | 6C 6C | 3.5 4.5 3.0 3.5 | 8"x18" | | REFL. GREEN H/I M9.30.0 | REFL. WHITE H/I M9.30.0 | REFL. WHITE SILVER H/I M9.30.0 | | 14.00 | |
| D8-2 | 48" | 36" | | 6C 6C | 4.0 4.0 4.0 4.0 | 8"x18" | | REFL. GREEN H/I M9.30.0 | REFL. WHITE H/I M9.30.0 | REFL. WHITE SILVER H/I M9.30.0 | | 12.00 | |
| D8-3 | 48" | 42" | | 6C 6C | 3.0 2.0 2.0 3.0 | 8"x18" | | REFL. GREEN H/I M9.30.0 | REFL. WHITE H/I M9.30.0 | REFL. WHITE SILVER H/I M9.30.0 | | 14.00 | |
| D8-4 | 48" | 30" | | 6C | 6.5 3.0 6.5 | 8"x18" | | REFL. GREEN H/I M9.30.0 | REFL. WHITE H/I M9.30.0 | REFL. WHITE SILVER H/I M9.30.0 | | 10.00 | |
| D8-5 | 48" | 42" | | 6C 6C | 3.0 2.0 2.0 3.0 | 8"x18" | | REFL. GREEN H/I M9.30.0 | REFL. WHITE H/I M9.30.0 | REFL. WHITE SILVER H/I M9.30.0 | | 12.00 | |
| D8-6 | 48" | 42" | | 6C 6C | 3.5 4.5 3.0 3.5 | 8"x18" | | REFL. GREEN H/I M9.30.0 | REFL. WHITE H/I M9.30.0 | REFL. WHITE SILVER H/I M9.30.0 | | 14.00 | |

NOTES:

- SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION" FOR TEXT DIMENSIONS, AS AMENDED; THE MASSDOT SIGN LISTINGS 1993 EDITION, AS AMENDED.

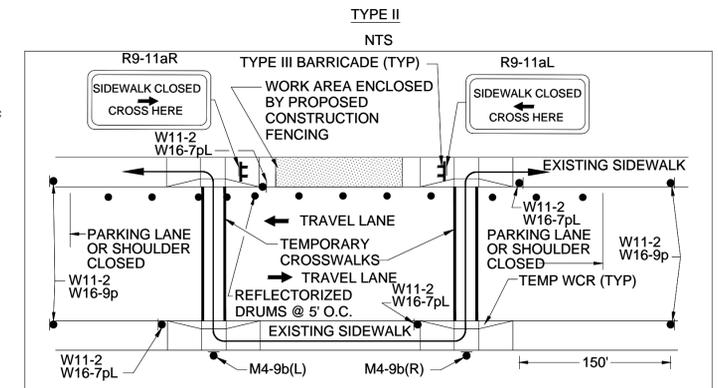
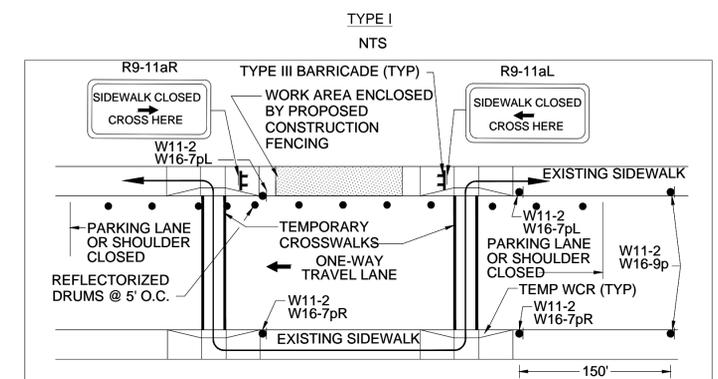
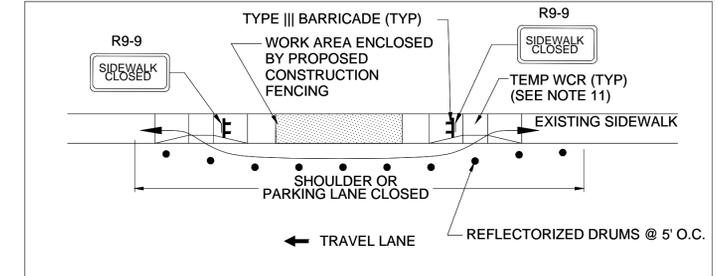
**SPENCER
MAIN STREET**

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|-------------------------|--------------------|-----------|--------------|
| MA | ---- | 21 | 34 |
| PROJECT FILE NO. 606207 | | | |

TEMPORARY TRAFFIC CONTROL PLANS

PEDESTRIAN BYPASS

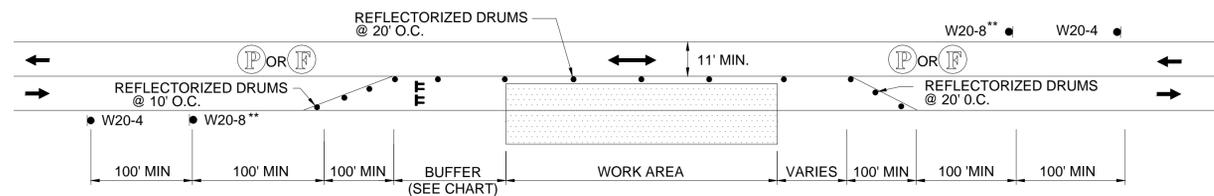
TO BE USED IN CONJUNCTION WITH THE PROPOSED LANE CLOSURE DETAILS AND DURING CONSTRUCTION STAGING AND AS DIRECTED BY THE ENGINEER.



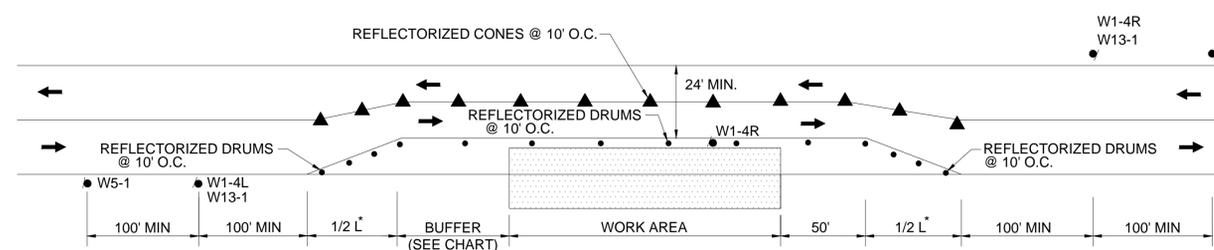
- NOTES:**
- ADDITIONAL ADVANCE WARNING SIGNS MAY BE NECESSARY AS DETERMINED BY THE ENGINEER.
 - CONTROLS FOR PEDESTRIAN TRAFFIC ONLY, ARE SHOWN. VEHICULAR TRAFFIC SHALL BE MAINTAINED AS SHOWN ELSEWHERE.
 - STREET LIGHTING SHOULD BE CONSIDERED WHEN LOCATING CONTROL DEVICES.
 - INDICATES DIRECTION OF PEDESTRIAN TRAVEL.
 - IF THE WORK ZONE DOES NOT PERMIT PEDESTRIANS TO TRAVEL ADJACENT TO IT AS SHOWN IN PEDESTRIAN BYPASS TYPE I, TEMPORARY CROSSWALKS WITH APPROPRIATE SIGNS SHALL BE INSTALLED TO CROSS PEDESTRIANS TO THE OPPOSITE SIDE OF THE STREET AS SHOWN IN PEDESTRIAN BYPASS TYPE II AND TYPE III, AND AS DIRECTED BY THE ENGINEER.
 - PROPOSED TEMPORARY CROSSWALKS SHALL BE 12" WIDE SURFACE APPLIED TAPE OR REFLECTORIZED PAINT AS DIRECTED BY THE ENGINEER.
 - ALL TEMPORARY PEDESTRIAN PATHWAYS SHALL COMPLY FULLY WITH ALL REQUIREMENTS OF THE MUTCD AND ALL APPLICABLE MAAB AND ADAAG REQUIREMENTS.
 - CONTRACTOR SHALL MAINTAIN AS WIDE OF A PEDESTRIAN ACCESS AS POSSIBLE AT ALL TIMES. EXCEPT WHERE NECESSARY, THE CONTRACTOR MAY TEMPORARILY REDUCE PEDESTRIAN PATHWAYS TO 4 FEET IN WIDTH (EXCLUDING CURB) FOR NO MORE THAN 200 LINEAR FEET AT A TIME IN ACCORDANCE WITH ALL STANDARDS.
 - TEMPORARY WHEELCHAIR RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH MASSDOT, MAAB, AND ADAAG REQUIREMENTS.
 - W16-7pR OR W16-7pL SIGNS SHALL BE USED IN COMBINATION WITH W11-2 SIGNS AS DIRECTED BY THE ENGINEER.
 - EXISTING WHEELCHAIR RAMPS (WCR) MAY BE USED IN LIEU OF TEMPORARY WHEELCHAIR RAMPS FOR TEMPORARY DETOURS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

OPERATIONAL SIGNING

LANE CLOSURES SHOWN ARE FOR TEMPORARY CONSTRUCTION. ALL DRUMS AND SIGNS ARE SHOWN AS THEY SHOULD APPEAR DURING THE WORKING DAY, OR WHILE OPERATING IN THE WORK ZONE.



TYPICAL TWO WAY STREET LANE CLOSURE
NOT TO SCALE

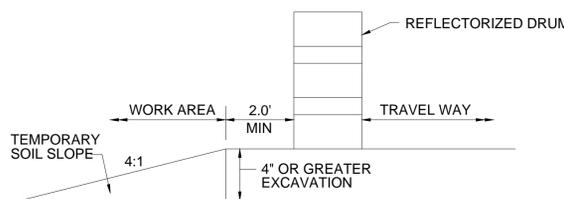


TYPICAL TWO WAY STREET LANE SHIFT
NOT TO SCALE

LEGEND

- REFLECTORIZED DRUM
- ▲ REFLECTORIZED CONE
- Ⓟ OR Ⓡ POLICE OFFICER/FLAGGER
- Ⓜ TEMPORARY TRAFFIC CONTROL SIGN
- ▬ TEMPORARY IMPACT ATTENUATOR
- ⊠ MOVEABLE IMPACT ATTENUATOR
- ▬ TEMPORARY CONCRETE BARRIER
- ▬ TYPE III BARRICADES
- ▬ WORK ZONE
- ▬ PROPOSED TRAFFIC FLOW
- ▬ ARROW BOARD (MODE)
- NTS NOT TO SCALE

NOTE: THIS DETAIL SHOWS A RIGHT LANE CLOSURE DETAIL. THIS DETAIL CAN ALSO BE USED FOR LEFT LANE CLOSURES, WITH THE SIGN AND DEVICE PLACEMENT REVERSED AS APPROPRIATE.



