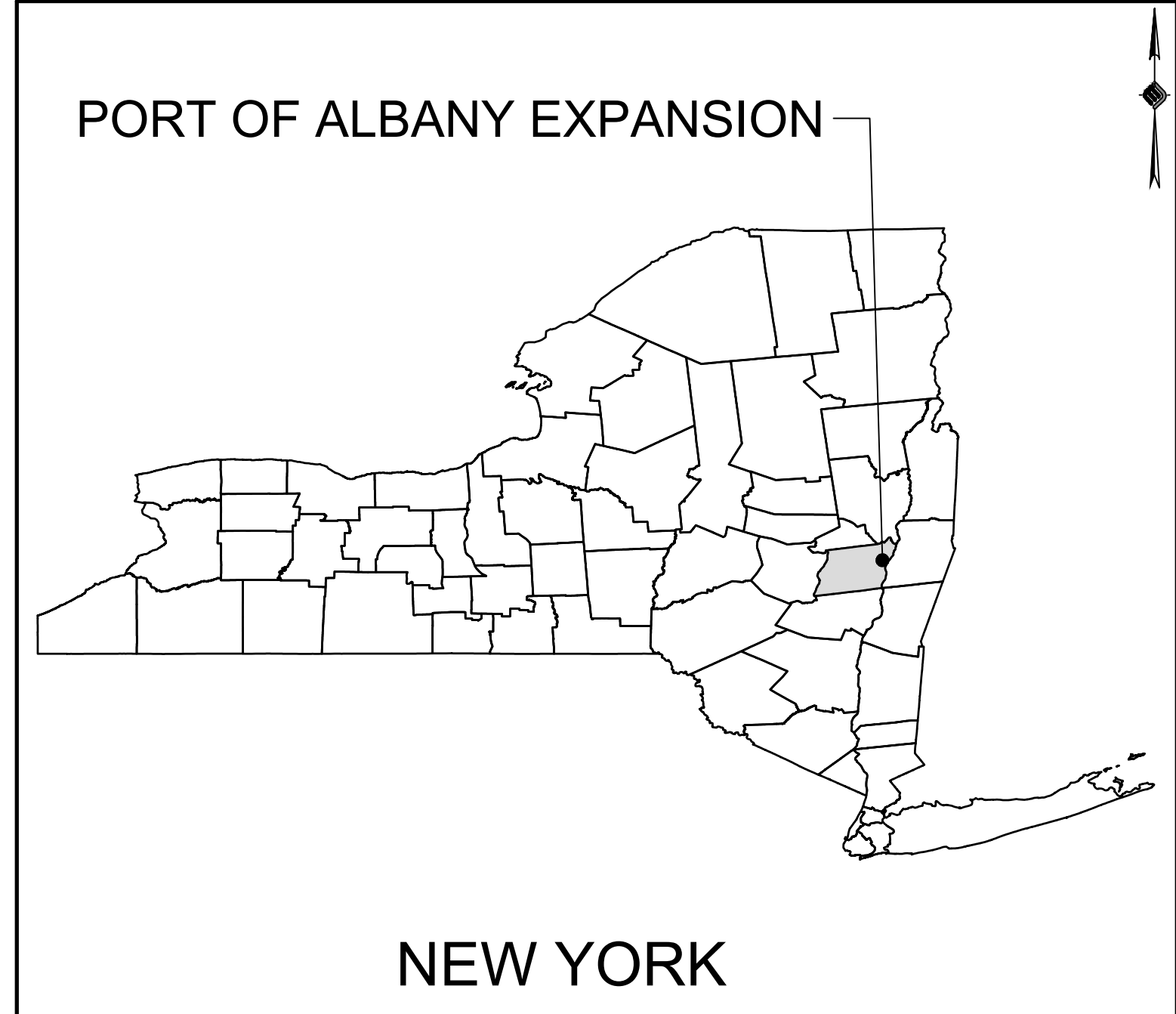


ALBANY PORT DISTRICT COMMISSION

OFF-SITE INFRASTRUCTURE IMPROVEMENTS

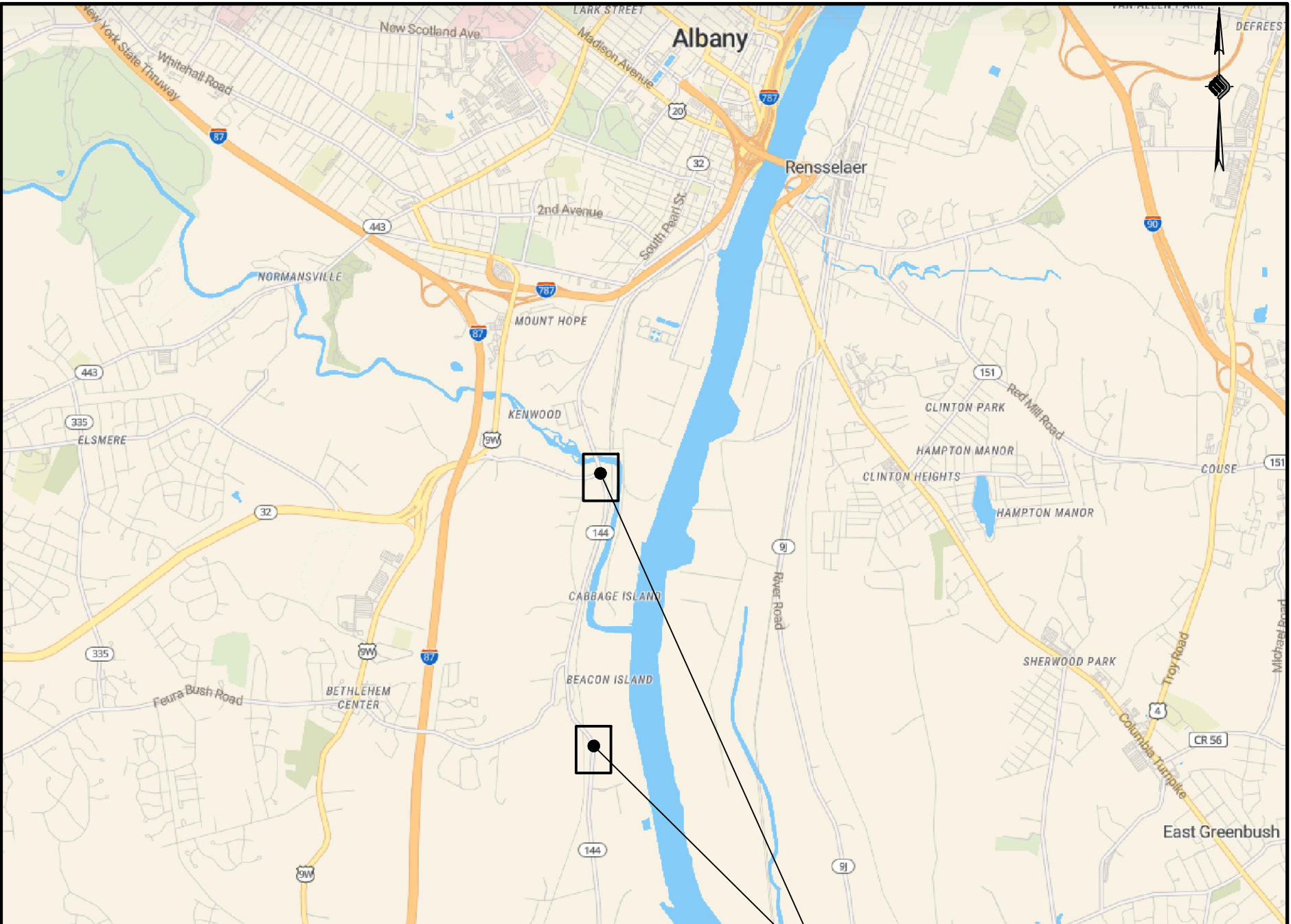


LOCATION MAP

BID PLANS

JULY 17, 2023

TOWN OF BETHLEHEM
ALBANY COUNTY
NEW YORK



VICINITY MAP

| Sheet List Table | |
|------------------|--|
| SHEET NUMBER | SHEET TITLE |
| COVER | COVER SHEET |
| GN-01 | GENERAL NOTES |
| TP-01 | TYPICAL SECTIONS (1 OF 2) |
| TP-02 | TYPICAL SECTIONS (2 OF 2) |
| RW-01 | ROADWAY PLAN (1 OF 2) |
| RW-02 | ROADWAY PLAN (2 OF 2) |
| GR-01 | GRADING & DRAINAGE PLAN |
| WZ-01 | WORK ZONE TRAFFIC CONTROL PLAN - PHASE 1 |
| WZ-02 | WORK ZONE TRAFFIC CONTROL PLAN - PHASE 2 |
| DT-01 | MISCELLANEOUS DETAILS |
| DT-02 | TOWN OF BETHLEHEM WATER DETAILS |
| TSP-01 | TRAFFIC SIGNAL PLAN (1 OF 3) |
| TSP-02 | TRAFFIC SIGNAL PLAN (2 OF 3) |
| TSP-03 | TRAFFIC SIGNAL PLAN (3 OF 3) |
| TT-01 | TURN TEMPLATE PLAN (1 OF 2) |
| TT-02 | TURN TEMPLATE PLAN (2 OF 2) |
| SD-01 | SIGHT DISTANCE PLAN |
| 619-407 | INTERMEDIATE TERM LANE CLOSURE WITH FLAGGERS |

NYS DOT STANDARD SHEETS TO BE REFERENCED:
203 - EXCAVATION AND EMBANKMENT
209 - SOIL EROSION AND SEDIMENT CONTROL
604 - DRAINAGE STRUCTURES
606 - GUIDE RAILING
608 - CONCRETE SIDEWALKS
609 - CURBING
619 - WORK ZONE TRAFFIC CONTROL
645 - SIGNS
655 - FRAMES, GRATES, AND COVERS
670 - HIGHWAY LIGHTING SYSTEMS
680 - TRAFFIC SIGNALS
685 - PAVEMENT MARKINGS

PREPARED FOR:



ALBANY PORT DISTRICT COMMISSION
106 SMITH BOULEVARD
ALBANY, NEW YORK
(518) 463-8763
WWW.ALBANY.GOV

PREPARED BY:



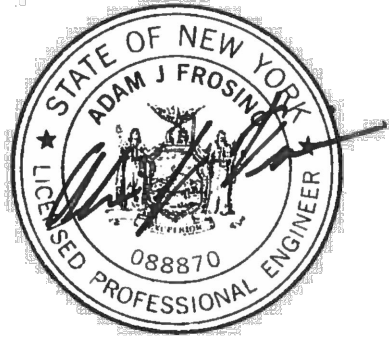
McFARLAND JOHNSON PROJECT # 18641.00

PLANNING BOARD HTE# 21-00100006

SEALED ADAM J. FROSINO

PE_NO 088870

PE_DATE JULY 17, 2023



IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

**McFarland Johnson**60 RAILROAD PLACE
SUITE 402
SARATOGA SPRINGS, NEW YORK 12866
P:518-580-9380 F:518-580-9383
SaratogaROM@mjinc.com

PROJECT MILESTONE

BID PLANS

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CLIENT:
ALBANY PORT DISTRICT COMMISSION

ALBANY, NEW YORK

PROJECT:
**PORT OF ALBANY OFF-SITE
INFRASTRUCTURE IMPROVEMENTS**

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| DRAWN | TCH |
| DESIGNED | TCH |
| CHECKED | AJF |
| SCALE | N.T.S. |
| DATE | JULY 17, 2023 |
| PROJECT | 18641.00 |