ROADWAY SLOPE PROTECTION
NOT TO SCALE

FOR POSTED SPEEDS GREATER THAN 40 MPH

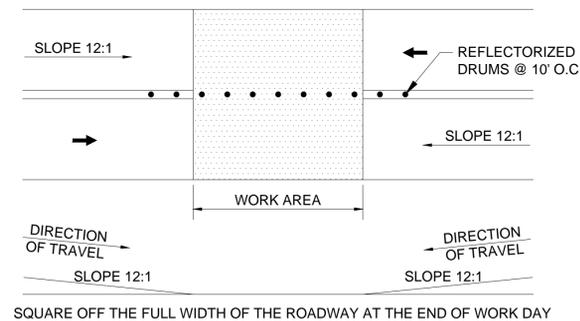
$L = W \times S$
L=TAPER LENGTH
W=WIDTH OF ROADWAY TO BE SHIFTED OR REDIRECTED
S=POSTED SPEED LIMIT

FOR POSTED SPEEDS OF 40 MPH OR LESS

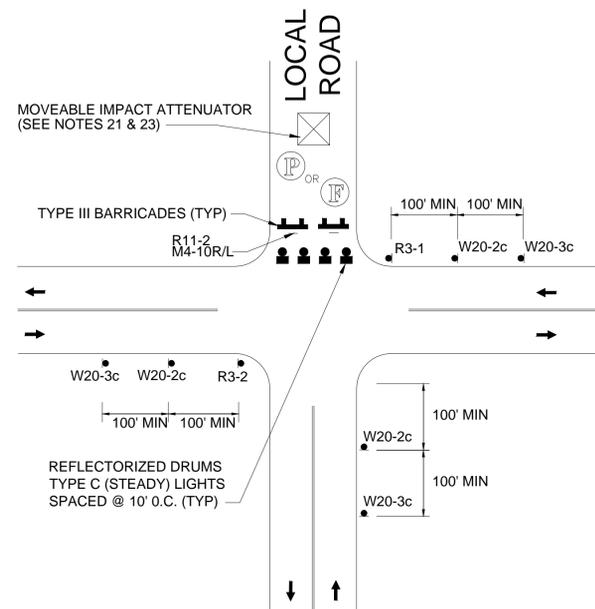
$L = \frac{WS^2}{60}$
L=TAPER LENGTH
W=WIDTH OF ROADWAY TO BE SHIFTED OR REDIRECTED
S=POSTED SPEED LIMIT

BUFFER SPACING

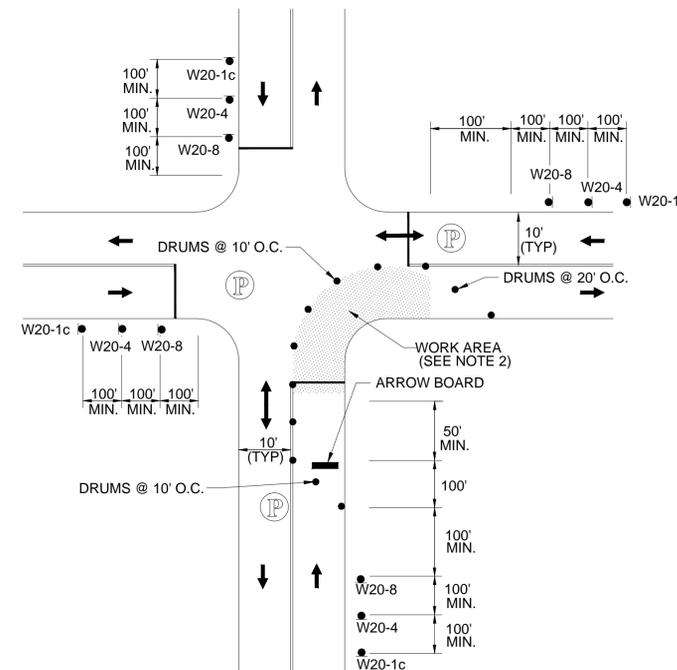
| SPEED (MPH) | DISTANCE (FEET) |
|-------------|-----------------|
| 15 | 80 |
| 20 | 115 |
| 25 | 155 |
| 30 | 200 |
| 35 | 250 |
| 40 | 305 |
| 45 | 360 |
| 50 | 425 |
| 55 | 495 |
| 60 | 570 |
| 65 | 645 |



TEMPORARY PAVEMENT TRANSITION DETAIL
NOT TO SCALE



TYPICAL LOCAL ROAD CLOSURE
NOT TO SCALE



ONE LANE BI-DIRECTIONAL TRAFFIC AT INTERSECTIONS
NOT TO SCALE

- NOTE:**
- ADVANCE WARNING SIGN PLACEMENT TO BE ADJUSTED AS NECESSARY
 - ANY EXCAVATION GREATER THAN 3' DEEP ADJACENT TO TRAFFIC SHALL BE PROTECTED BY TEMPORARY CONCRETE BARRIER

TEMPORARY TRAFFIC CONTROL PLAN GENERAL NOTES

- ALL CONSTRUCTION SIGNING, TEMPORARY TRAFFIC CONTROL DEVICES, AND ROADSIDE ELEMENTS SHALL CONFORM WITH THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS AMENDED, THE LATEST REVISIONS OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, (AASHTO) ROADSIDE DESIGN GUIDE, AASHTO POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, AND NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 350 OR THE AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
- ALL TEMPORARY PEDESTRIAN PATHWAYS SHALL COMPLY FULLY WITH ALL REQUIREMENTS OF THE MUTCD AND ALL APPLICABLE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (MAAB) AND AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG) REQUIREMENTS.
- THE FIRST FIVE REFLECTORIZED DRUMS IN A TAPER SHALL HAVE TYPE A FLASHING LIGHTS.
- ALL DRUMS SHALL BE APPROXIMATELY 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 WORKING HOURS, TO MAINTAIN SUCH ACCESS.
- THE CONTRACTOR SHALL NOTIFY EACH ABUTTOR AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS CONDUIT INSTALLATION, EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PLACEMENT AND SIMILAR OPERATIONS.
- FOR RESTORATIVE WORK ON LOCAL ROADWAYS, A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION ON TWO WAY STREETS SHALL BE MAINTAINED AT ALL TIMES, EXCEPT THAT DURING WORKING HOURS, TRAFFIC MAY BE REDUCED TO ONE LANE UNDER POLICE CONTROL FOR SHORT TIME PERIODS WHEN REQUIRED FOR THE WORK, AS SHOWN UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- GRADE SEPARATIONS IN EXCESS OF 2" 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 COMPACTED GRAVEL BORROW AT A 4:1 SLOPE PER THE DETAIL SHOWN. EXCAVATIONS IN EXCESS OF 2 FEET SHOULD BE PROTECTED BY A MASSDOT APPROVED TEMPORARY CONCRETE BARRIER WITH A MINIMUM LEVEL LATERAL OFFSET OF 3 FEET FROM THE EDGE OF EXCAVATION. BARRIER PLACED WITH LESS THAN THE RECOMMENDED LATERAL OFFSET TO THE EDGE OF EXCAVATION SHALL BE ANCHORED/RESTRAINED TO PREVENT LATERAL MOVEMENT WHEN STRUCK BY ERRANT VEHICLES TRAVELING AT THE POSTED SPEED.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY IMPACT ATTENUATORS TO PROTECT ALL BLUNT-ENDS OF TEMPORARY CONCRETE BARRIER OR AS REQUIRED ON THE TRAFFIC MANAGEMENT PLANS. TEMPORARY IMPACT ATTENUATORS SHALL BE DESIGNED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO THE START OF WORK. ALL TEMPORARY IMPACT ATTENUATORS SHALL BE DESIGNED FOR TEST LEVEL 2 (TL-2) ON ALL ROADWAYS HAVING A POSTED SPEED LESS THAN 45MPH AND TEST LEVEL 3 (TL-3) ON ROADWAYS HAVING A POSTED SPEED IN EXCESS OF 45MPH.
- 10' MINIMUM LANE WIDTHS SHALL BE MAINTAINED.
- NON-ESSENTIAL 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.
- SIGNS INSTALLED ON PORTABLE STANDS REQUIRE 12 INCH MINIMUM MOUNTING HEIGHT FROM THE ROADWAY SURFACE TO THE BOTTOM OF THE SIGN.
- SIGNS INSTALLED ON PORTABLE STANDS PLACED AMONG CHANNELIZATION DEVICES REQUIRE A 36 INCH MINIMUM MOUNTING HEIGHT FROM THE ROADWAY SURFACE TO THE BOTTOM OF THE SIGN.
- SIGNS MOUNTED ON POSTS REQUIRE A MINIMUM 84 INCH MOUNTING HEIGHT FROM THE ROADWAY OR SIDEWALK SURFACE TO THE BOTTOM OF THE SIGN.
- W20-8 SIGNS SHALL BE REPLACED BY W20-7a SIGNS WHEN FLAGGERS ARE USED IN LIEU OF POLICE OFFICER DETAILS.
- SPECIAL LIGHTING UNITS (SLU) SHALL BE REQUIRED FOR ALL NIGHT TIME CONSTRUCTION OPERATIONS ONLY IN ACCORDANCE WITH THE MUTCD OR AS REQUESTED BY THE ENGINEER.
- IF TEMPORARY MARKINGS ARE PAINT IT SHALL BE WATER-BORNE PAINT.
- REFLECTORIZED CONES SHALL BE A MINIMUM OF 36 INCHES IN HEIGHT.
- CONES MAY BE USED IN LIEU OF DRUMS OUTSIDE OF TAPER AREAS.
- PROVIDE CLEAR ZONES AROUND MOVEABLE IMPACT ATTENUATOR DEVICES AS REQUIRED BY THE THE MANUFACTURER.
- W20-8a SIGNS SHALL BE INSTALLED IN ADVANCE (100' MIN) OF AREAS WHERE UTILITY CASTINGS HAVE BEEN RAISED IN ADVANCE OF PAVING OPERATIONS OR AS REQUESTED BY THE ENGINEER.
- W8-15 SIGNS SHALL BE INSTALLED IN ADVANCE (100' MIN) OF PAVEMENT MILLING AREAS OR AS REQUESTED BY THE ENGINEER.
- ALL TEMPORARY CROSSWALKS AND STOPLINES SHALL BE 8 INCH PAINT.
- ALL TEMPORARY DOUBLE YELLOW CENTER LINES (DYCL) SHALL BE 4 INCH PAINT.