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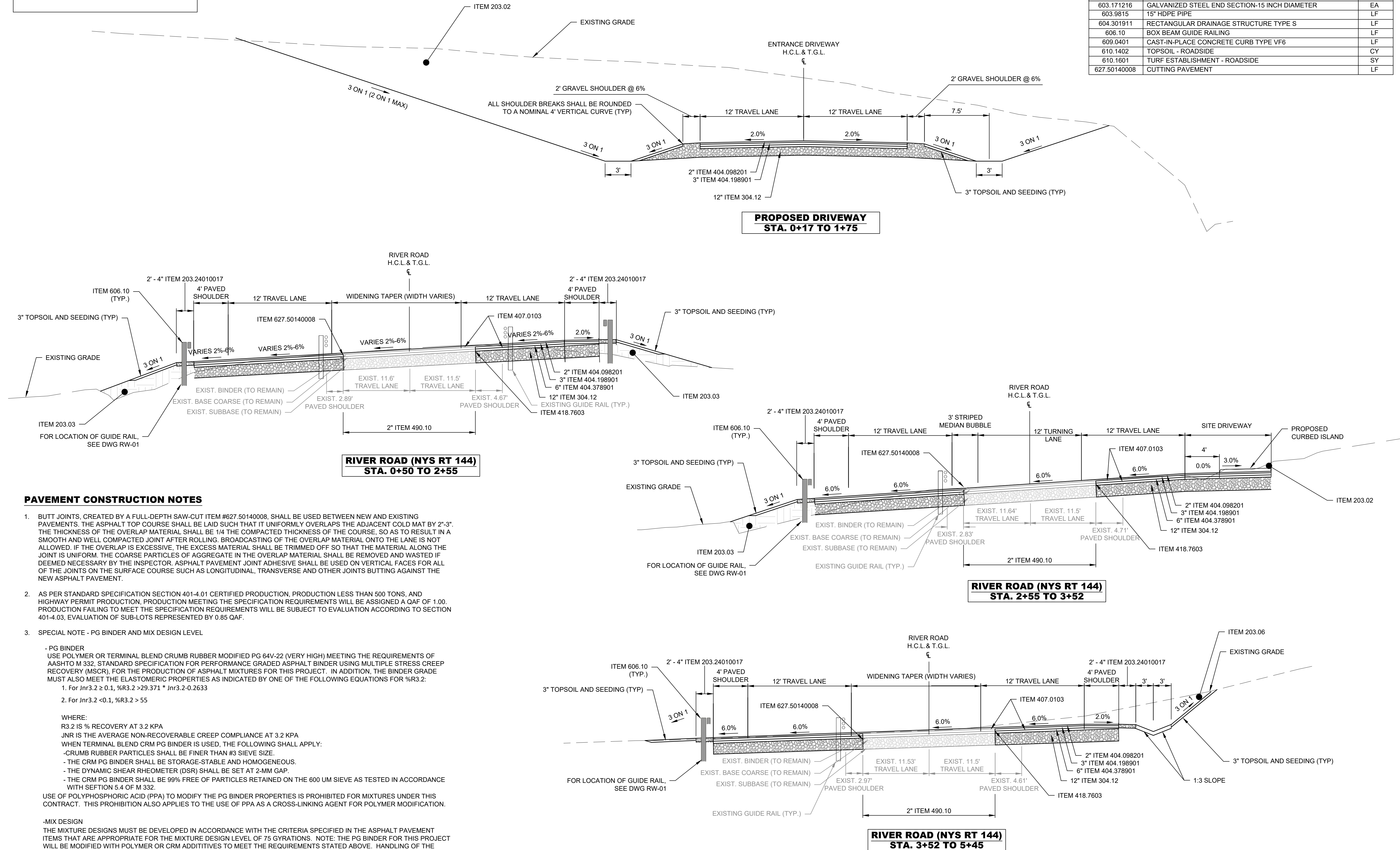
DRAWING TITLE

**TYPICAL SECTIONS (1
OF 2)**

DRAWING NUMBER

TP-01

| ITEM | DESCRIPTION | UNIT |
|--------------|--|--------|
| 203.02 | UNCLASSIFIED EXCAVATION AND DISPOSAL | CY |
| 203.03 | EMBANKMENT IN PLACE | CY |
| 203.24010017 | SHOULDER BACKUP MATERIAL | TON |
| 304.12 | SUBBASE COURSE, TYPE II | CY |
| 404.098201 | 2" 9.5 F2 TOP COURSE, 80 SERIES COMPACTION | TON |
| 404.198901 | 3" 19 F9 BINDER COURSE ASPHALT, 80 SERIES COMPACTION | TON |
| 404.378901 | 6" 37.5 F9 BASE COURSE ASPHALT, 80 SERIES COMPACTION | TON |
| 407.0103 | STRAIGHT TACK COAT | GALLON |
| 418.7603 | ASPHALT PAVEMENT JOINT ADHESIVE | LF |
| 490.10 | PRODUCTION COLD MILLING BITUMINOUS CONCRETE | SY |
| 554.41 | FILL TYPE RETAINING WALL (6'-12' HEIGHT) | SF |
| 603.171216 | GALVANIZED STEEL END SECTION-15 INCH DIAMETER | EA |
| 603.9815 | 15" HDPE PIPE | LF |
| 604.301911 | RECTANGULAR DRAINAGE STRUCTURE TYPE S | LF |
| 606.10 | BOX BEAM GUIDE RAILING | LF |
| 609.0401 | CAST-IN-PLACE CONCRETE CURB TYPE VF6 | LF |
| 610.1402 | TOPSOIL - ROADSIDE | CY |
| 610.1601 | TURF ESTABLISHMENT - ROADSIDE | SY |
| 627.50140008 | CUTTING PAVEMENT | LF |





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PROJECT MILESTONE
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CLIENT:
ALBANY PORT DISTRICT COMMISSION

ALBANY, NEW YORK

PROJECT:
PORT OF ALBANY OFF-SITE
INFRASTRUCTURE IMPROVEMENTS

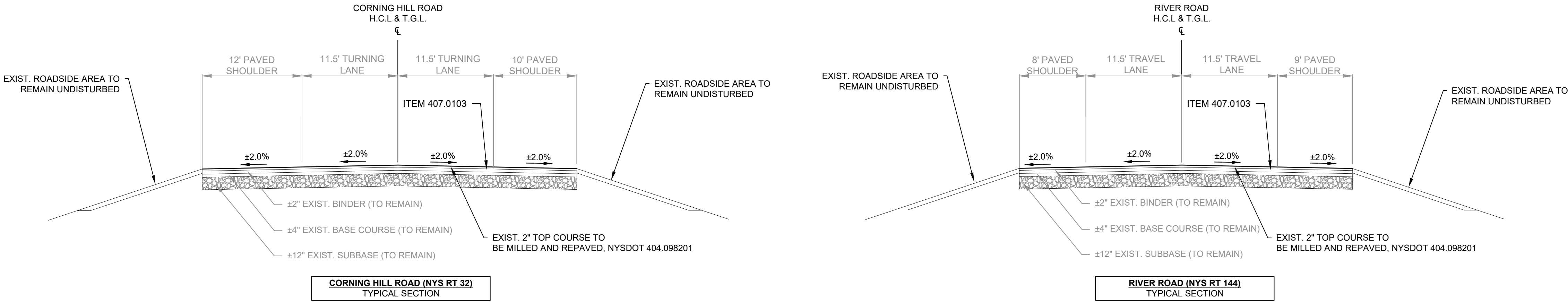
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| DRAWN | TCH |
| DESIGNED | TCH |
| CHECKED | AJF |
| SCALE | 1"=40' |
| DATE | 05/10/2022 |
| PROJECT | 18641.00 |



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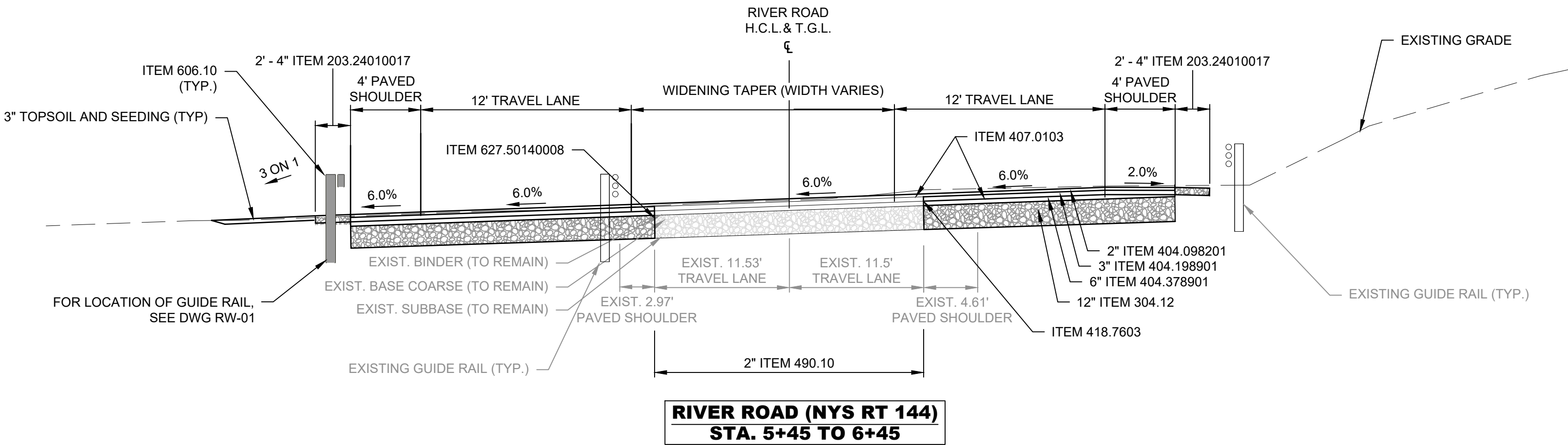
DRAWING TITLE
TYPICAL SECTIONS (2 OF 2)

DRAWING NUMBER
TP-02



- NOTES:
- WORK LIMITS SHOWN ON SHEET TP-02

- NOTES:
- WORK LIMITS SHOWN ON SHEET TP-02.



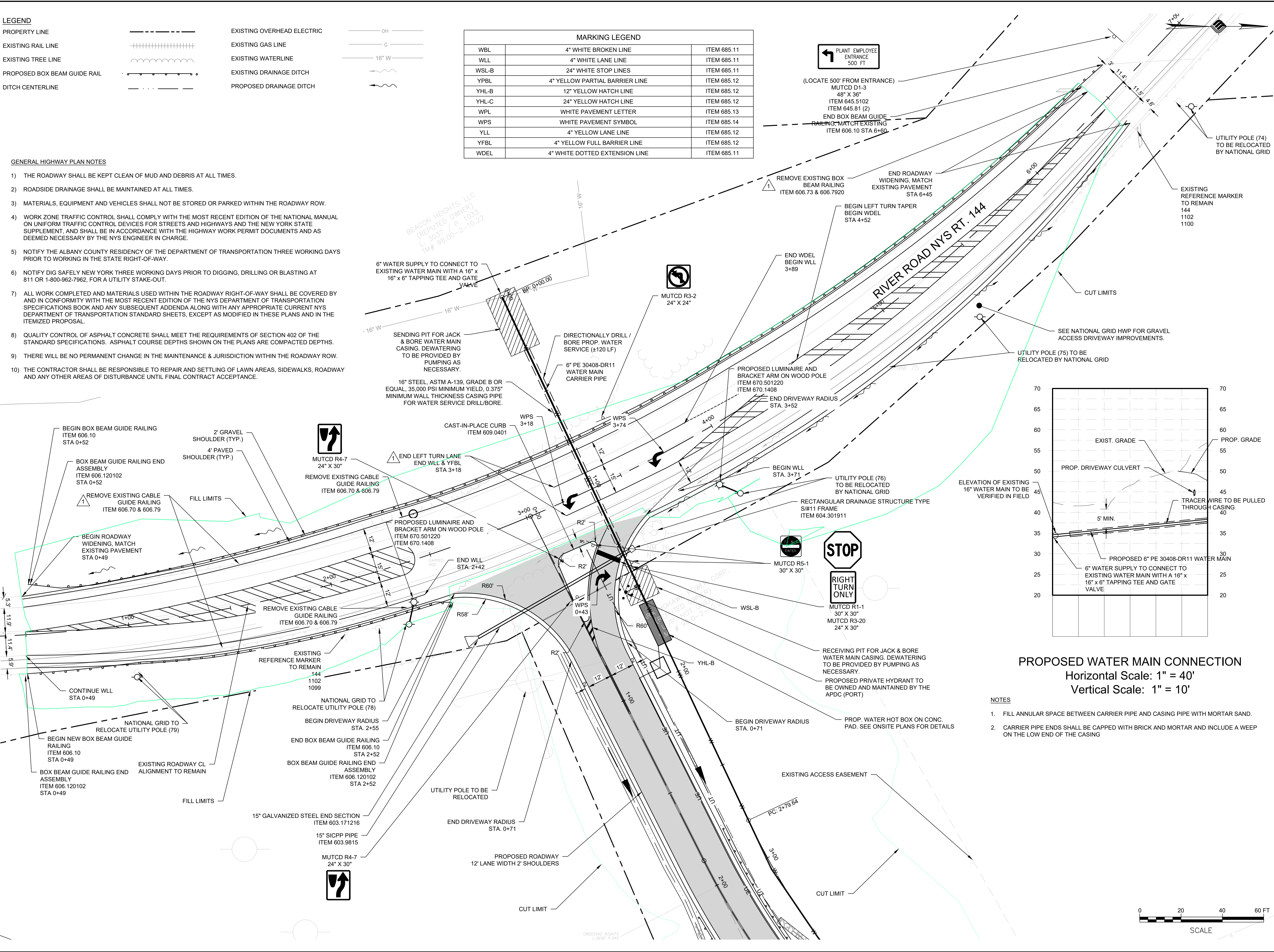
LEGEND

| | | | |
|------------------------------|---------|----------------------------|-------|
| PROPERTY LINE | ----- | EXISTING OVERHEAD ELECTRIC | OH |
| EXISTING RAIL LINE | +++++ | EXISTING GAS LINE | G |
| EXISTING TREE LINE | ~~~~~ | EXISTING WATERLINE | 16" W |
| PROPOSED BOX BEAM GUIDE RAIL | ---o--- | EXISTING DRAINAGE DITCH | ~~~~~ |
| DITCH CENTERLINE | --- | PROPOSED DRAINAGE DITCH | ~~~~~ |

| MARKING LEGEND | | |
|----------------|--------------------------------|-------------|
| WBL | 4" WHITE BROKEN LINE | ITEM 685.11 |
| WLL | 4" WHITE LANE LINE | ITEM 685.11 |
| WSL-B | 24" WHITE STOP LINES | ITEM 685.11 |
| YPBL | 4" YELLOW PARTIAL BARRIER LINE | ITEM 685.12 |
| YHL-B | 12" YELLOW HATCH LINE | ITEM 685.12 |
| YHL-C | 24" YELLOW HATCH LINE | ITEM 685.12 |
| WPL | WHITE PAVEMENT LETTER | ITEM 685.13 |
| WPS | WHITE PAVEMENT SYMBOL | ITEM 685.14 |
| YLL | 4" YELLOW LANE LINE | ITEM 685.12 |
| YFBL | 4" YELLOW FULL BARRIER LINE | ITEM 685.12 |
| WDEL | 4" WHITE DOTTED EXTENSION LINE | ITEM 685.11 |