SPENCER MAIN STREET

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|--------------------|-----------|--------------|
| MA | ---- | 22 | 34 |
| PROJECT FILE NO. | | 606207 | |

TEMPORARY TRAFFIC CONTROL PLANS

TEMPORARY TRAFFIC CONTROL SIGNS

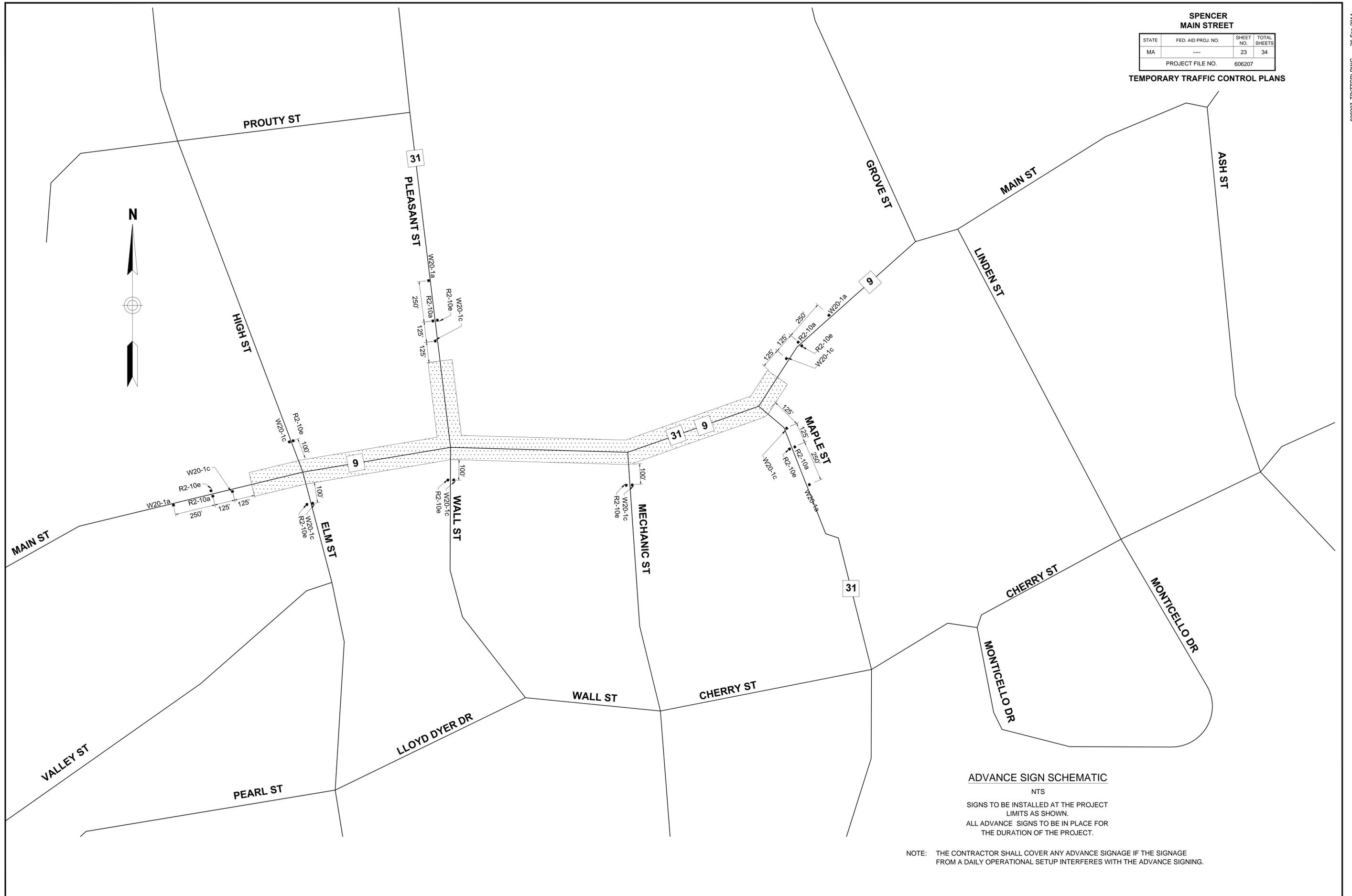
| IDENTIFICATION NUMBER | SIZE OF SIGN | | TEXT | COLOR | | |
|-----------------------|--------------|--------|------|------------------------------|----------------|----------------|
| | WIDTH | HEIGHT | | BACK-GROUND | LEGEND | BORDER |
| M4-9L | 24" | 30" | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| M4-9R | 24" | 30" | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| R2-10a | 36" | 48" | | WHITE | BLACK | BLACK |
| R2-10e | 24" | 48" | | FLUOR-ESCENT ORANGE WHITE | BLACK BLACK | BLACK BLACK |
| R3-1 | 30" | 30" | | WHITE | RED/ BLACK | BLACK |
| R3-2 | 30" | 30" | | WHITE | RED/ BLACK | BLACK |
| R9-9 | 18" | 30" | | WHITE | BLACK | BLACK |
| R9-11L | 24" | 48" | | WHITE | BLACK | BLACK |
| R9-11R | 24" | 48" | | WHITE | BLACK | BLACK |
| W1-4R | 30" | 30" | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| W1-4L | 30" | 30" | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| W3-4 | 36" | 36" | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| W5-1 | 36" | 36" | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| W8-15 | 48" | 48" | | FLUOR-ESCENT ORANGE | BLACK | BLACK |

| IDENTIFICATION NUMBER | SIZE OF SIGN | | TEXT | COLOR | | |
|-----------------------|--------------|--------|------|---------------------|--------|--------|
| | WIDTH | HEIGHT | | BACK-GROUND | LEGEND | BORDER |
| W11-2 | 30" | 30" | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| W13-1(XX) | 36" | 36" | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| W16-7pL | 12" | 24" | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| W16-7pR | 12" | 24" | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| W16-9p | 12" | 24" | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| W20-1a | 36" | 36" | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| W20-1b | 36" | 36" | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| W20-1c | 36" | 36" | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| W20-2c | 36" | 36" | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| W20-3c | 36" | 36" | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| W20-4 | 36" | 36" | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| W20-7a | 36" | 36" | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| W20-8 | 36" | 36" | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| W20-8a | 36" | 36" | | FLUOR-ESCENT ORANGE | BLACK | BLACK |

**SPENCER
MAIN STREET**

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|--------------------|-----------|--------------|
| MA | ---- | 23 | 34 |
| PROJECT FILE NO. | | 606207 | |

TEMPORARY TRAFFIC CONTROL PLANS



ADVANCE SIGN SCHEMATIC

NTS

SIGNS TO BE INSTALLED AT THE PROJECT LIMITS AS SHOWN.
ALL ADVANCE SIGNS TO BE IN PLACE FOR THE DURATION OF THE PROJECT.

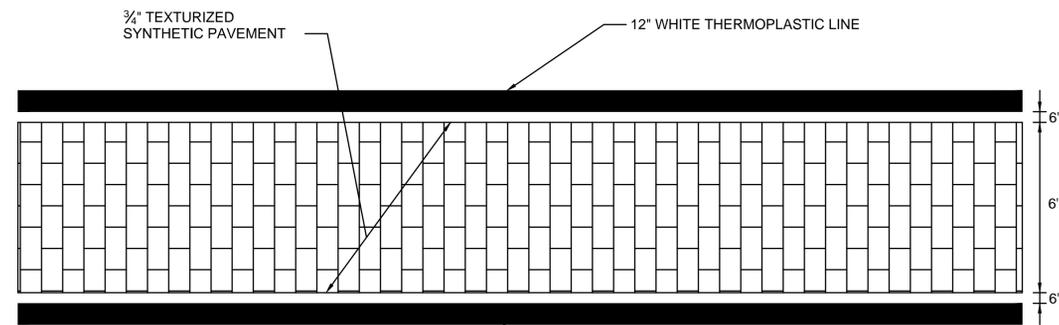
NOTE: THE CONTRACTOR SHALL COVER ANY ADVANCE SIGNAGE IF THE SIGNAGE FROM A DAILY OPERATIONAL SETUP INTERFERES WITH THE ADVANCE SIGNING.

SPENCER
MAIN STREET

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|-------------------------|--------------------|-----------|--------------|
| MASS. | ---- | 24 | 34 |
| PROJECT FILE NO. 606207 | | | |

CONSTRUCTION DETAILS

606207_H(D)DET.DWG 26-Sep-2014

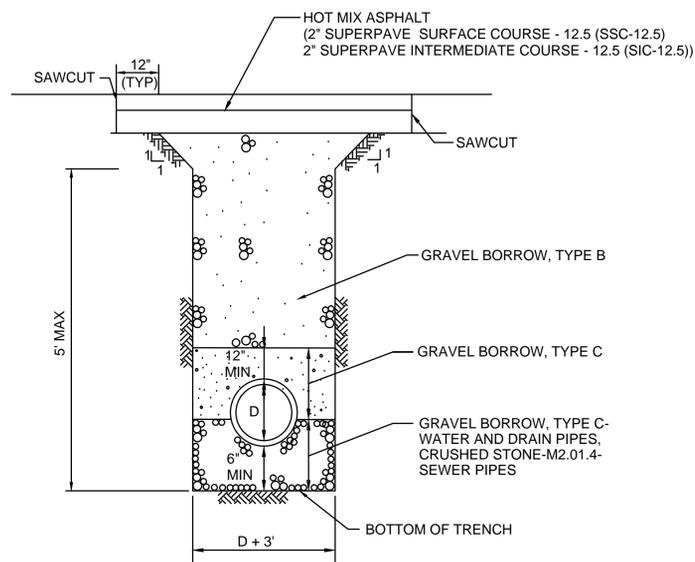


NOTES:

1. FINAL PAVED SURFACE TO BE MILLED TO A DEPTH OF 3/4".
2. THE TEXTURIZED SYNTHETIC PAVEMENT SHALL BE A 3/4" HOT-APPLIED RESIN BASED COMPOUND WITH BRICK RED COLOR THROUGHOUT.

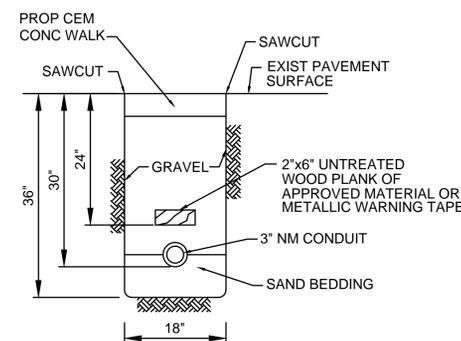
**TEXTURIZED SYNTHETIC PAVEMENT
AT CROSSWALKS**

SCALE: NOT TO SCALE
DATE: APRIL 2003
DWG: CURB-09



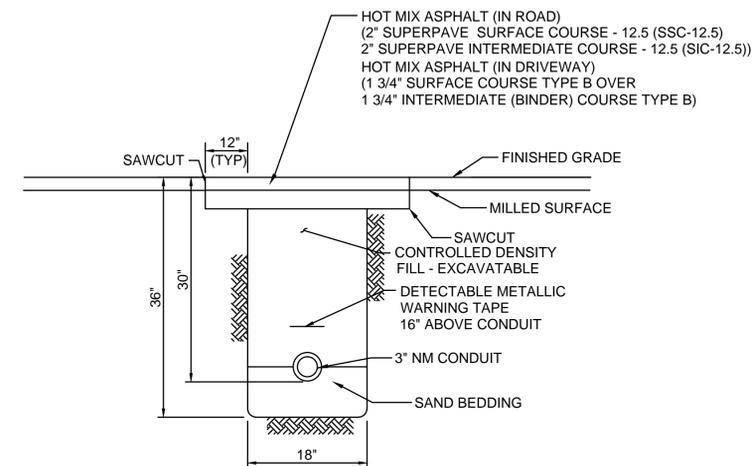
TRENCH DETAIL

SCALE: NOT TO SCALE
DATE: -
DWG: TRENCH-05



CONDUIT IN SIDEWALK

SCALE: NOT TO SCALE
DATE: -
DWG: TRENCH-03



**CONDUIT CROSSING
ROADWAY/DRIVEWAY**

SCALE: NOT TO SCALE
DATE: APRIL 2003
DWG: TRENCH-01

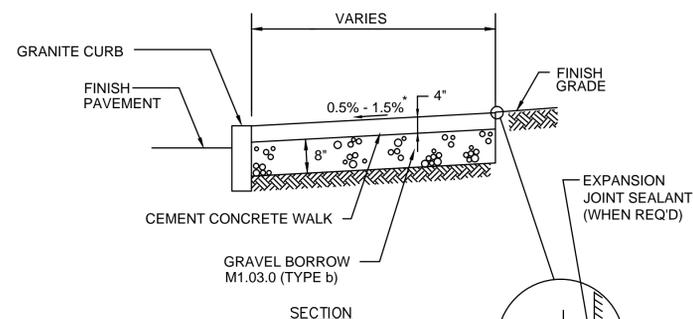
SPENCER
MAIN STREET

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|-------|--------------------|-----------|--------------|
| MASS. | ---- | 25 | 34 |

PROJECT FILE NO. 606207

CONSTRUCTION DETAILS

606207_HD(DET).DWG 26-Sep-2014



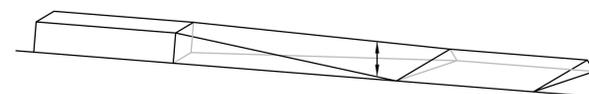
- NOTES:
1. PROVIDE EXPANSION JOINTS AT MIN 30' O.C. WITH PRE-MOULDED JOINT FILLER
 2. PROVIDE TOOLED DUMMY JOINTS PER DETAIL
 3. PROVIDE BROOM FINISH IN DIRECTION PERPENDICULAR TO CURB

CONCRETE SIDEWALK
1/2" PREFORMED EXPANSION JOINT FILLER
BUILDING FACE OR FIXED OBJECT

* 0.5% CONSTRUCTION TOLERANCE

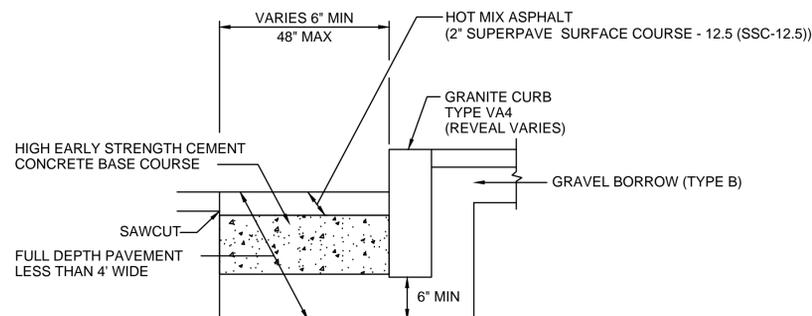
CEMENT CONCRETE SIDEWALK

SCALE: NOT TO SCALE
DATE: APRIL 2003
DWG: WALK-01



HOT MIX ASPHALT BERM TRANSITION TO GRANITE

SCALE: NOT TO SCALE
DATE: JAN. 2013
DWG: CURB-11

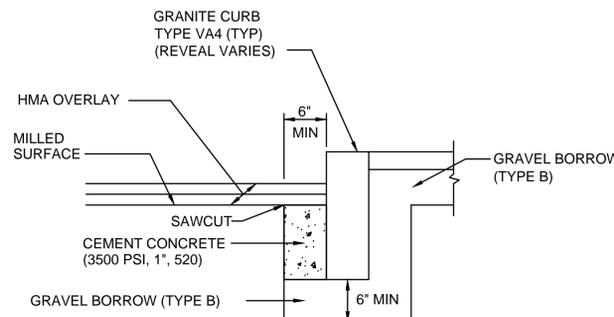


NOTES:

1. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS MAY BE USED. ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT BE USED AS A SUBSTITUTE.

GRANITE CURB IN FULL DEPTH PAVEMENT LESS THAN 4' WIDE

SCALE: NOT TO SCALE
DATE: APRIL 2003
DWG: CURB-06

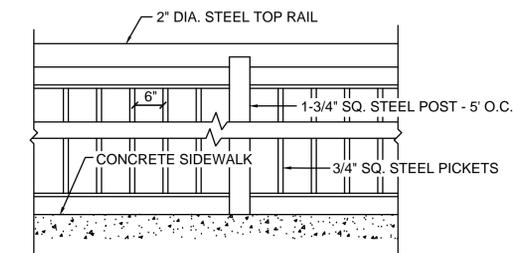


NOTES:

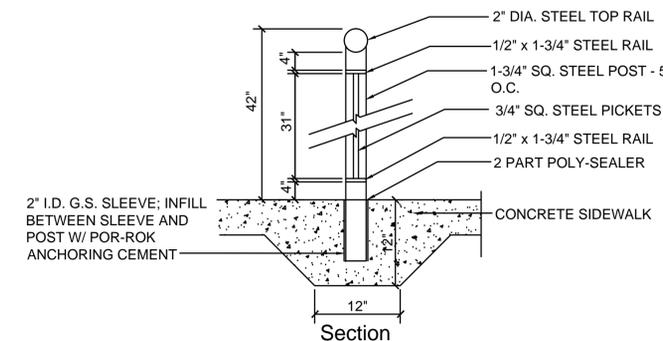
1. SAWCUT 6" FROM CURB LINE AND REMOVE EXISTING PAVEMENT AND GRAVEL. REPLACE WITH CEMENT CONCRETE.
2. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS MAY BE USED. ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT BE USED AS A SUBSTITUTE.

GRANITE CURB IN PAVEMENT MILLING AND OVERLAY

SCALE: NOT TO SCALE
DATE: APRIL 2003
DWG: CURB-04



Elevation



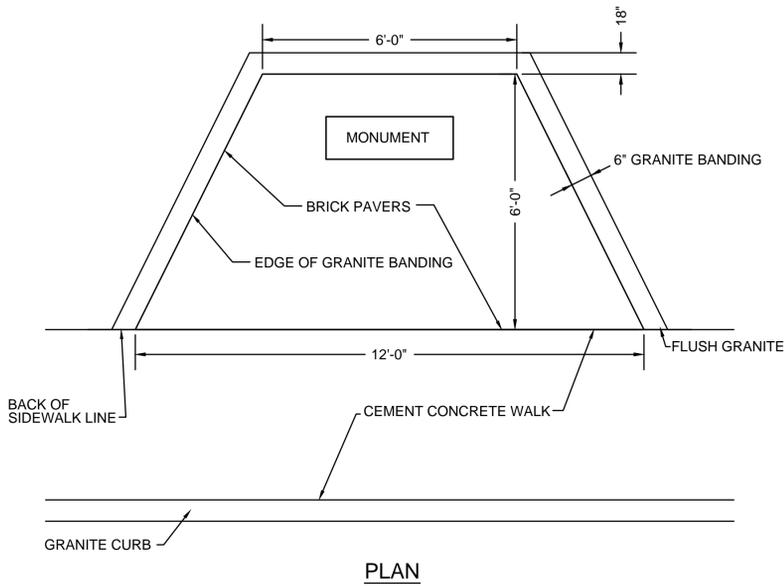
Section

Notes:

1. ALL RAILS TO BE WELDED STEEL CONSTRUCTION.
2. ALL RAILS TO BE CLEANED, PRIMED AND RECEIVE 2 COATS POWDER COAT PAINT. PAINT AND COLOR TO BE APPROVED BY THE ENGINEER.
3. CONTRACTOR TO TOUCH UP ANY MINOR BLEMISHES UPON COMPLETION AND INSTALLATION.

METAL RAILING ON SIDEWALK

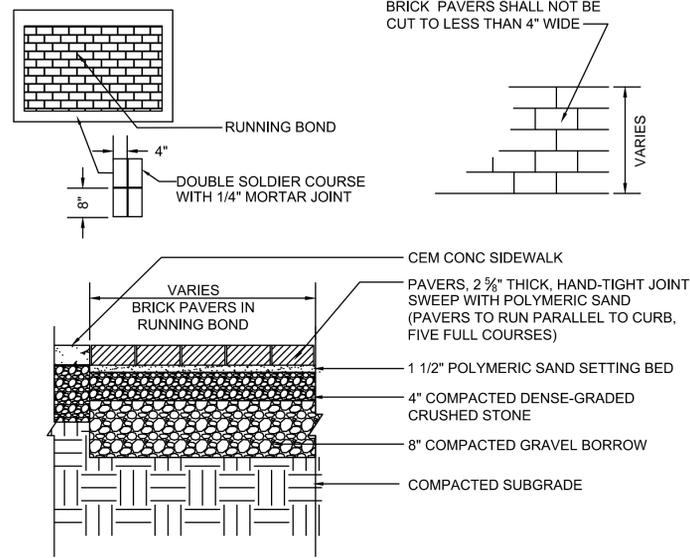
SCALE: NOT TO SCALE
DATE: --
DWG: --



PLAN

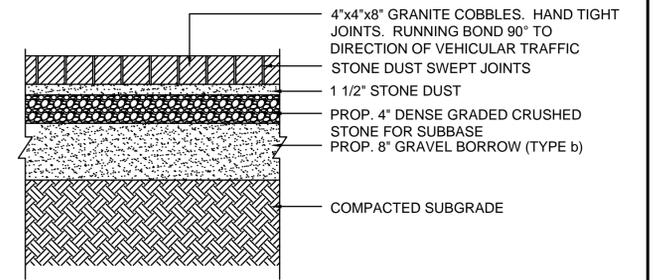
**MONUMENT PLAZA WITH GRANITE BANDING
STA. 105+51 LT AND STA. 107+00 LT**

SCALE:
DATE:
DWG:



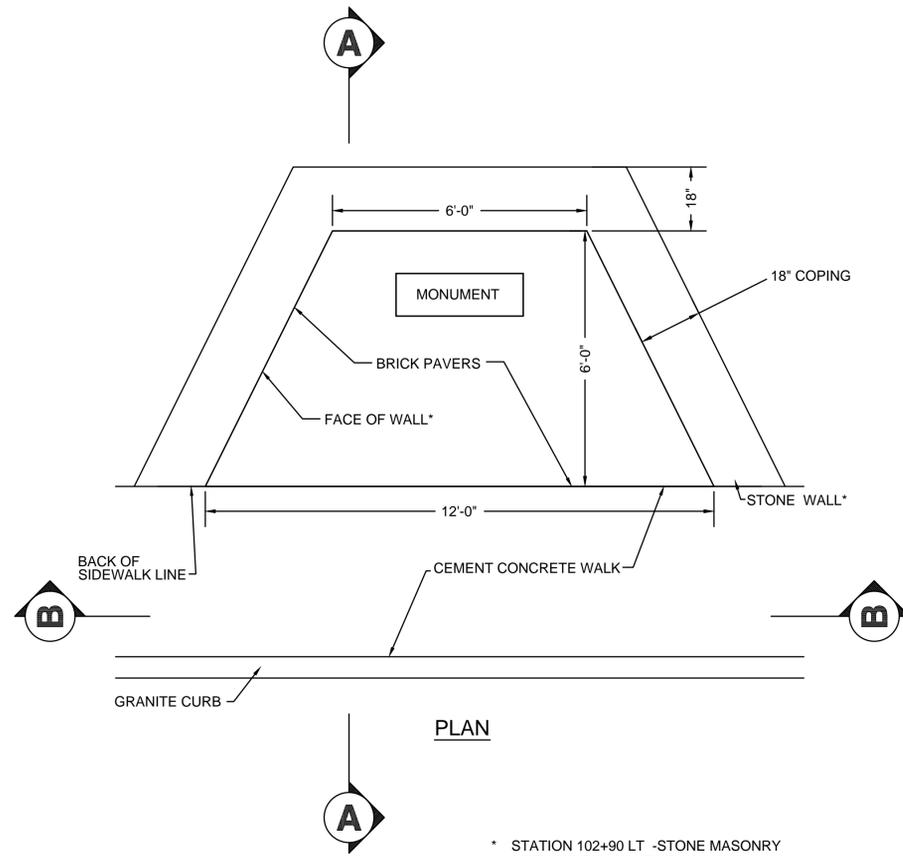
**BRICK PAVERS
AT MONUMENT LOCATIONS**

SCALE:
DATE:
DWG:



**FLUSH GRANITE BANDING
AT MONUMENT LOCATIONS**

SCALE:
DATE:
DWG:



PLAN

* STATION 102+90 LT -STONE MASONRY
RETAINING WALL STD E. 302.2.0

**MONUMENT PLAZA WITH STONE WALL
STA. 102+90**

SCALE:
DATE:
DWG:

| SPENCER MAIN STREET | | | |
|-------------------------|--------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MASS. | ---- | 26 | 34 |
| PROJECT FILE NO. 606207 | | | |

CONSTRUCTION DETAILS

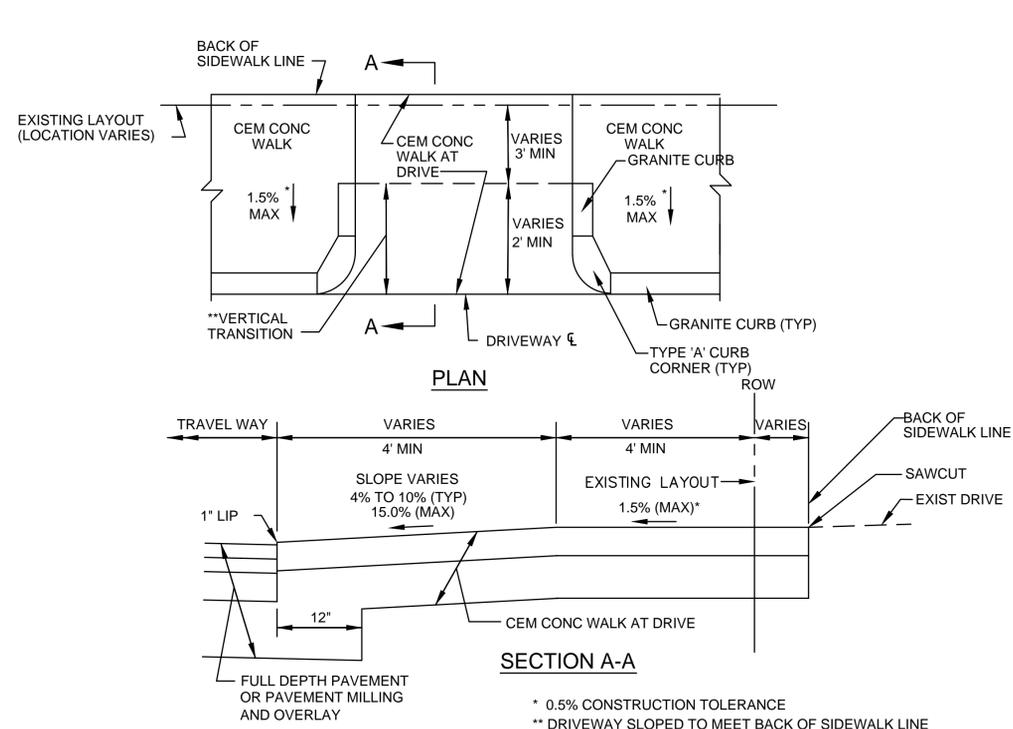
SPENCER
MAIN STREET

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|-------|--------------------|-----------|--------------|
| MASS. | ---- | 27 | 34 |

PROJECT FILE NO. 606207

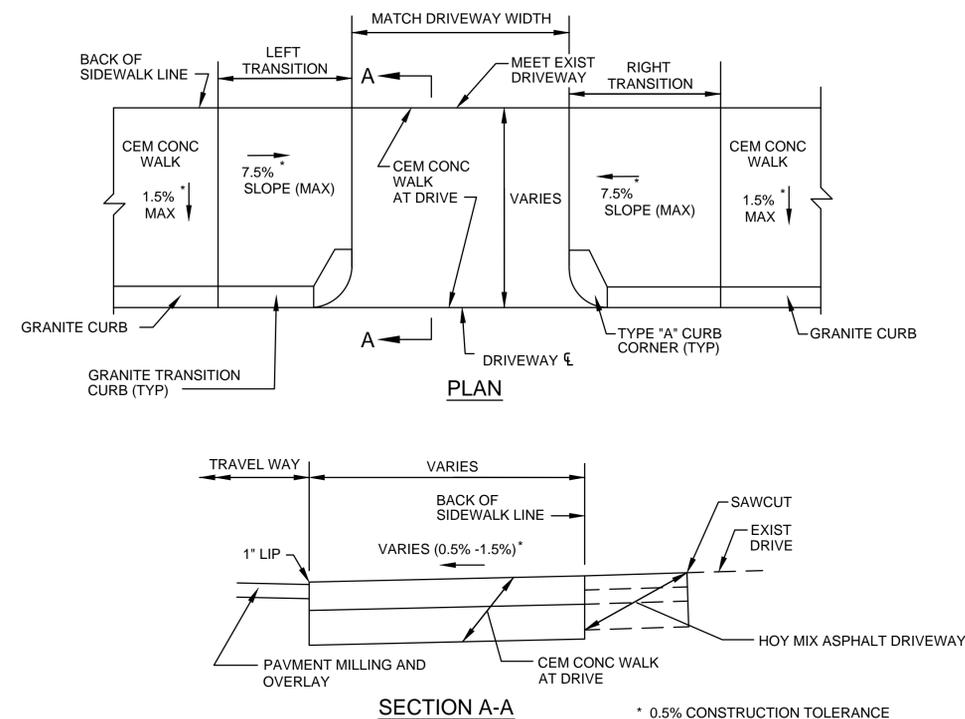
CONSTRUCTION DETAILS

26-Sep-2014 606207_H01(DET).DWG



**TYPICAL CEMENT CONCRETE WALK
AT DRIVE WITH CURB CORNERS**

SCALE: NOT TO SCALE
DATE: APRIL 2003
DWG: DRIVE-06



**TYPICAL CEMENT CONCRETE WALK
AT DRIVE WITH RAMPS**

SCALE: NOT TO SCALE
DATE: APRIL 2003
DWG:

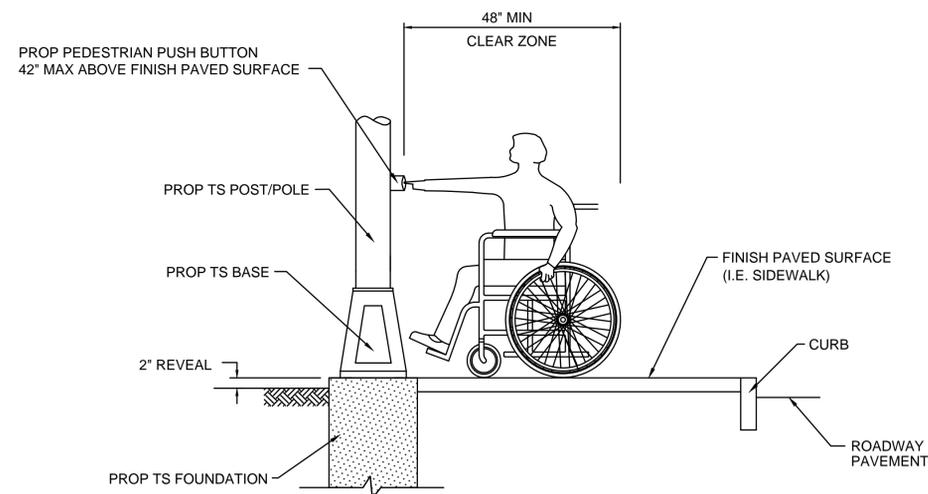
SPENCER
MAIN STREET

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|-------|--------------------|-----------|--------------|
| MASS. | ---- | 28 | 34 |

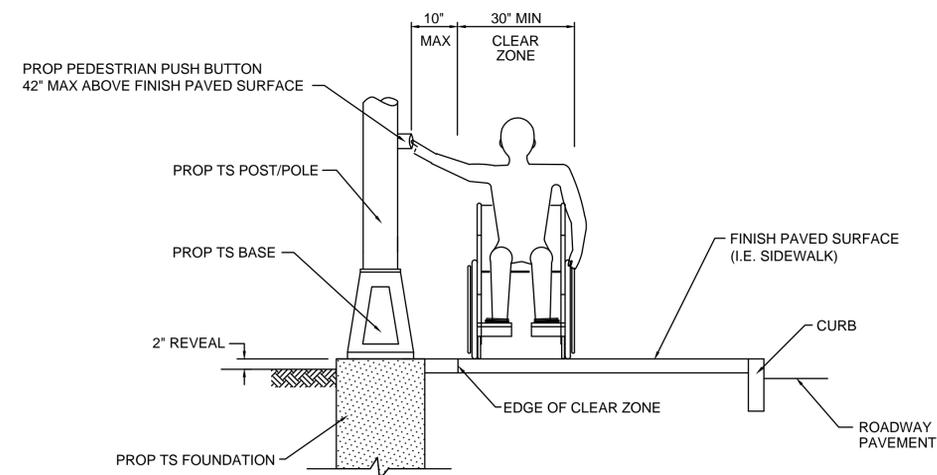
PROJECT FILE NO. 606207

CONSTRUCTION DETAILS

26-Sep-2014
606207_H01(01).DWG



FORWARD APPROACH (FORWARD REACH)



PARALLEL APPROACH (SIDE REACH)

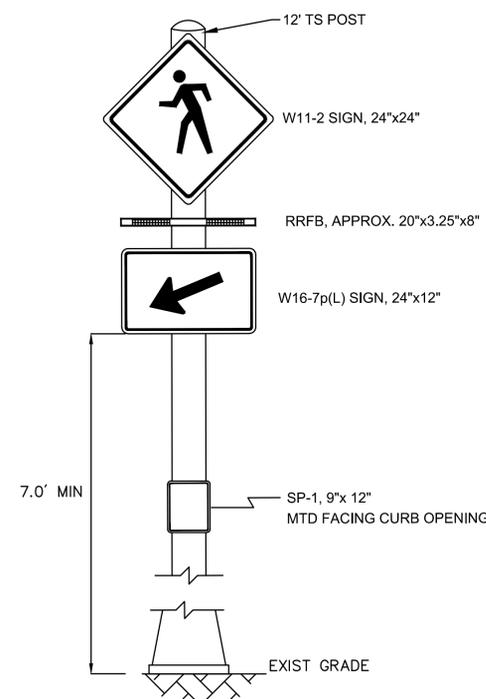
NOTE 1: A CLEAR GROUND SPACE SHALL CONSIST OF A STABLE AND FIRM AREA, COMPLYING WITH 521 CMR 6.5 (FORWARD REACH) OR 521 CMR 6.6 (SIDE REACH) AND SHALL BE PROVIDED AT EACH OF THE PEDESTRIAN PUSH BUTTONS.
 a) WHERE A FORWARD APPROACH IS PROVIDED, PEDESTRIAN PUSH BUTTONS SHALL ABUT AND BE CENTERED ON THE CLEAR GROUND SPACE.
 b) WHERE A PARALLEL APPROACH IS PROVIDED, PEDESTRIAN PUSH BUTTONS SHALL BE WITHIN TEN INCHES (10') HORIZONTALLY OF AND CENTERED ON THE CLEAR GROUND SPACE.