GENERAL HIGHWAY PLAN NOTES

- 1) THE ROADWAY SHALL BE KEPT CLEAN OF MUD AND DEBRIS AT ALL TIMES.
- 2) ROADSIDE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES.
- 3) MATERIALS, EQUIPMENT AND VEHICLES SHALL NOT BE STORED OR PARKED WITHIN THE ROADWAY ROW.
- 4) WORK ZONE TRAFFIC CONTROL SHALL COMPLY WITH THE MOST RECENT EDITION OF THE NATIONAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS AND THE NEW YORK STATE SUPPLEMENT, AND SHALL BE IN ACCORDANCE WITH THE HIGHWAY WORK PERMIT DOCUMENTS AND AS DEEMED NECESSARY BY THE NYS ENGINEER IN CHARGE.
- 5) NOTIFY THE ALBANY COUNTY RESIDENCY OF THE DEPARTMENT OF TRANSPORTATION THREE WORKING DAYS PRIOR TO WORKING IN THE STATE RIGHT-OF-WAY.
- 6) NOTIFY DIG SAFELY NEW YORK THREE WORKING DAYS PRIOR TO DIGGING, DRILLING OR BLASTING AT 811 OR 1-800-962-7962, FOR A UTILITY STAKE-OUT.
- 7) ALL WORK COMPLETED AND MATERIALS USED WITHIN THE ROADWAY RIGHT-OF-WAY SHALL BE COVERED BY AND IN CONFORMITY WITH THE MOST RECENT EDITION OF THE NYS DEPARTMENT OF TRANSPORTATION SPECIFICATIONS BOOK AND ANY SUBSEQUENT ADDENDA ALONG WITH ANY APPROPRIATE CURRENT NYS DEPARTMENT OF TRANSPORTATION STANDARD SHEETS, EXCEPT AS MODIFIED IN THESE PLANS AND IN THE ITEMIZED PROPOSAL.
- 8) QUALITY CONTROL OF ASPHALT CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 402 OF THE STANDARD SPECIFICATIONS. ASPHALT COURSE DEPTHS SHOWN ON THE PLANS ARE COMPACTED DEPTHS.
- 9) THERE WILL BE NO PERMANENT CHANGE IN THE MAINTENANCE & JURISDICTION WITHIN THE ROADWAY ROW.
- 10) THE CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR AND SETTLING OF LAWN AREAS, SIDEWALKS, ROADWAY AND ANY OTHER AREAS OF DISTURBANCE UNTIL FINAL CONTRACT ACCEPTANCE.



PROPOSED WATER MAIN CONNECTION
Horizontal Scale: 1" = 40'
Vertical Scale: 1" = 10'

NOTES

1. FILL ANNULAR SPACE BETWEEN CARRIER PIPE AND CASING PIPE WITH MORTAR SAND.
2. CARRIER PIPE ENDS SHALL BE CAPPED WITH BRICK AND MORTAR AND INCLUDE A WEEP ON THE LOW END OF THE CASING

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PROJECT MILESTONE
BID PLANS

| NO. | DATE | DESCRIPTION |
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| 1 | 8/29/23 | NYSDOT HWP STAGE 3 |
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CLIENT: **ALBANY PORT DISTRICT COMMISSION**
ALBANY, NEW YORK
PROJECT: **PORT OF ALBANY OFF-SITE INFRASTRUCTURE IMPROVEMENTS**

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| DRAWN | TCH |
| DESIGNED | TCH |
| CHECKED | AJF |
| SCALE | 1"=20' |
| DATE | JULY 17, 2023 |
| PROJECT | 18641.00 |



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DRAWING TITLE
ROADWAY PLAN
(1 OF 2)

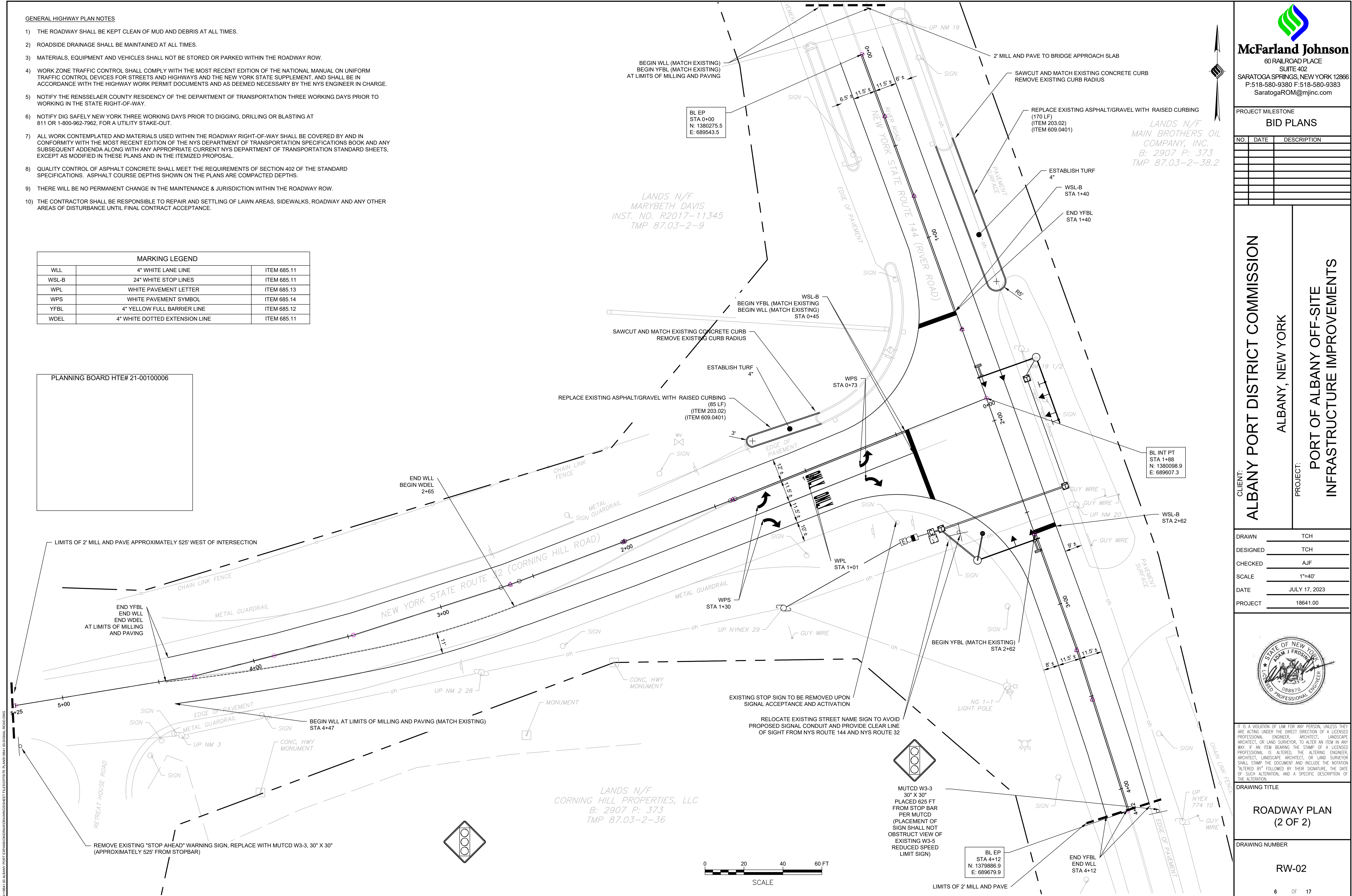
DRAWING NUMBER
RW-01

GENERAL HIGHWAY PLAN NOTES

- 1) THE ROADWAY SHALL BE KEPT CLEAN OF MUD AND DEBRIS AT ALL TIMES.
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- 5) NOTIFY THE RENSSELAER COUNTY RESIDENCY OF THE DEPARTMENT OF TRANSPORTATION THREE WORKING DAYS PRIOR TO WORKING IN THE STATE RIGHT-OF-WAY.
- 6) NOTIFY DIG SAFELY NEW YORK THREE WORKING DAYS PRIOR TO DIGGING, DRILLING OR BLASTING AT 811 OR 1-800-962-7962, FOR A UTILITY STAKE-OUT.
- 7) ALL WORK CONTEMPLATED AND MATERIALS USED WITHIN THE ROADWAY RIGHT-OF-WAY SHALL BE COVERED BY AND IN CONFORMITY WITH THE MOST RECENT EDITION OF THE NYS DEPARTMENT OF TRANSPORTATION SPECIFICATIONS BOOK AND ANY SUBSEQUENT ADDENDA ALONG WITH ANY APPROPRIATE CURRENT NYS DEPARTMENT OF TRANSPORTATION STANDARD SHEETS, EXCEPT AS MODIFIED IN THESE PLANS AND IN THE ITEMIZED PROPOSAL.
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| MARKING LEGEND | | |
|----------------|--------------------------------|-------------|
| WLL | 4" WHITE LANE LINE | ITEM 685.11 |
| WSL-B | 24" WHITE STOP LINES | ITEM 685.11 |
| WPL | WHITE PAVEMENT LETTER | ITEM 685.13 |
| WPS | WHITE PAVEMENT SYMBOL | ITEM 685.14 |
| YFBL | 4" YELLOW FULL BARRIER LINE | ITEM 685.12 |
| WDEL | 4" WHITE DOTTED EXTENSION LINE | ITEM 685.11 |

PLANNING BOARD HTE# 21-00100006



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PROJECT MILESTONE
BID PLANS

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CLIENT: **ALBANY PORT DISTRICT COMMISSION**
ALBANY, NEW YORK

PROJECT: **PORT OF ALBANY OFF-SITE INFRASTRUCTURE IMPROVEMENTS**

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| DRAWN | TCH |
| DESIGNED | TCH |
| CHECKED | AJF |
| SCALE | 1"=40' |
| DATE | JULY 17, 2023 |
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DRAWING TITLE
**ROADWAY PLAN
(2 OF 2)**

DRAWING NUMBER
RW-02



| PROJECT MILESTONE | |
|-------------------|--------------------------------|
| 1 | Project Initiation |
| 2 | Project Planning |
| 3 | Project Execution |
| 4 | Project Monitoring and Control |
| 5 | Project Closure |

BID PLANS

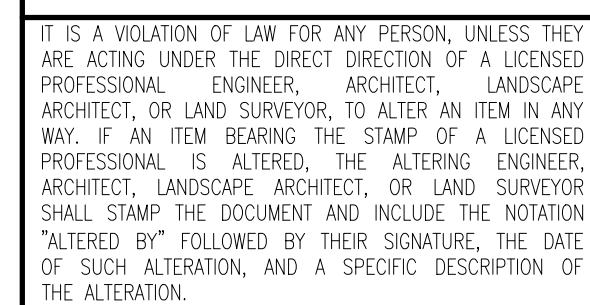
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CLIENT: ALBANY PORT DISTRICT COMMISSION

ALBANY, NEW YORK

PROJECT: **PORT OF ALBANY OFF-SITE
INFRASTRUCTURE IMPROVEMENTS**

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| DATE | JULY 17, 2023 |
| PROJECT | 18641.00 |



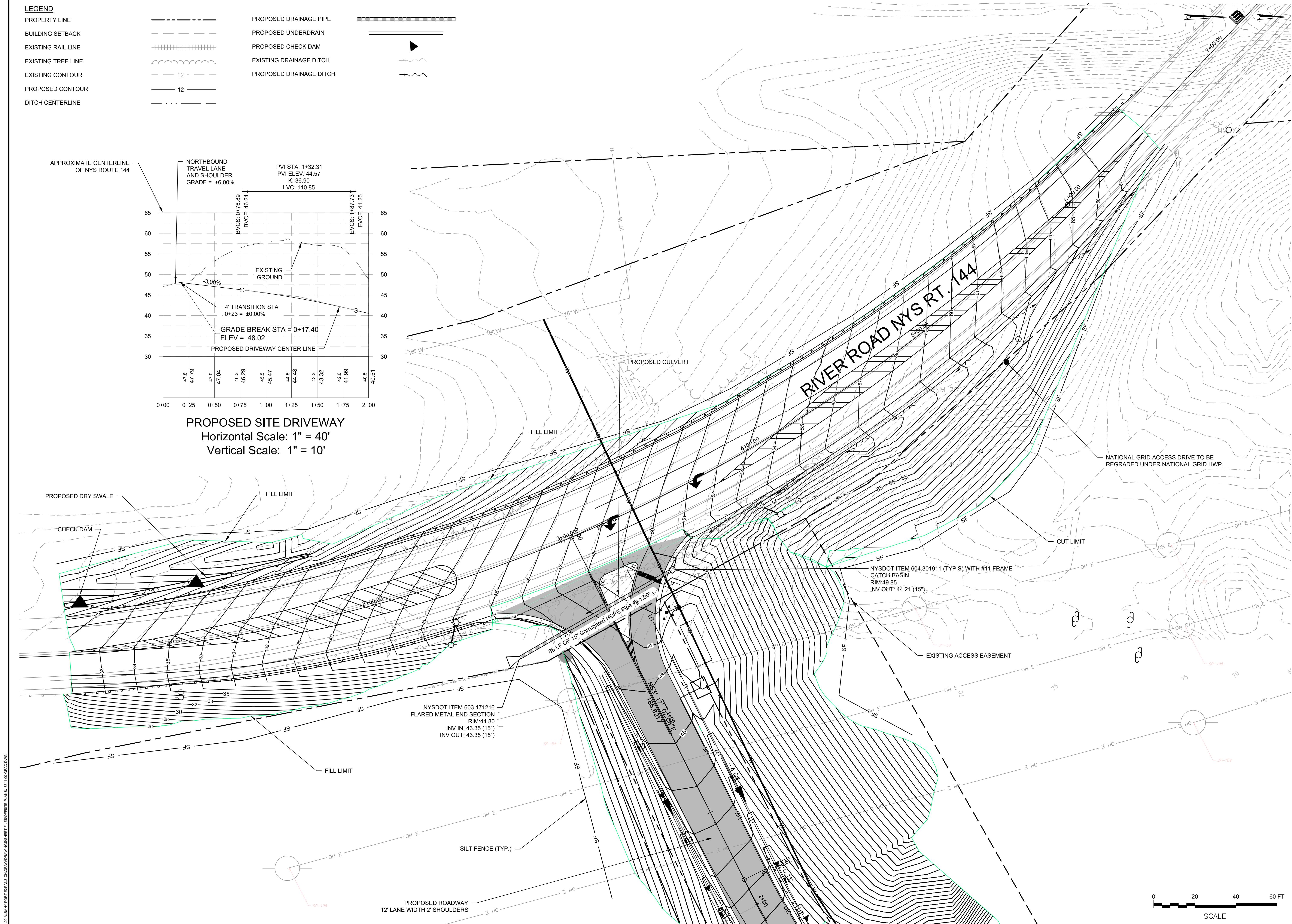
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GRADING & DRAINAGE PLAN

DRAWING NUMBER

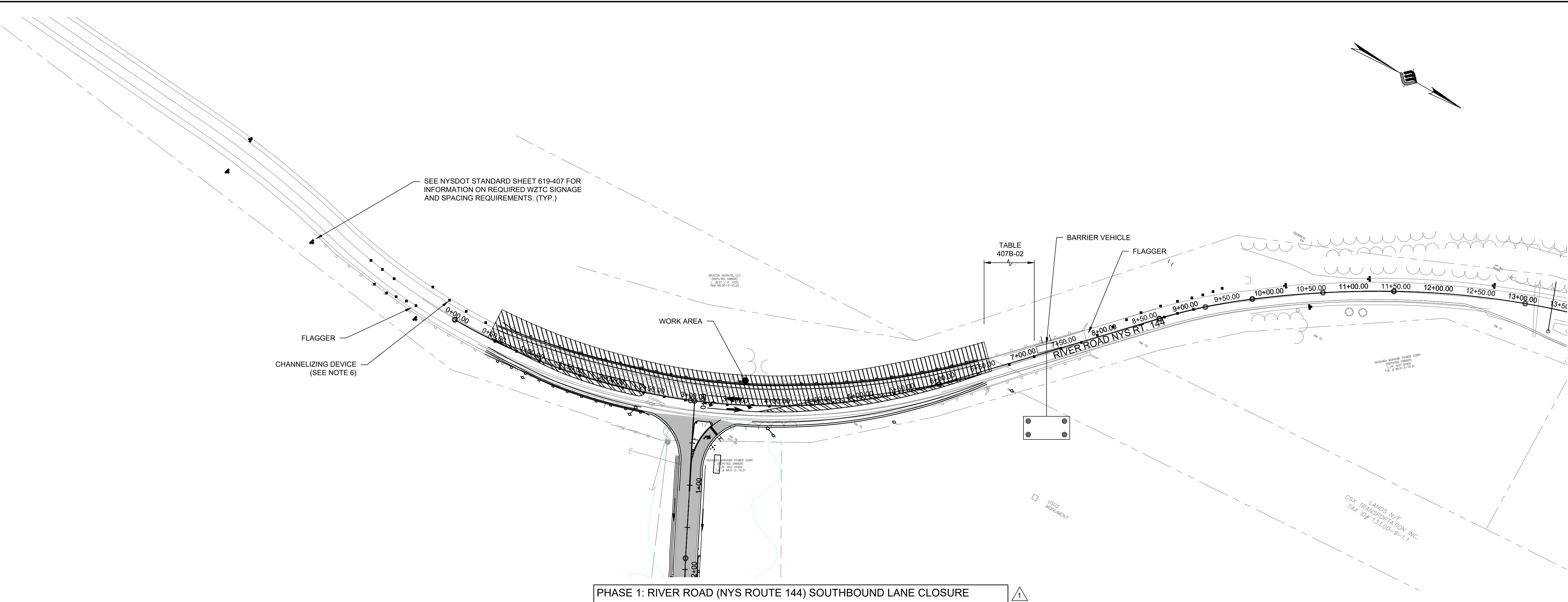
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WORK ZONE TRAFFIC CONTROL

GENERAL

- THE TYPICAL DETAILS DEPICTED ON THE STANDARD SHEETS AND IN THE MUTCD, REFLECT THE MINIMUM REQUIREMENTS.
- THE CONTRACTOR MUST SUBMIT TO THE ENGINEER, IN WRITING, PROPOSED REVISIONS TO THE TRAFFIC CONTROL PLAN FOR REVIEW AND APPROVAL BY THE REGIONAL DIRECTOR OR HIS/HER DESIGNEE FIVE (5) WORK DAYS PRIOR TO THE PLANNED IMPLEMENTATION OF SUCH PROPOSED REVISIONS. EXCEPT FOR CHANGES THAT ALTER THE SCOPE OF THE TRAFFIC CONTROL PLAN, SUCH CHANGES IN SCOPE MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL BY THE REGIONAL DIRECTOR OR HIS/HER DESIGNEE THIRTY (30) WORKING DAYS PRIOR TO IMPLEMENTATION OF SUCH REVISIONS.
- THE CONTRACTOR SHALL PROVIDE THE ENGINEER, IN WRITING, WITH THE NAMES, ADDRESSES, AND TELEPHONE NUMBERS OF STAFF WHO ARE AUTHORIZED TO SECURE LABOR, MATERIALS, AND EQUIPMENT FOR EMERGENCY REPAIRS OUTSIDE NORMAL WORKING HOURS. THE ENGINEER WILL PROVIDE THE SUBMITTED INFORMATION TO REGIONAL MANAGEMENT, THE NEW YORK STATE POLICE, THE RESIDENT ENGINEER, AND THE LOCAL POLICE.
- THIS CONTRACT INCLUDES THE USE OF PORTABLE VARIABLE MESSAGE DISPLAY UNITS (PVMS), ITEM 619.111113. THESE UNITS WILL BE STRATEGICALLY PLACED, AS ORDERED BY THE ENGINEER, PRIOR TO CONSTRUCTION TO WARN OF PROPOSED LANE CLOSURE SCHEDULES FOR ALL WORK. THE PVMS SHALL BE PLACED NO LESS THAN THREE DAYS PRIOR TO THE START OF LANE CLOSURES AND REMAIN UP THROUGHOUT THE DURATION OF THE LANE CLOSURES. IT MAY BE NECESSARY TO RELOCATE THESE UNITS NUMEROUS TIMES TO MORE STRATEGIC LOCATIONS. THE PVMS SHALL BE PLACED AT APPROXIMATELY 25 FT. FROM THE EDGE OF THE ROADWAY, OR AS ORDERED BY THE ENGINEER.
- EXCAVATIONS THAT PRODUCE A DROP-OFF GREATER THAN 24 INCHES AND WITHIN 10 FEET FROM THE EDGE OF THE TRAVEL LANE THAT WILL REMAIN AT THE END OF THE WORK SHIFT SHALL BE SEPARATED FROM TRAFFIC WITH TEMPORARY CONCRETE BARRIERS. EXCAVATIONS THAT PRODUCE DROP-OFFS ON BOTH SIDES OF THE TRAVEL WAY AT THE SAME TIME SHALL NOT BE PERMITTED. SHOULDER AREAS SHOULD BE PREPARED TO RECEIVE THE SHOULDER PAVEMENT MATERIAL IMMEDIATELY AHEAD OF THE SHOULDER PAVING OPERATIONS TO MINIMIZE THE TIME A DROP-OFF EXISTS. THE CONTRACTOR SHALL BEGIN WORK TO ELIMINATE UNPROTECTED DROP-OFFS CREATED BY CONTRACT WORK WITHIN 7 CALENDAR DAYS OF COMPLETION OF THE WORK CREATING THE DROP-OFF.

ACTIVITY AREA

- THE CONTRACTOR SHALL MAINTAIN A MINIMUM 500' LONGITUDINAL DISTANCE BETWEEN CONSTRUCTION OPERATIONS ON ALTERNATE SIDES OF THE ROADWAY, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- WHEN TWO OR MORE AREAS ARE ADJACENT, OVERLAP, OR ARE IN CLOSE PROXIMITY, THE CONTRACTOR SHALL ENSURE THERE ARE NO CONFLICTING SIGNS AND THAT LANE CONTINUITY IS MAINTAINED THROUGHOUT ALL WORK AREAS.

LANE WIDTHS

- UNLESS AUTHORIZED BY THE ENGINEER, THE MINIMUM LANE WIDTHS FOR WORK ZONE TRAVEL LANES SHALL BE AS FOLLOWS: FREEWAYS AND/OR EXPRESSWAYS IS 11'; THE MINIMUM LANE WIDTH FOR ALL OTHER TYPES OF ROADWAYS IS 10'.
- THE CONTRACTOR SHALL PROVIDE A WRITTEN NOTICE TO THE ENGINEER, A MINIMUM OF 21 CALENDAR DAYS IN ADVANCE OF PERFORMING ANY WORK THAT RESULTS IN THE REDUCED WIDTH OF AN EXISTING ROADWAY, SO THAT THE ENGINEER MAY NOTIFY THE REGIONAL PERMIT ENGINEER IN A TIMELY MANNER.

SIGNS

- THE LOCATIONS OF THE SIGNS SHOWN ON THE WORK ZONE TRAFFIC CONTROL PLANS AND DETAILS MAY BE ADJUSTED BASED ON SIGHT DISTANCE AND OTHER CONSIDERATIONS. THE FINAL LOCATIONS OF SIGNS ARE SUBJECT TO APPROVAL OF THE ENGINEER.
- ANY EXISTING SIGNS, INCLUDING OVERHEAD SIGNS, WHICH CONFLICT WITH THE TEMPORARY TRAFFIC CONTROL SIGN LAYOUT SHALL BE COVERED, REMOVED, STORED OR RESET, AS APPROVED BY THE ENGINEER. ALL APPROPRIATE EXISTING SIGNS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND/OR LOCATION UNLESS OTHERWISE REPLACED IN THIS CONTRACT.
- SIGNS AT OR NEAR INTERSECTIONS SHALL BE PLACED SO THAT THEY DO NOT OBSTRUCT A MOTORIST'S LINE OF SIGHT.
- ALL WARNING AND REGULATORY SIGNS SHALL BE POSTED ON BOTH SIDES OF MULTI-LANE RAMPS, AND ONE-WAY STREETS. IN CASES WHERE LANE RESTRICTIONS REDUCE THE TRAVEL LANE TO ONE LANE, SIGNS SHALL BE POSTED ON THE RIGHT SIDE OF THE ACTIVE TRAVEL LANE, UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.
- THE DIMENSIONS OF WORK ZONE TRAFFIC CONTROL SIGNS ARE DESCRIBED IN THE MUTCD. ANY CHANGES TO THE DIMENSIONS SHALL BE APPROVED BY THE REGIONAL DIRECTOR OR BY HIS/HER DESIGNEE.
- NYR9-12 MAY BE USED IN PLACE OF NYR9-11.
- W3-3 AND FLASHING BEACON SHALL BE PLACED AT THE LOCATIONS SHOWN AFTER SIGNAL IS OPERATIONAL. FLASHING BEACON WILL BE LEFT IN PLACE FOR 30 (THIRTY) DAYS AFTER SIGNAL BECOMES OPERATIONAL.