**PEDESTRIAN PUSH BUTTON
CLEAR ZONE**

SCALE: NOT TO SCALE

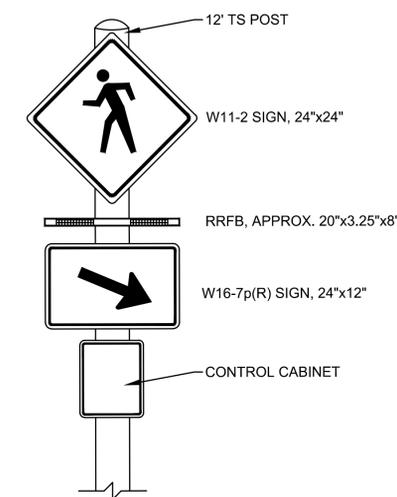
DATE:

DWG:



FRONT VIEW (FACING ON-COMING TRAFFIC)

NOT TO SCALE



BACK VIEW

NOT TO SCALE

NOTE S: 1. RECTANGULAR RAPID FLASHING BEACON (RRFB) SHALL WIG-WAG FLASH WHEN ACTIVATED BY PASSIVE PEDESTRIAN DETECTION.
 2. DURATION OF RRFB UPON RECEIPT OF VALID PEDESTRIAN ACTUATION SHALL BE INITIALLY SET FOR 15 SECONDS.
 3. THE SYSTEM SHALL BE CAPABLE OF PROVIDING A FLASHING RATE OF 70 TO 80 CYCLES PER MINUTE. SEE SPECIAL PROVISIONS FOR MORE DETAILS.

**RECTANGULAR RAPID FLASHING BEACON
POST DETAIL**

SCALE: NOT TO SCALE

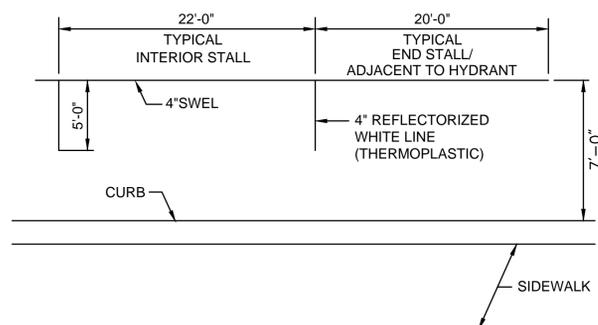
DATE:

DWG:

SPENCER
MAIN STREET

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|-------------------------|--------------------|-----------|--------------|
| MASS. | ---- | 29 | 34 |
| PROJECT FILE NO. 606207 | | | |

CONSTRUCTION DETAILS

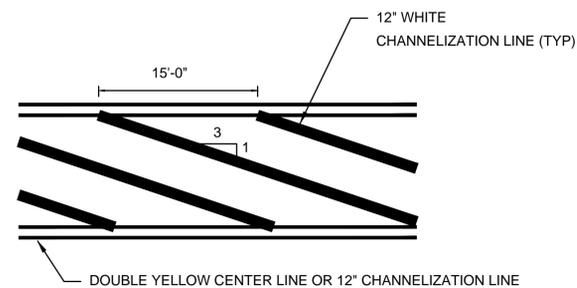


PARKING STALL MARKINGS

SCALE: NOT TO SCALE

DATE:

DWG:



NOTES:

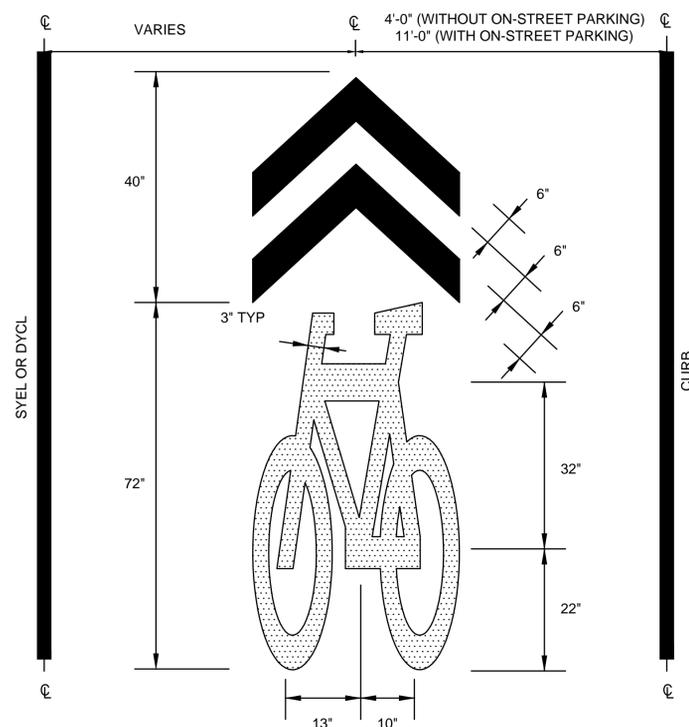
1. ALL 12" THERMOPLASTIC LINES SHALL BE APPLIED IN ONE APPLICATION, NO COMBINATION OF LINES (TWO - 6" LINES) WILL BE ACCEPTED.
2. LAYOUT OF GORE LINES SHALL BE APPROVED BY A MASSDOT ENGINEER PRIOR TO APPLICATION OF THERMOPLASTIC.
3. ALL GORE LINES INSTALLED SHALL CONFORM TO THE RELEVANT PROVISIONS OF THE MASSACHUSETTS DOT - HIGHWAY DIVISION "STANDARD SPECIFICATION FOR HIGHWAY AND BRIDGES" DATED 1988, SECTION 860 FOR REFLECTORIZED LINE (THERMO-PLASTIC) & MATERIAL M7.01.20, LATEST REVISIONS.

GORE AREA
PAVEMENT MARKINGS

SCALE: NOT TO SCALE

DATE: DECEMBER 2008

DWG: PM-09



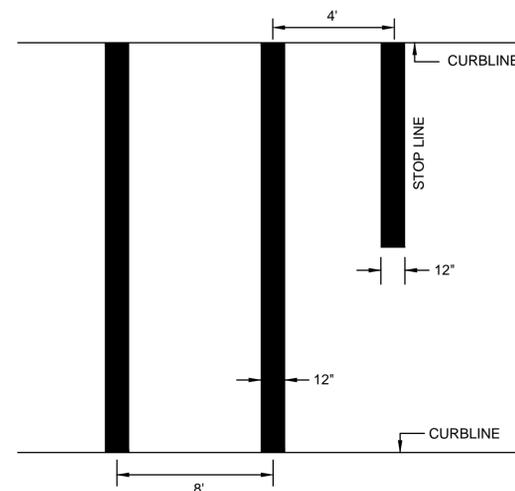
- NOTE S:
1. REFER TO FIGURE 9C-9 IN THE MUTCD FOR MORE DETAIL.
 2. SHARED LANE MARKINGS SHALL BE PREFORMED THERMOPLASTIC.

SHARED LANE
PAVEMENT MARKING LAYOUT

SCALE: NOT TO SCALE

DATE: JUNE 2010

DWG: PM-11



NOTES:

1. ALL 12" THERMOPLASTIC 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 OF THERMOPLASTIC.
3. ALL CROSSWALKS INSTALLED SHALL CONFORM TO THE RELEVANT PROVISIONS OF THE MASSACHUSETTS HIGHWAY DEPARTMENT "STANDARD SPECIFICATION FOR HIGHWAY AND BRIDGES" DATED 1988, SECTION 860 FOR REFLECTORIZED LINE (THERMO-PLASTIC) & MATERIAL M7.01.20, LATEST REVISIONS.

STANDARD CROSSWALK

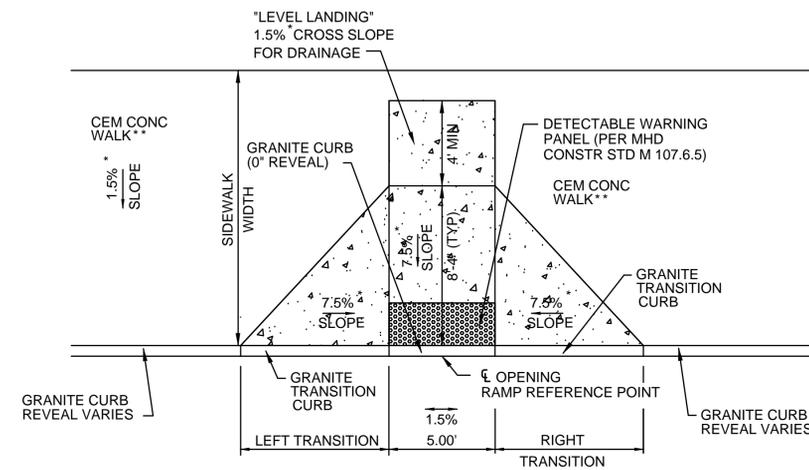
SCALE: NOT TO SCALE

DATE:

DWG:

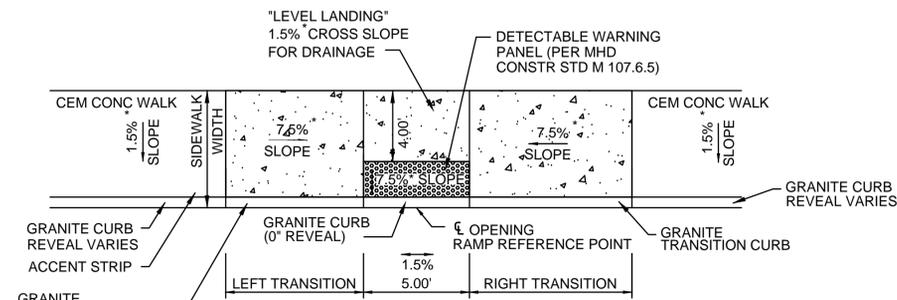
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|--------------------|-----------|--------------|
| MA | ---- | 30 | 34 |
| PROJECT FILE NO. | | 606888 | |

CONSTRUCTION DETAILS



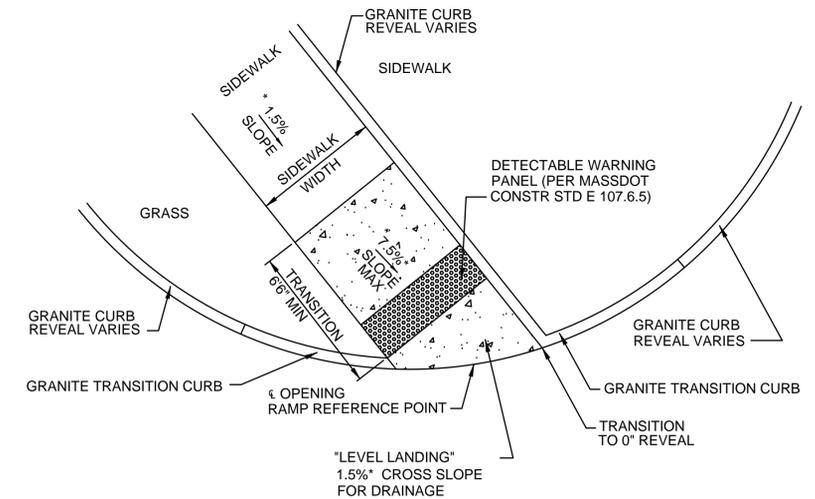
WHEEL CHAIR RAMP

SCALE: NOT TO SCALE
DATE:
DWG:



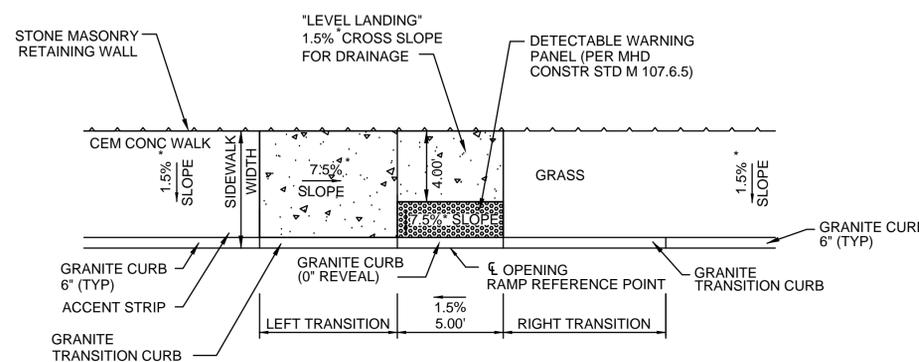
WHEEL CHAIR RAMP
SIDEWALK LESS THAN 6.5 FT

SCALE: NOT TO SCALE
DATE:
DWG:



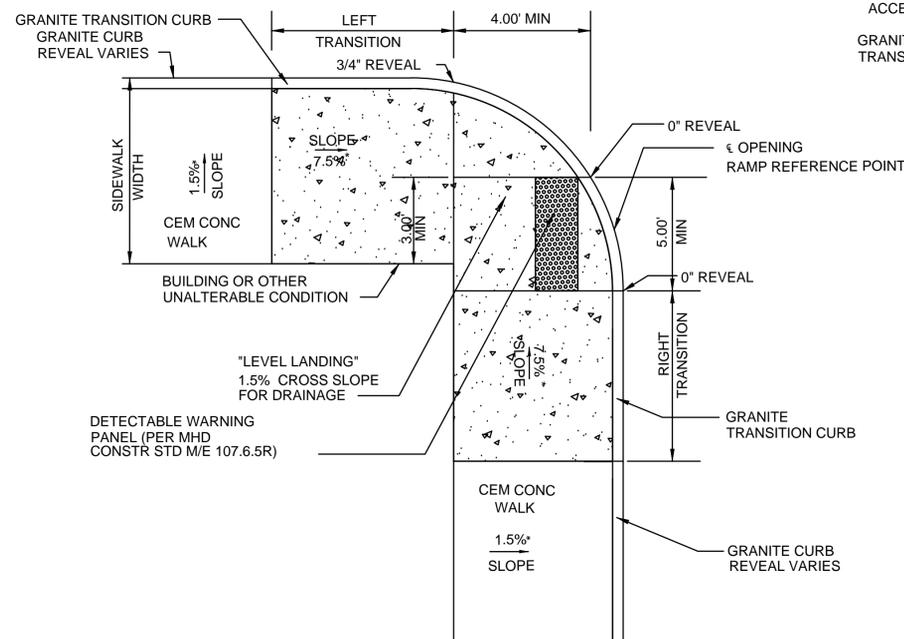
WHEEL CHAIR RAMP - SINGLE
DIRECTION GRASS ADJACENT

SCALE: NOT TO SCALE
DATE:
DWG:



WHEEL CHAIR RAMP-ONE WING
SIDEWALK LESS THAN 6.5 FT

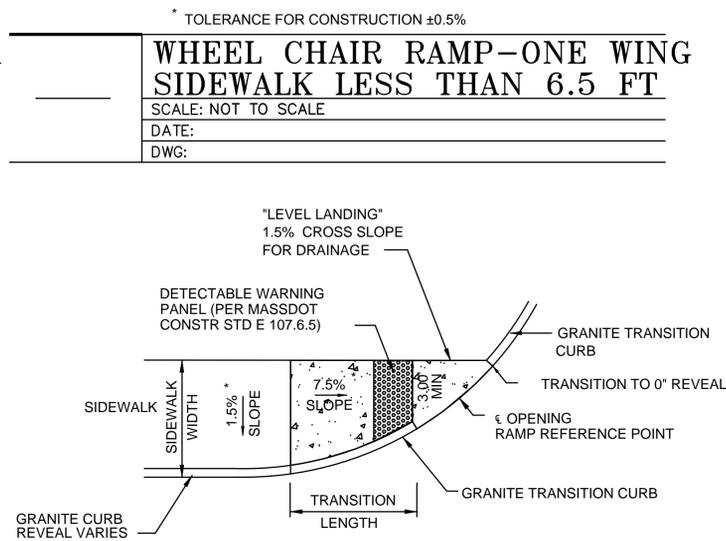
SCALE: NOT TO SCALE
DATE:
DWG:



* TOLERANCE FOR CONSTRUCTION ±0.5%

WHEEL CHAIR RAMP
AT T-INTERSECTIONS

SCALE: NOT TO SCALE
DATE:
DWG:



* TOLERANCE FOR CONSTRUCTION ±0.5%

WHEEL CHAIR RAMP
SINGLE DIRECTION

SCALE: NOT TO SCALE
DATE:
DWG:

DETECTABLE WARNING PANELS

NOTES:

1. DETECTABLE WARNING PANELS ARE REQUIRED TO BE CONSTRUCTED ON ALL PROPOSED WHEELCHAIR RAMPS AND ARE TO BE INSTALLED IN ACCORDANCE WITH MASSDOT CONSTRUCTION STANDARD E 107.6.5R.
2. PANELS MAY BE CONCRETE PRECAST OR CAST IN PLACE OR OTHER SUITABLE MATERIAL PERMANENTLY APPLIED TO THE RAMP. THERE MUST BE A MINIMUM 70% CONTRAST IN LIGHT REFLECTANCE BETWEEN THE DETECTABLE WARNING AND AN ADJOINING SURFACE.
3. NO SEPARATE PAYMENT SHALL BE MADE FOR DETECTABLE WARNING PANELS, BUT ALL COSTS IN CONNECTION THERE WITH SHALL BE INCLUDED IN THE VARIOUS ITEMS BID.

LEGEND

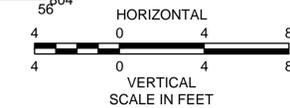
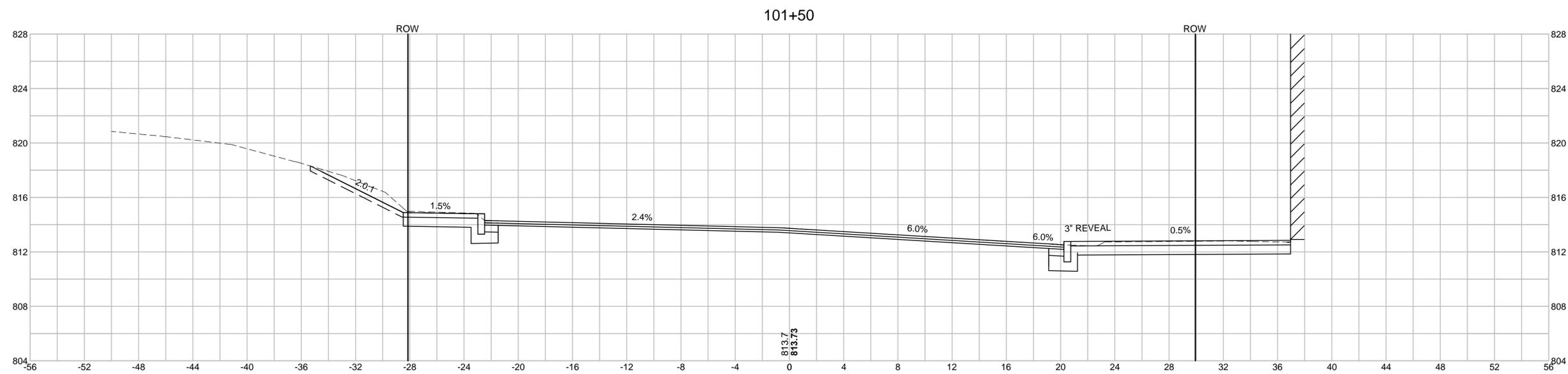
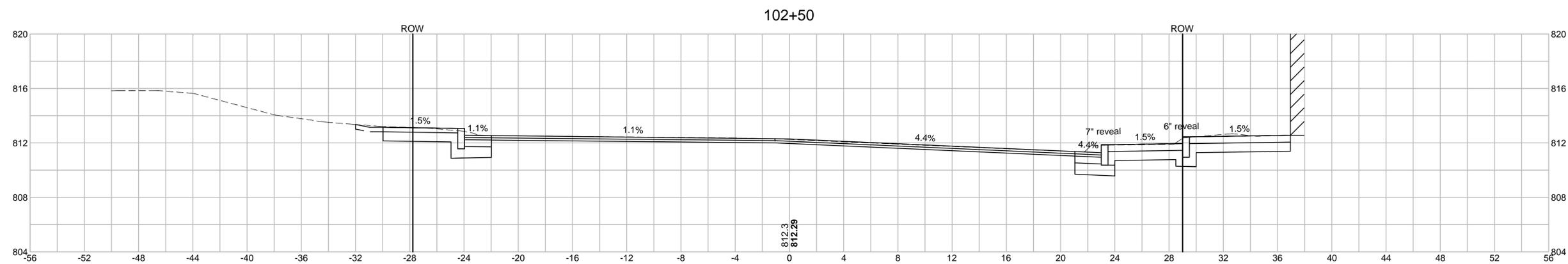
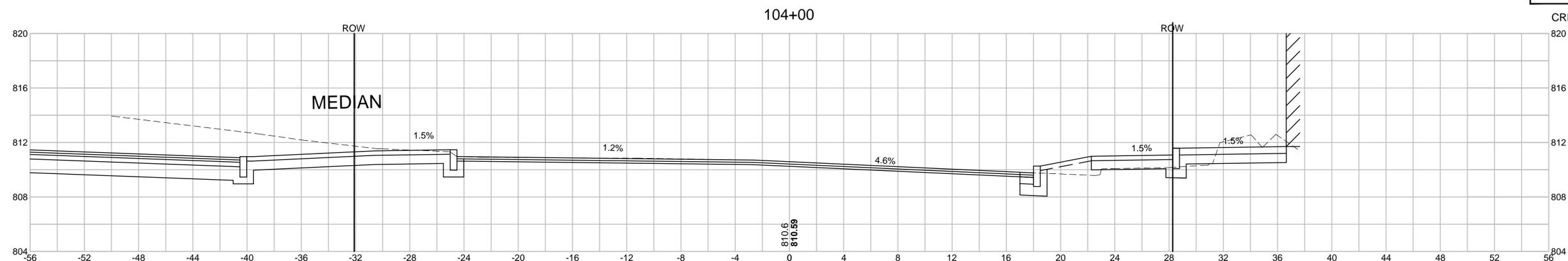
- LIMITS OF CEMENT CONCRETE WHEELCHAIR RAMP
- LIMITS OF DETECTABLE WARNING PANEL (SEE SPECIFICATIONS FOR COLOR)

SPENCER
MAIN STREET

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|-------|--------------------|-----------|--------------|
| MASS. | ---- | 31 | 34 |