BARRIER/SHADOW VEHICLES

- BARRIER AND SHADOW VEHICLES SHALL BE REQUIRED AS PER STANDARD SHEET TITLED "WORK ZONE TRAFFIC CONTROL LEGENDS AND NOTES".
- NO WORK ACTIVITY, EQUIPMENT, VEHICLES AND/OR MATERIALS SHALL BE LOCATED BETWEEN THE BARRIER OR SHADOW VEHICLE AND THE ACTIVE WORK AREA (ROLL AHEAD DISTANCE).
- THE CONTRACTOR MAY BE REQUIRED TO PROVIDE A BARRIER VEHICLE IN CONJUNCTION WITH POLICE PRESENCE IN THE WORK ZONE, TO BE INCLUDED IN THE UNIT BID PRICE FOR BASIC WORK ZONE TRAFFIC CONTROL.

CHANNELIZING DEVICES

- WHERE POSSIBLE ALL CHANNELIZING AND GUIDING DEVICES ARE TO BE PLACED SO AS TO PROVIDE A MINIMUM 2' LATERAL CLEARANCE TO THE TRAVELED WAY.

LANE CLOSURES

- THE DEPARTMENT RETAINS THE RIGHT TO CANCEL ANY WORK OPERATIONS INCLUDING LANE CLOSURE AND/OR TOTAL ROAD CLOSURES THAT WOULD BE AFFECTED BY UNFORESEEN MAJOR EVENTS THAT MAY CREATE TRAFFIC DELAYS SEVEN (7) CALENDAR DAYS PRIOR TO THE PROPOSED WORK. SPECIFIC DATES ARE YET TO BE DETERMINED.
- PEDESTRIAN ACCOMODATIONS MUST BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
- LANE CLOSURES AND/OR USE OF TEMPORARY CONCRETE BARRIER WITHIN FIVE FEET OF AN ACTIVE TRAVEL WAY BETWEEN NOVEMBER 1 & APRIL 15 SHALL REQUIRE SPECIAL PERMISSION FROM THE ENGINEER WITH CONCURRENCE FROM THE REGIONAL TRAFFIC OFFICE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER ONE WEEK IN ADVANCE OF ANY REQUESTED CLOSURE.

DAILY CLOSURE RESTRICTIONS - ROUTE 144 DRIVEWAY

THERE SHALL BE NO TEMPORARY LANE CLOSURES ON STATE HIGHWAYS DURING THE FOLLOWING DAYS AND TIMES:
MONDAY - FRIDAY: 6:00 A.M. THROUGH 9:00 A.M.
3:00 P.M. THROUGH 6:00 P.M.

DAILY CLOSURE RESTRICTIONS - ROUTE 144/ROUTE 32 INTERSECTION

THERE SHALL BE NO TEMPORARY LANE CLOSURES ON STATE HIGHWAYS DURING THE FOLLOWING DAYS AND TIMES:
MONDAY - FRIDAY: 6:00 A.M. THROUGH 9:00 A.M.
12:00 P.M. THROUGH 6:00 P.M.

HOLIDAY CLOSURE RESTRICTIONS

THERE SHALL NOT BE TEMPORARY LANE CLOSURES ON (RTE 144) DURING THE FOLLOWING DATES:

2023
6:00 AM, SATURDAY, DECEMBER 31, 2022 THRU 6:00 AM, TUESDAY JANUARY 3, 2023 - (NEW YEAR'S DAY)
6:00 AM, SATURDAY, MAY 27, 2023 THRU 6:00 AM WEDNESDAY, MAY 31, 2023 - (MEMORIAL DAY HOLIDAY)
6:00 AM, SATURDAY, JULY 1, 2023 THRU 6:00 AM, WEDNESDAY, JULY 5, 2023 - (INDEPENDENCE DAY HOLIDAY)
6:00 AM, SATURDAY, SEPTEMBER 2, 2023 THRU 6:00 AM, WEDNESDAY, SEPTEMBER 6, 2023 - (LABOR DAY HOLIDAY)
6:00 AM FRIDAY, NOVEMBER 23, 2023 THRU 6:00 AM TUESDAY, NOVEMBER 28, 2023 - (THANKSGIVING DAY HOLIDAY)
6:00 AM FRIDAY, DECEMBER 22, 2023 THRU 6:00 AM TUESDAY, DECEMBER 26, 2023 - (CHRISTMAS DAY HOLIDAY)

LEGEND

| | |
|--|---------------------------|
| | WORK ZONE |
| | CHANNELIZING DEVICE |
| | WORK ZONE SIGN |
| | DIRECTIONAL ARROWS |
| | RIGHT OF WAY |
| | ARROW PANEL, CAUTION MODE |

PUBLIC ACCESS

- PROPERTY OWNERS WHOSE DRIVEWAYS WILL BE MADE INACCESSIBLE SHALL BE NOTIFIED BY THE CONTRACTOR AT LEAST 24 HOURS PRIOR TO RESTRICTING USE OF THE DRIVEWAY. FOR MULTIPLE ACCESS PROPERTIES, AT LEAST ONE DRIVEWAY SHALL BE OPEN AT ALL TIMES. ACCESS SHALL BE RESTORED TO ALL DRIVEWAYS AS SOON AS POSSIBLE.
- SUITABLE RAMPS SHALL BE INSTALLED TO MAINTAIN SMOOTH TRANSITIONS FROM RESIDENTIAL AND COMMERCIAL DRIVEWAYS TO AND FROM THE WORK AREA.
- THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN AND BICYCLE TRAFFIC THROUGH AND AROUND THE PROJECT FOR THE DURATION OF CONSTRUCTION. MATERIAL, EQUIPMENT OR OTHER BARRIERS SHALL NOT BE PLACED OR MARKED IN SUCH A MANNER AS TO OBSTRUCT PEDESTRIAN OR BICYCLE TRAFFIC OR TO PRESENT A SAFETY HAZARD TO THE NON-MOTORIZED PUBLIC. WHERE PEDESTRIAN TRAFFIC MUST BE RELOCATED OFF THE EXISTING FACILITY, WALKWAYS SHALL BE CLEARLY MARKED AND HAVE A LOGICAL START AND TERMINUS.

NOTES

- NORTHBOUND LANE CLOSURES ARE SYMMETRICAL TO SOUTHBOUND LANE CLOSURES.
- NO WORK ACTIVITY, EQUIPMENT, OR STORAGE OF VEHICLES, OR MATERIAL SHALL OCCUR WITHIN THE BUFFER SPACE AT ANY TIME.
- CHANNELIZING DEVICE SPACING (CENTER TO CENTER) SHALL NOT EXCEED 40' IN THE ACTIVE WORK SPACE.
- TRANSVERSE DEVICES SHALL BE REQUIRED (AS PER 619 STANDARD SPECIFICATIONS) WHEN A PAVED SHOULDER HAVING A WIDTH OF 8' OR GREATER IS CLOSED FOR A DISTANCE GREATER THAN 1500'.
- FOR BARRIER VEHICLE USE REQUIREMENTS SEE TABLES NY1-A AND NY2-A ON THE STANDARD SHEET TITLED "WORK ZONE TRAFFIC CONTROL LEGENDS AND NOTES".
- WHEN PAVED SHOULDERS HAVING A WIDTH OF 8' OR MORE ARE CLOSED, CHANNELIZING DEVICES SHALL BE USED TO CLOSE THE SHOULDER IN ADVANCE TO DELINEATE THE BEGINNING OF THE WORK SPACE AND TO DIRECT VEHICULAR TRAFFIC TO REMAIN IN THE TRAVELED WAY.
- WHEN WORKS AND EQUIPMENT ARE NOT ENCRDACHING INTO THE TRAVEL LANE A SHOULDER CLOSURE MAY BE USED.
- CENTERLINE CONES MAY BE ADDED TO ENHANCE THE VISIBILITY OF THE FLAGGER STATION. IF CONES DIRECTIONS/LEGS OF THE INTERSECTION OR DURING INCIDENT MANAGEMENT SITUATIONS.
- ALL FLAGGERS SHALL USE 24" (MIN.) OCTAGON SHAPED STOP/SLOW PADDLES HAVING 8" STAFF. THE PADDLE IS THE PREFERRED DEVICE, BUT THE FLAG MAY BE USED AT INTERSECTIONS WHERE THE STOP/SLOW PADDLE WOULD OFFER CONTRADICTING INFORMATION TO DRIVERS TRAVELING IN OPPOSITE DIRECTION/LEGS OF THE INTERSECTION OR DURING INCIDENT MANAGEMENT SITUATIONS.
- FLAGGER SIGN (W20-7a) AND ONE LANE ROAD AHEAD SIGN (W20-4) SHALL BE REMOVED, COVERED OR TURNED AWAY FROM ROAD USERS WHEN FLAGGING OPERATIONS ARE NOT OCCURRING..

PLANNING BOARD HTE# 21-00100006



PROJECT MILESTONE

BID PLANS

| NO. | DATE | DESCRIPTION |
|-----|---------|--------------------|
| 1 | 8/29/23 | NYSDOT HWP STAGE 3 |
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CLIENT:
ALBANY PORT DISTRICT COMMISSION

ALBANY, NEW YORK

PROJECT:
**PORT OF ALBANY OFF-SITE
INFRASTRUCTURE IMPROVEMENTS**

| | |
|----------|---------------|
| DRAWN | TCH |
| DESIGNED | TCH |
| CHECKED | AJF |
| SCALE | 1"=20' |
| DATE | JULY 17, 2023 |
| PROJECT | 18641.00 |



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

DRAWING TITLE

**WORK ZONE TRAFFIC
CONTROL PLAN -
PHASE 1**

DRAWING NUMBER

WZ-01



McFarland Johnson
60 RAILROAD PLACE
SUITE 402
SARATOGA SPRINGS, NEW YORK 12866
P:518-580-9380 F:518-580-9383
SaratogaROM@mjinc.com

PROJECT MILESTONE
BID PLANS

| NO. | DATE | DESCRIPTION |
|-----|------|-------------|
| | | |
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| | | |
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CLIENT:
ALBANY PORT DISTRICT COMMISSION
ALBANY, NEW YORK

PROJECT:
**PORT OF ALBANY OFF-SITE
INFRASTRUCTURE IMPROVEMENTS**

| | |
|----------|---------------|
| DRAWN | TCH |
| DESIGNED | TCH |
| CHECKED | AJF |
| SCALE | 1"=40' |
| DATE | JULY 17, 2023 |
| PROJECT | 18641.00 |

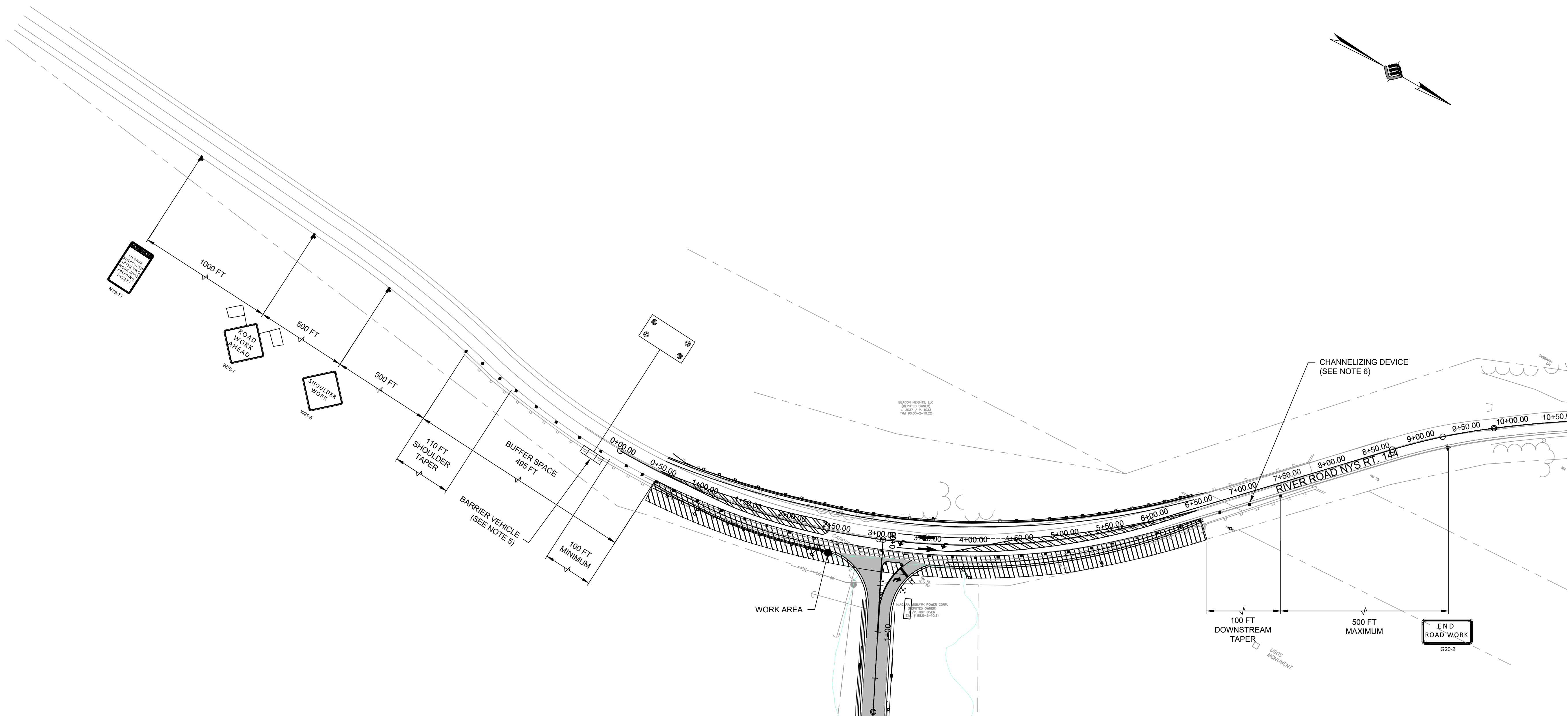


IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

DRAWING TITLE
**WORK ZONE TRAFFIC
CONTROL PLAN -
PHASE 2**

DRAWING NUMBER
WZ-02

ALL DIMENSIONS ARE IN FEET
UNLESS OTHERWISE NOTED
DRAWN BY: TCH
CHECKED BY: AJF
DATE: JULY 17, 2023



PHASE 2: RIVER ROAD (NYS ROUTE 144) NORTHBOUND SHOULDER CLOSURE

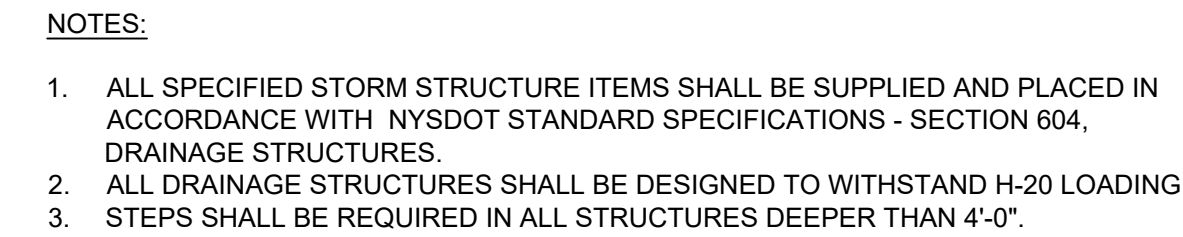
- LEGEND**
- WORK ZONE
 - CHANNELIZING DEVICE
 - WORK ZONE SIGN
 - DIRECTIONAL ARROWS
 - RIGHT OF WAY
 - ARROW PANEL, CAUTION MODE

PLANNING BOARD HTE# 21-00100006





-
- The image contains three technical drawings of a riprap apron structure:
- TYPICAL FLARED END SECTION:** A cross-sectional view showing a pipe/culvert on the left, a flared apron in the middle, and a sloped riprap area on the right. Labels include "PIPE/CULVERT", "La (10' min.)", "VARIABLE", "HAND PLACED MEDIUM STONE FILLING RIP/RAP", and "NYSDOT ITEM 620.04".
 - ISOMETRIC VIEW:** A 3D perspective view of the apron structure, showing the pipe/culvert, the flared apron, and the sloped riprap area. Labels include "PIPE/CULVERT", "La (10' min.)", "SLOPE VARIES", "FLOW", and "d".
 - PLAN:** A top-down view of the apron structure. It shows the apron width (W) and depth (d) relative to the pipe diameter (Do). The apron length (La) is indicated as a minimum of 10 feet. The apron is shown as a flared section transitioning into a rectangular section. Labels include "W1", "3' x Do", "Do", "La (10' min.)", "W2", and "La + do".
- SECTION A-A**
- do = Pipe Dia. (see plans)
 La = Apron Length
 W = Apron Width (centered on pipe)
 d = Apron Depth
- NOTES:**
 1. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER
 BUT NO LESS THAN 6".



DRAINAGE STRUCTURE FRAME AND GRATE

N.T.S.



-
- SEE DRAINAGE STRUCTURE FRAME/GRATE DETAIL THIS SHEET
- 6"
- 2'-0"
- SEE STRUCTURE TABLE, GR-07
- 1'-4" MAX.
- 6" SUMP (TYP.)
- 8"
- 12"
- TOP OF FOOTING
- STEP AS REQUIRED, SEE NOTES
- LIMIT OF EXCAVATION (TYP.)
- NYSDOT CLASS A CONCRETE
- BACKFILL WITH SUITABLE MATERIAL COMPACTED IN CONFORMANCE WITH NYSDOT STANDARD SPECIFICATION 203-3.15 TYPE 4 SUBBASE (NYSDOT ITEM 304.15) COMPACTED IN CONFORMANCE WITH NYSDOT STANDARD SPECIFICATION 203-3.15
- NOTES:**
1. ALL SPECIFIED DRAINAGE STRUCTURE ITEMS SHALL BE SUPPLIED AND PLACED IN ACCORDANCE WITH NYSDOT STANDARD SPECIFICATIONS - SECTION 604, DRAINAGE STRUCTURES.
 2. DRAINAGE STRUCTURES SHALL BE CAST IN PLACE (RECTANGULAR ONLY) OR PRECAST UNITS (RECTANGULAR OR ROUND).
 3. THE CONTRACTOR MAY SUBSTITUTE ROUND, PRECAST STRUCTURES USING SIZES INDICATED ON NYSDOT STANDARD SHEET 604-02, DRAINAGE STRUCTURE DETAILS (SHEET 4 OF 4)
 4. ALL DRAINAGE STRUCTURES SHALL BE DESIGNED TO WITHSTAND H-20 LOADING.
 5. STEPS SHALL BE REQUIRED IN ALL STRUCTURES DEEPER THAN 4'-0".

DRAINAGE STRUCTURE

N.T.S.



N.T.S.



N.T.S.

PLANNING BOARD HTE# 21-00100006

TABLE 1
SAFE BEARING LOADS OF SOILS & MULTIPLICATION FACTORS
FOR MODIFICATION OF THRUST BLOCK AREAS

| SOIL | SAFE BEARING LOAD (LBS./SQ. FT.) | FACTOR |
|---------------------------------------|-------------------------------------|--------|
| MUCK | 0 | 0 |
| SOFT CLAY | 1000 | 2.0 |
| SAND | 2000 | 1.0 |
| SAND AND GRAVEL | 3000 | 0.67 |
| SAND AND GRAVEL CEMENTED WITH CLAY | 4000 | 0.50 |
| SHALE | 10000 | 0.20 |

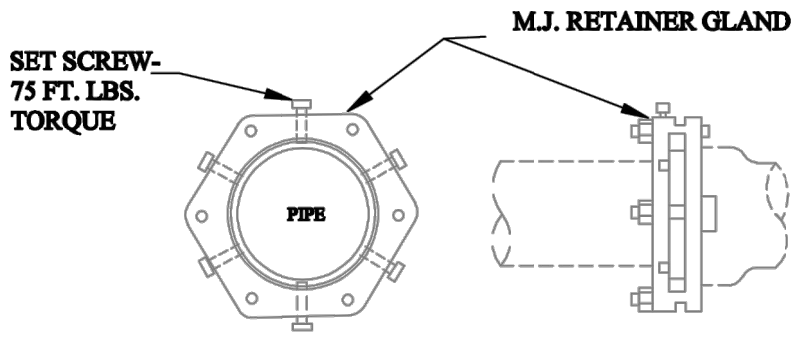
TABLE 2
REQUIRED BEARING AREAS & DIMENSIONS FOR
CONCRETE THRUST BLOCKS

| PIPE SIZE INCHES | TEE AREA DIMENSIONS | 90° (1/4) BEND | | 45° (1/8) BEND | | 22 1/2° (1/16) BEND | | 11-1/4° (1/32) BEND | |
|------------------------|---------------------------|--------------------|------|--------------------|------|---------------------|-----|---------------------|-----|
| | | AREA DIMENSIONS | DcW | AREA DIMENSIONS | DcW | AREA DIMENSIONS | DcW | AREA DIMENSIONS | DcW |
| 2 | 0.4 | 0.5x1.0 | 0.5 | 0.5x1.0 | 0.1 | 0.5x1.0 | 0.1 | 0.5x1.0 | |
| 3 | 0.8 | 1.0x1.0 | 1.1 | 1.0x1.5 | 0.6 | 0.5x1.0 | 0.2 | 0.5x1.0 | |
| 4 | 1.4 | 1.0x1.5 | 2.0 | 1.0x2.0 | 1.1 | 1.0x1.5 | 0.4 | 1.0x1.5 | |
| 6 | 3.2 | 1.5x2.5 | 4.5 | 2.0x2.5 | 2.4 | 1.5x2.0 | 0.6 | 1.5x2.0 | |
| 8 | 5.7 | 2.0x3.0 | 8.0 | 2.0x4.0 | 4.3 | 2.0x2.5 | 1.1 | 1.0x1.5 | |
| 10 | 8.8 | 2.5x3.5 | 12.5 | 3.0x4.5 | 6.8 | 2.0x3.5 | 1.5 | 1.0x2.0 | |
| 12 | 12.7 | 3.5x3.5 | 18.0 | 4.0x4.5 | 9.7 | 2.5x4.0 | 2.2 | 1.5x2.0 | |
| 14 | 17.3 | 3.5x5.0 | 24.5 | 4.5x5.5 | 13.3 | 3.5x4.0 | 3.4 | 2.0x2.5 | |
| 16 | 22.6 | 4.5x5.0 | 32.0 | 5.0x5.5 | 17.3 | 3.5x4.5 | 4.4 | 2.0x2.5 | |
| 18 | 28.6 | 5.0x6.0 | 40.5 | 5.5x7.0 | 21.9 | 4.0x5.5 | 5.6 | 2.5x3.0 | |
| 20 | 35.3 | 5.5x6.5 | 50.0 | 6.5x8.0 | 27.0 | 4.5x6.0 | 6.9 | 2.0x3.5 | |

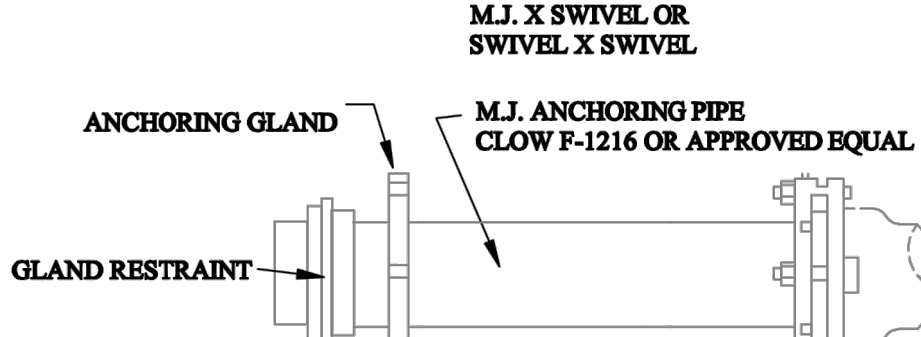
NOTES

- A) FOR REQUIRED BEARING AREA AND DIMENSION DAW SEE TABLE 2
VALUES OF DAW OTHER THAN THOSE SHOWN IN THE TABLE
MAY BE USED PROVIDED THEY YIELD A BEARING AREA EQUAL TO
OR LARGER THAN THAT REQUIRED.
- B) ALL THRUST BLOCKS SHALL BE 3000 P.S.I. POURED CONCRETE.
- C) CONCRETE NOT TO OVERLAP ANY JOINT.
- D) CONCRETE TO BE PLACED SO AS NOT TO INTERFERE WITH
REMOVING OR INSTALLING ANY OF THE HARDWARE.
- E) VALUES FOR TEE, ALSO APPLY TO END PLUGS, CAPS AND TAPPING SLIEVES.
- F) REQUIRED BEARING AREA ARE DUE TO THRUSTS CAUSED BY 150
P.S.I. WORKING PRESSURE PLUS 50% (75 P.S.I.) SURGE ALLOWANCE
RESULTING IN 225 P.S.I. TOTAL INTERNAL PRESSURE, NOMINAL PIPE
DIAMETER USED.
- G) REQUIRED BEARING AREAS ARE BASED ON ALLOWABLE SOIL BEARING
CAPACITY OF 2000 LBS. PER SQ. FT. FOR SAND. DUE TO OTHER
SOIL CONDITIONS ENCOUNTERED, BEARING AREAS MAY BE MODIFIED
BY THE ENGINEER BY MULTIPLYING THE AREA GIVEN IN TABLE 1
FOR THE APPROPRIATE PIPE SIZE AND FITTING BY THE LISTED
CORRECTION FACTORS.
- H) IN MUCK, PRAT OR RECENTLY PLACED FILL, ALL THRUSTS SHALL BE
RESISTED BY PILES OR THE ROCKS TO BUILD FOUNDATIONS, OR BY
REMOVAL OF SUCH UNSTABLE MATERIAL AND REPLACEMENT WITH
BALLAST OF SUFFICIENT STABILITY TO RESIST THE THRUSTS,
ALL A.O.B.E.

A. FOR REQUIRED BEARING AREA AND DIMENSION DAW SEE TABLE 2
VALUES OF DAW OTHER THAN THOSE SHOWN IN THE TABLE
MAY BE USED PROVIDED THEY YIELD A BEARING AREA EQUAL TO OR
LARGER THAN THAT REQUIRED.