PROJECT FILE NO. 606207

CRITICAL CROSS SECTIONS

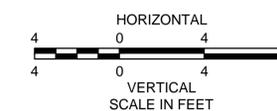
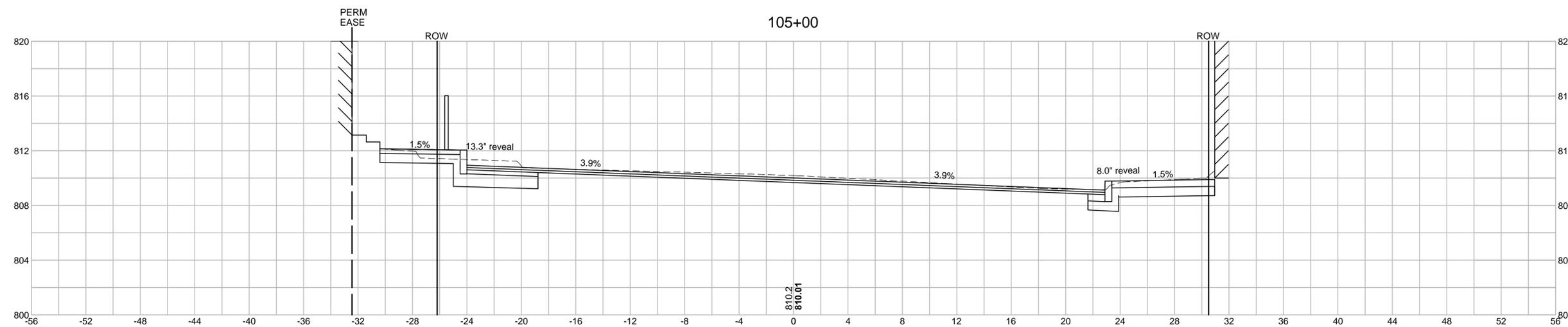
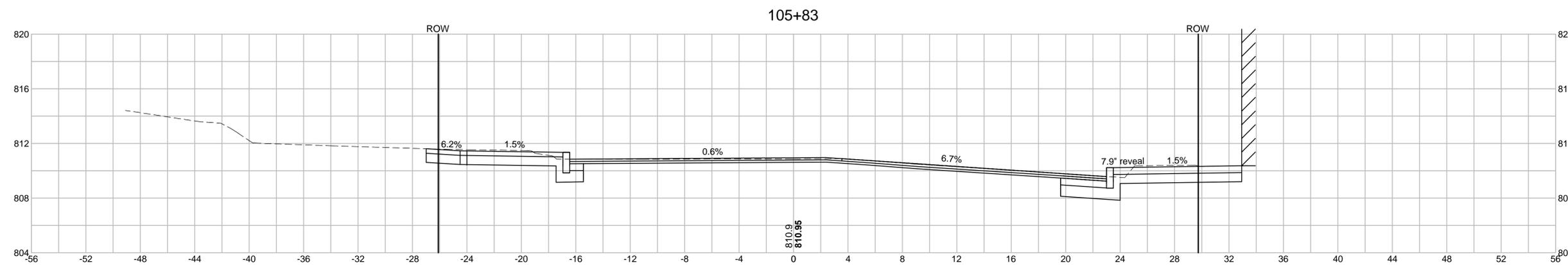
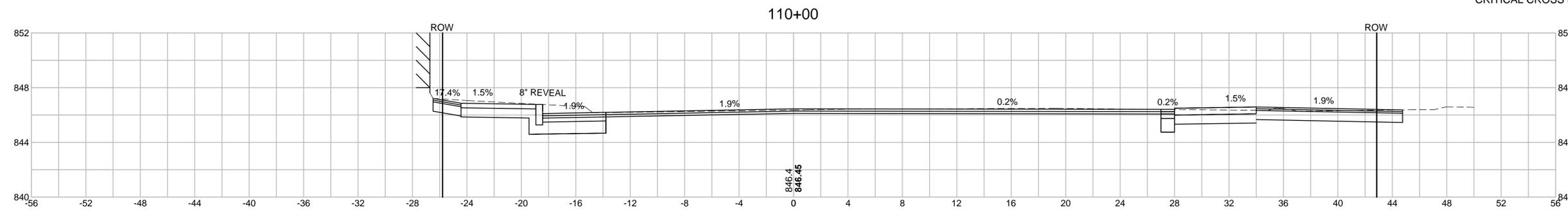


SPENCER
MAIN STREET

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|-------|--------------------|-----------|--------------|
| MASS. | ---- | 32 | 34 |

PROJECT FILE NO. 606207

CRITICAL CROSS SECTIONS

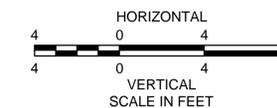
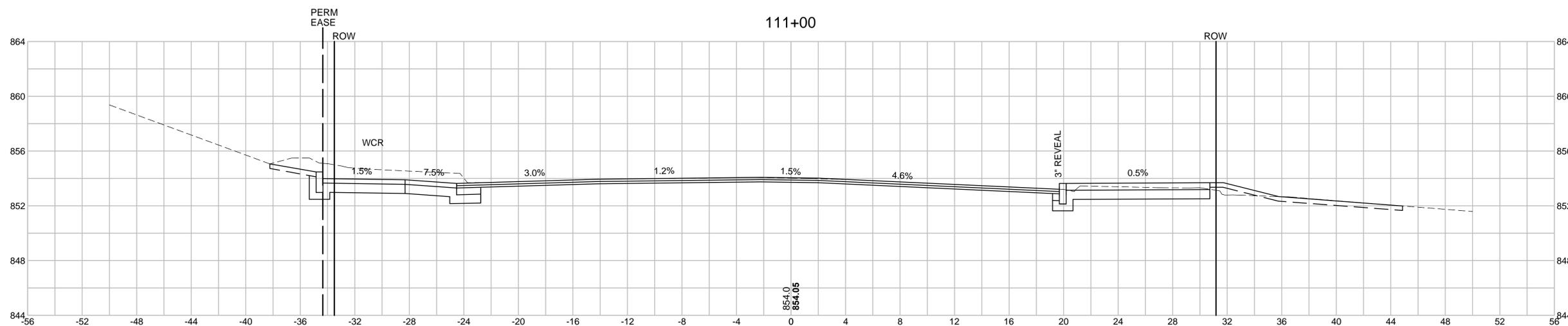
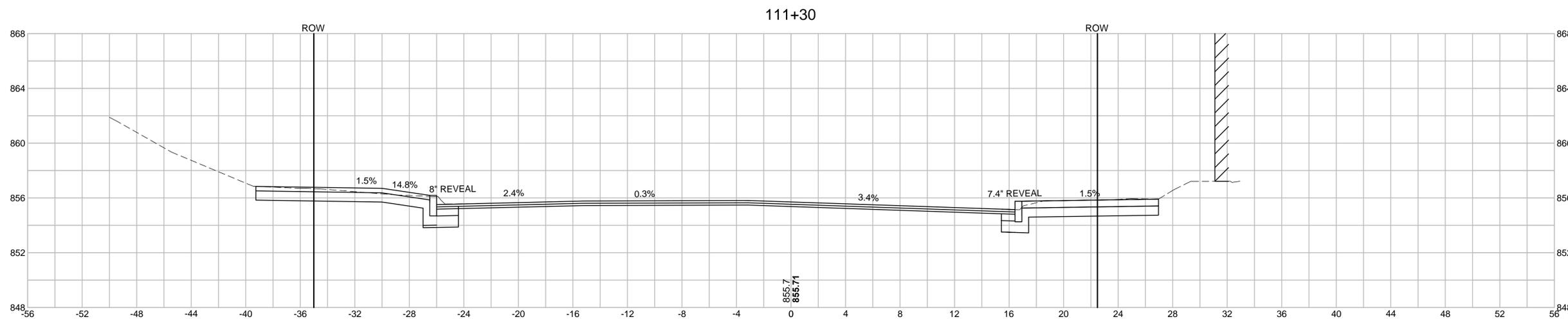


SPENCER
MAIN STREET

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|-------|--------------------|-----------|--------------|
| MASS. | ---- | 33 | 34 |

PROJECT FILE NO. 606207

CRITICAL CROSS SECTIONS



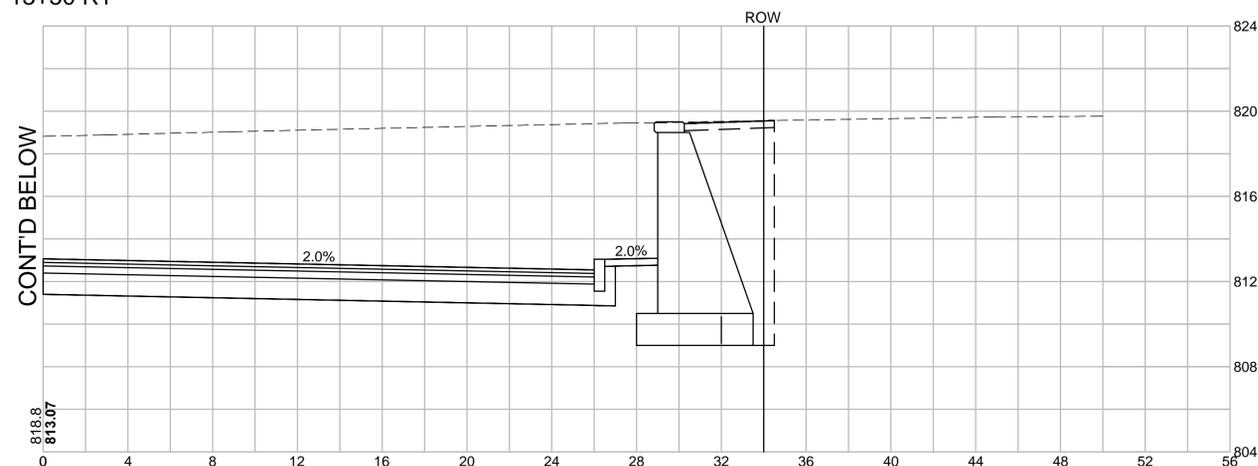
SPENCER
MAIN STREET

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|-------|--------------------|-----------|--------------|
| MASS. | ---- | 34 | 34 |

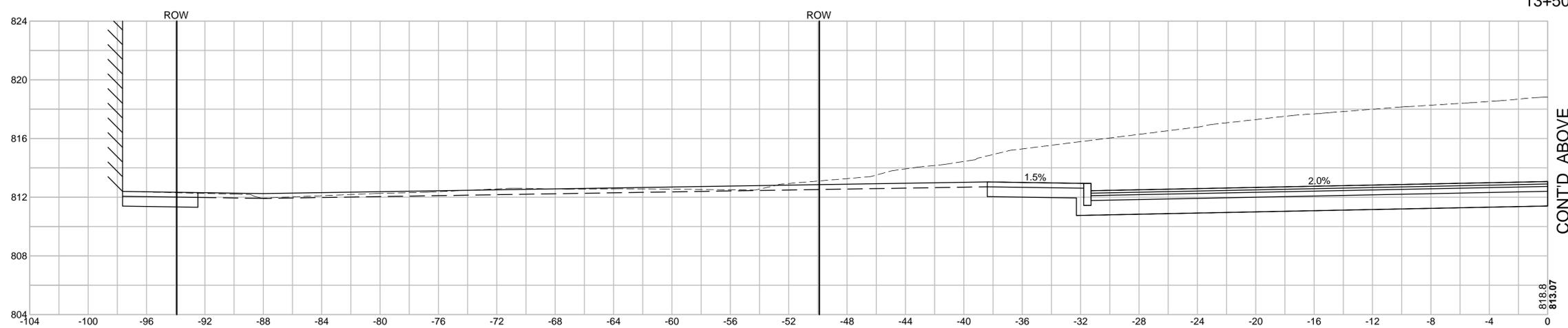
PROJECT FILE NO. 606207

CRITICAL CROSS SECTIONS

13+50 RT



13+50 LT



11+50