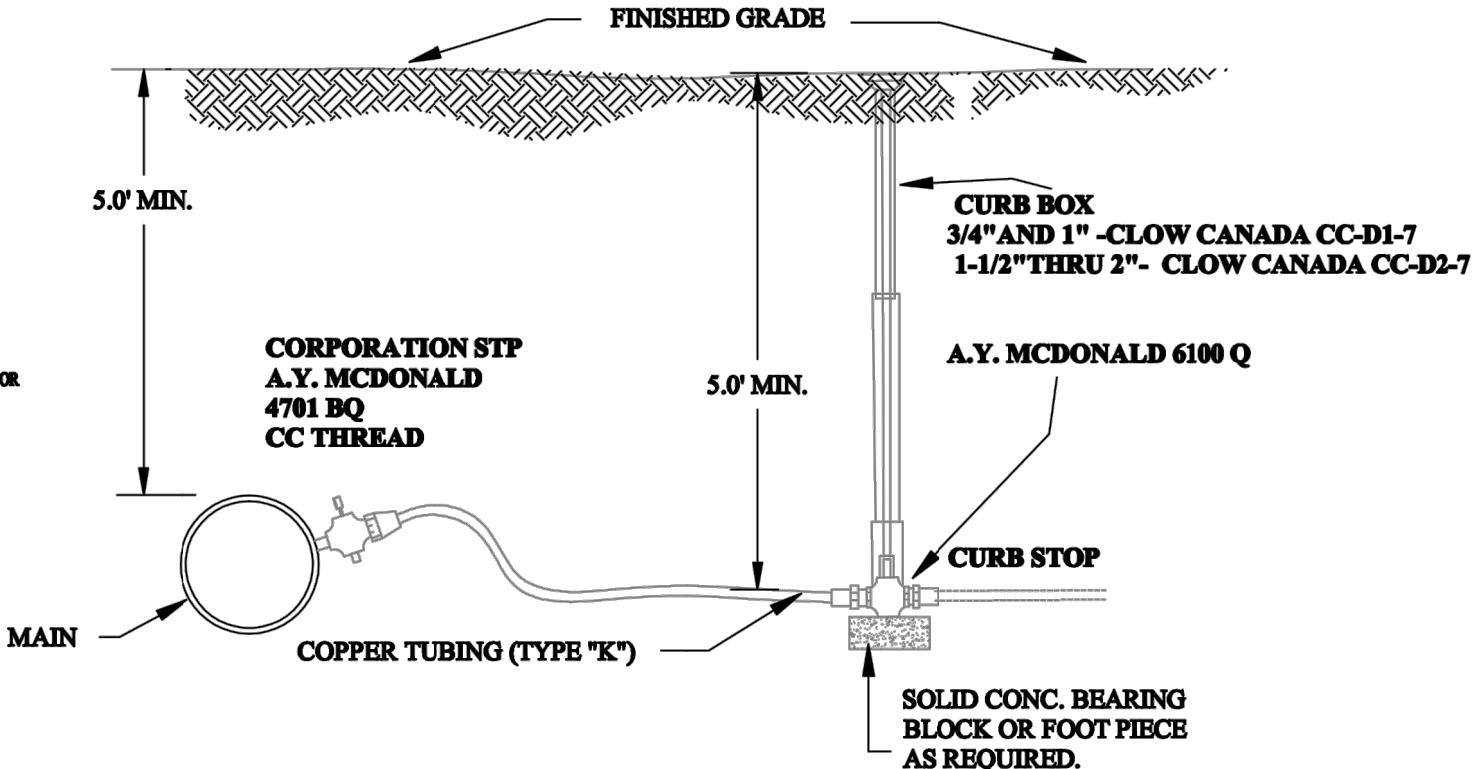


RETAINER GLAND

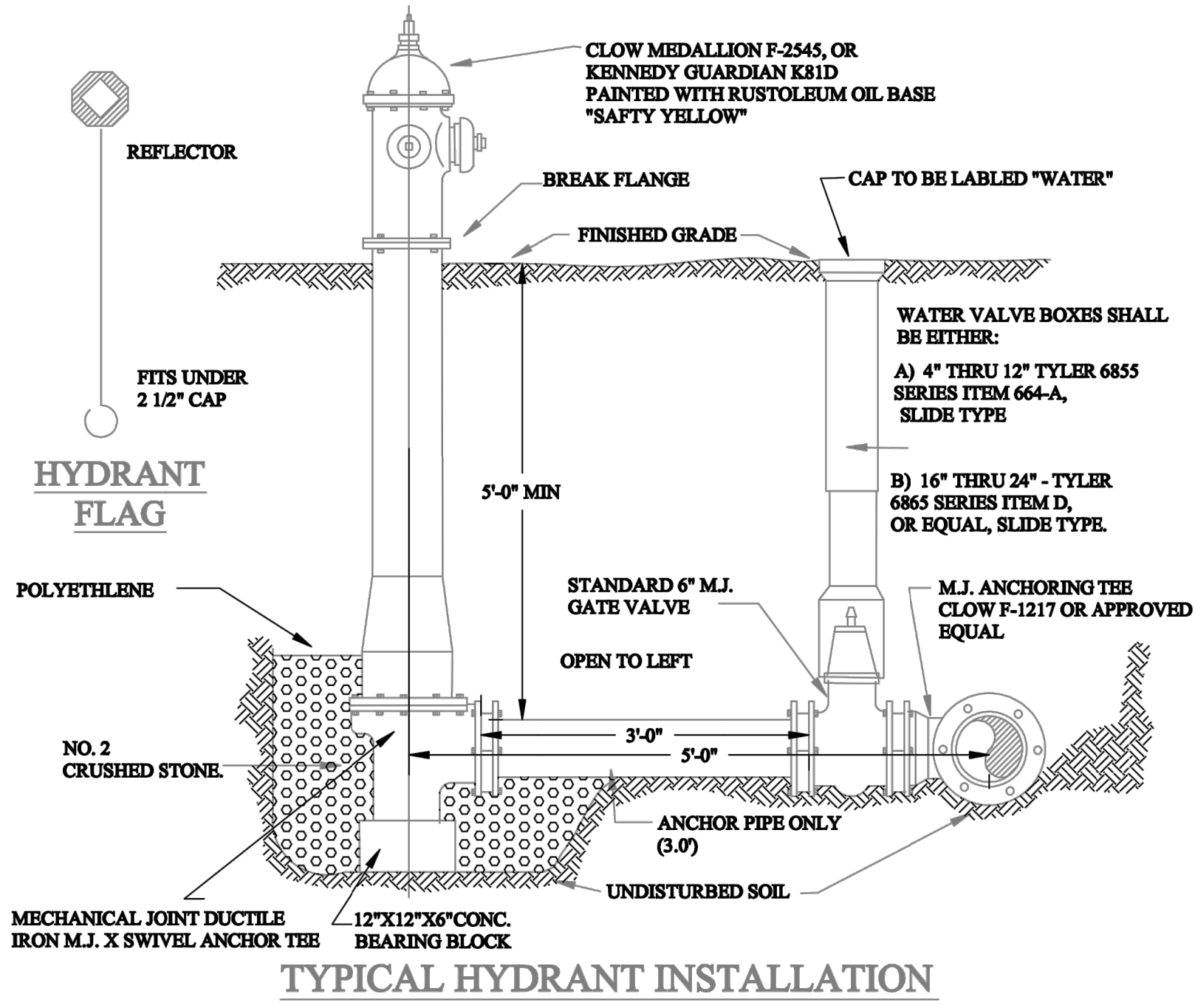


THRUST RESTRAINT OPTIONS

CURB BOXES SHALL BE EITHER :
A) FOR 3/4" AND 1" -CLOW CANADA CC-D1-7 CLOW
CANADA CC-D2-7
5'-6" ADJUSTABLE WITH 35" X 5/8" DIAMETER GRADE
304 STAINLESS STEEL ROD AND BRASS COTTER PIN.
B) FOR 1 1/2" THRU 2", OR EQUAL, 5'-6" ADJUSTABLE
WITH 35" X 5/8" DIAMETER GRADE 304 STAINLESS
STEEL ROD AND BRASS COTTER PIN.

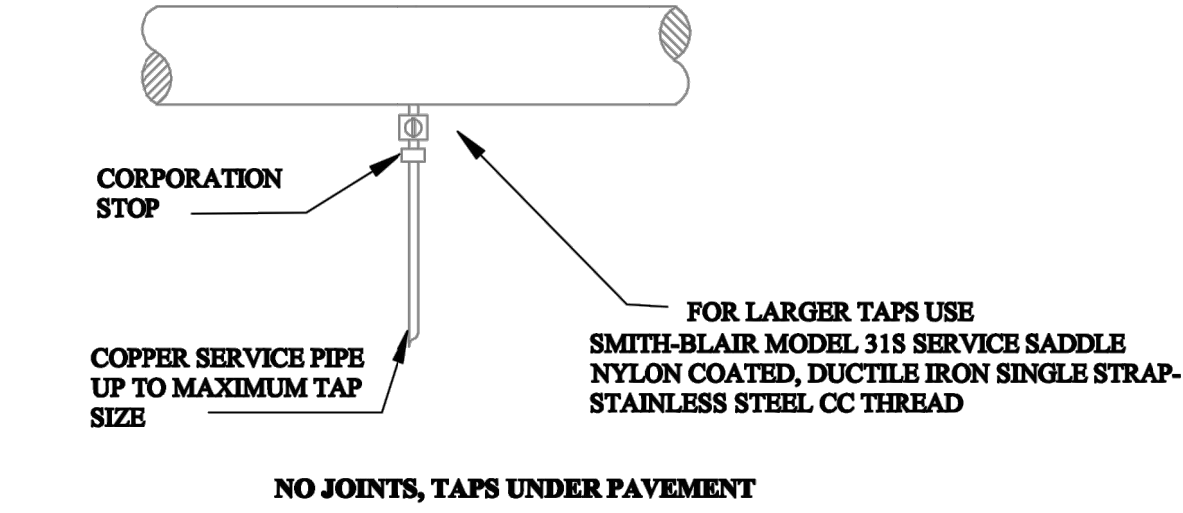


COPPER SERVICE PIPE



TYPICAL HYDRANT INSTALLATION

| MAXIMUM TAP SIZE | | | | | |
|------------------------|-----|---|-------|-------|----|
| MAIN SIZE - (INCHES) | 4 | 6 | 8 | 10 | 12 |
| MAX. TAP SIZE (INCHES) | 3/4 | 1 | 1-1/4 | 1-1/2 | 2 |

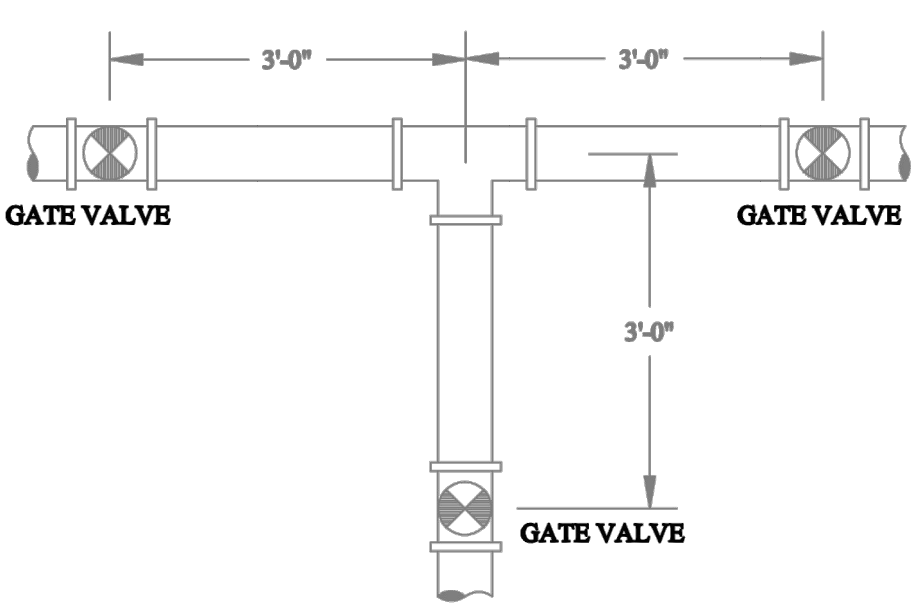


SINGLE AND MULTIPLE TAPS

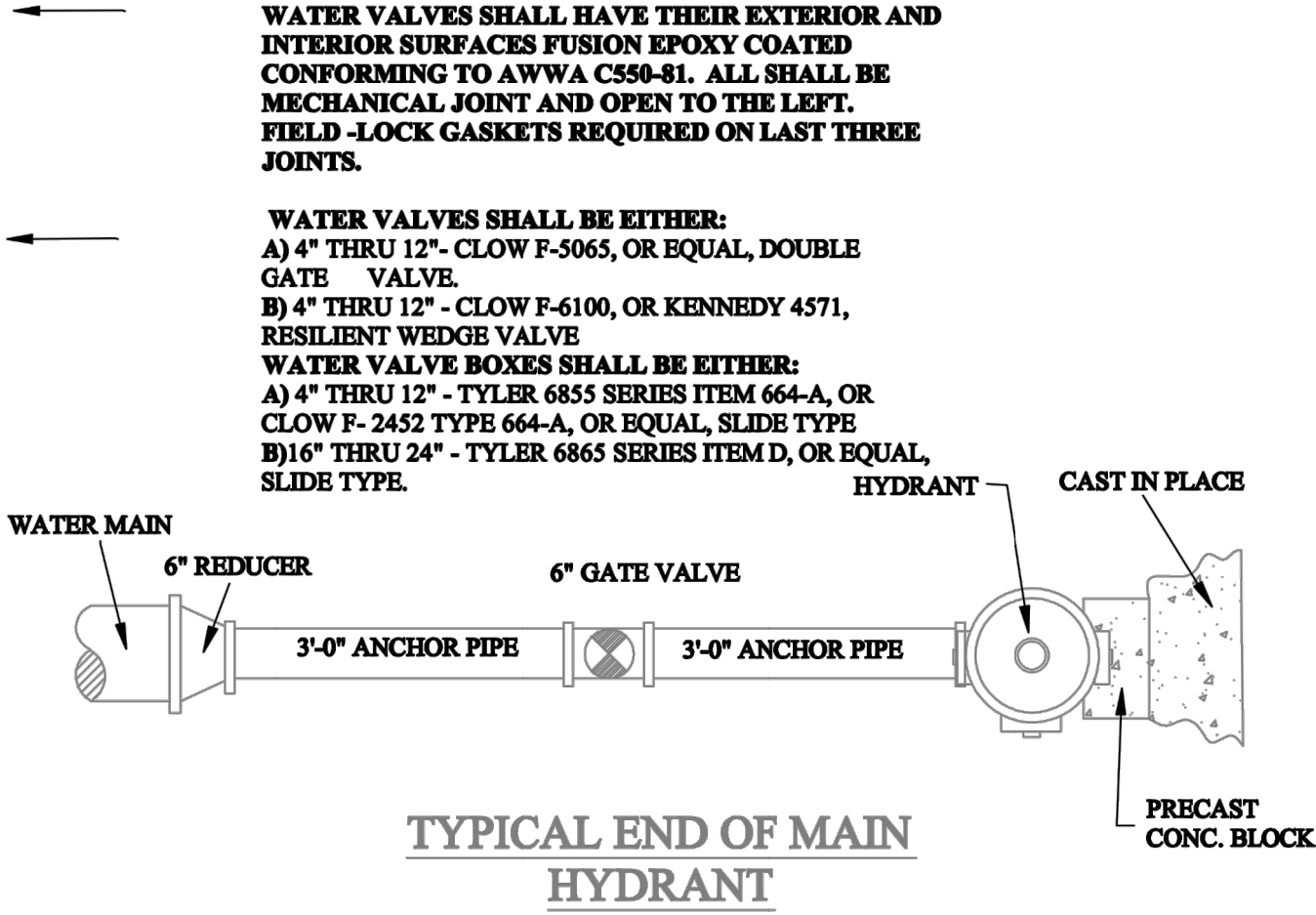
TYPICAL SERVICE CONNECTIONS

TRENCH WIDTH

| PIPE SIZE I.D. (INCHES) | MIN. SUGGESTED TRENCH WIDTH (O.D. BELL PLUS 1") | MAX. TRENCH WIDTH ALLOWED - I.D. PLUS 24" AT TOP OF PIPE |
|-------------------------|---|--|
| 2 | 18 | 26 |
| 3 | 18 | 27 |
| 4 | 18 | 28 |
| 6 | 21 | 30 |
| 8 | 24 | 32 |
| 10 | 26 | 34 |
| 12 | 28 | 36 |
| 14 | 30 | 38 |
| 16 | 32 | 40 |
| 18 | 35 | 42 |
| 20 | 37 | 44 |



TYPICAL SPACING



TYPICAL END OF MAIN
HYDRANT

REVISIONS

| DATE | BY | DESCRIPTION |
|---------|----|-------------|
| 2/15/06 | | |

WATER
DISTRIBUTION
DETAILS

TOWN OF BETHLEHEM
DEPARTMENT OF PUBLIC WORKS
445 DELAWARE AVE. DELMAR, NY 12054

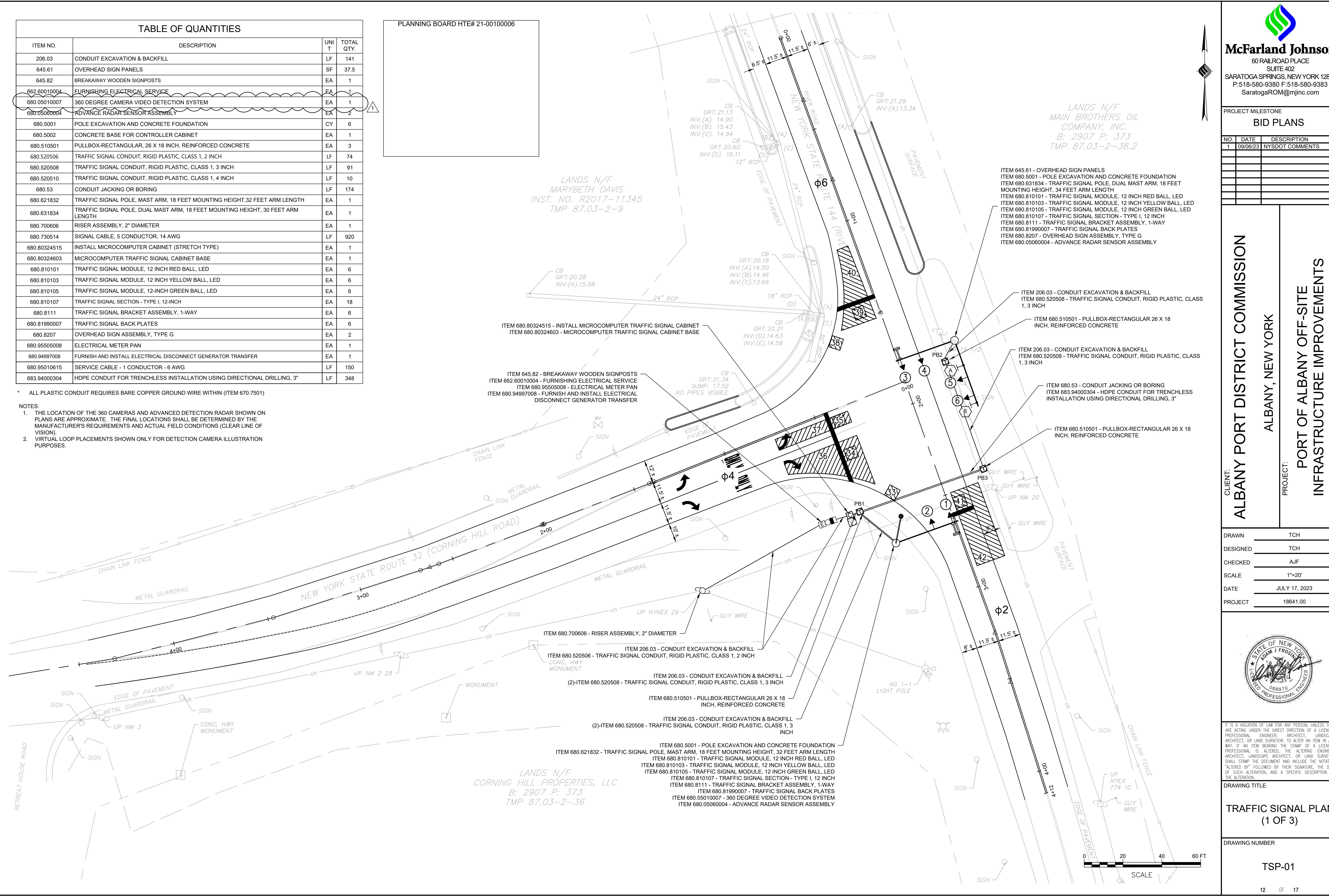


PLANNING BOARD HTE# 21-00100006

| TABLE OF QUANTITIES | | | |
|---------------------|---|------|------------|
| ITEM NO. | DESCRIPTION | UNIT | TOTAL QTY. |
| 206.03 | CONDUIT EXCAVATION & BACKFILL | LF | 141 |
| 645.61 | OVERHEAD SIGN PANELS | SF | 37.5 |
| 645.82 | BREAKAWAY WOODEN SIGNPOSTS | EA | 1 |
| 662.60010004 | FURNISHING ELECTRICAL SERVICE | EA | 1 |
| 680.05010007 | 360 DEGREE CAMERA VIDEO DETECTION SYSTEM | EA | 1 |
| 680.05060004 | ADVANCE RADAR SENSOR ASSEMBLY | EA | 2 |
| 680.5001 | POLE EXCAVATION AND CONCRETE FOUNDATION | CY | 6 |
| 680.5002 | CONCRETE BASE FOR CONTROLLER CABINET | EA | 1 |
| 680.510501 | PULLBOX-RECTANGULAR, 26 X 18 INCH, REINFORCED CONCRETE | EA | 3 |
| 680.520506 | TRAFFIC SIGNAL CONDUIT, RIGID PLASTIC, CLASS 1, 2 INCH | LF | 74 |
| 680.520508 | TRAFFIC SIGNAL CONDUIT, RIGID PLASTIC, CLASS 1, 3 INCH | LF | 91 |
| 680.520510 | TRAFFIC SIGNAL CONDUIT, RIGID PLASTIC, CLASS 1, 4 INCH | LF | 10 |
| 680.53 | CONDUIT JACKING OR BORING | LF | 174 |
| 680.621832 | TRAFFIC SIGNAL POLE, MAST ARM, 18 FEET MOUNTING HEIGHT, 32 FEET ARM LENGTH | EA | 1 |
| 680.631834 | TRAFFIC SIGNAL POLE, DUAL MAST ARM, 18 FEET MOUNTING HEIGHT, 30 FEET ARM LENGTH | EA | 1 |
| 680.700606 | RISER ASSEMBLY, 2" DIAMETER | EA | 1 |
| 680.730514 | SIGNAL CABLE, 5 CONDUCTOR, 14 AWG | LF | 920 |
| 680.80324515 | INSTALL MICROCOMPUTER CABINET (STRETCH TYPE) | EA | 1 |
| 680.80324603 | MICROCOMPUTER TRAFFIC SIGNAL CABINET BASE | EA | 1 |
| 680.810101 | TRAFFIC SIGNAL MODULE, 12 INCH RED BALL, LED | EA | 6 |
| 680.810103 | TRAFFIC SIGNAL MODULE, 12 INCH YELLOW BALL, LED | EA | 6 |
| 680.810105 | TRAFFIC SIGNAL MODULE, 12-INCH GREEN BALL, LED | EA | 6 |
| 680.810107 | TRAFFIC SIGNAL SECTION - TYPE I, 12-INCH | EA | 18 |
| 680.8111 | TRAFFIC SIGNAL BRACKET ASSEMBLY, 1-WAY | EA | 6 |
| 680.81990007 | TRAFFIC SIGNAL BACK PLATES | EA | 6 |
| 680.8207 | OVERHEAD SIGN ASSEMBLY, TYPE G | EA | 2 |
| 680.95505008 | ELECTRICAL METER PAN | EA | 1 |
| 680.94997008 | FURNISH AND INSTALL ELECTRICAL DISCONNECT GENERATOR TRANSFER | EA | 1 |
| 680.95010615 | SERVICE CABLE - 1 CONDUCTOR - 6 AWG | LF | 150 |
| 683.94000304 | HDPE CONDUIT FOR TRENCHLESS INSTALLATION USING DIRECTIONAL DRILLING, 3" | LF | 348 |

* ALL PLASTIC CONDUIT REQUIRES BARE COPPER GROUND WIRE WITHIN (ITEM 670.7501)

- NOTES:
- THE LOCATION OF THE 360 CAMERAS AND ADVANCED DETECTION RADAR SHOWN ON PLANS ARE APPROXIMATE. THE FINAL LOCATIONS SHALL BE DETERMINED BY THE MANUFACTURER'S REQUIREMENTS AND ACTUAL FIELD CONDITIONS (CLEAR LINE OF VISION).
 - VIRTUAL LOOP PLACEMENTS SHOWN ONLY FOR DETECTION CAMERA ILLUSTRATION PURPOSES.



McFarland Johnson
60 RAILROAD PLACE
SUITE 402
SARATOGA SPRINGS, NEW YORK 12866
P: 518-580-9380 F: 518-580-9383
SaratogaROM@mjinc.com

| PROJECT MILESTONE | | |
|-------------------|----------|-----------------|
| BID PLANS | | |
| NO. | DATE | DESCRIPTION |
| 1 | 09/06/23 | NYSDOT COMMENTS |
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CLIENT: **ALBANY PORT DISTRICT COMMISSION**

ALBANY, NEW YORK

PROJECT: **PORT OF ALBANY OFF-SITE INFRASTRUCTURE IMPROVEMENTS**

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| DRAWN | TCH |
| DESIGNED | TCH |
| CHECKED | AJF |
| SCALE | 1"=20' |
| DATE | JULY 17, 2023 |
| PROJECT | 18641.00 |

STATE OF NEW YORK
SEAL OF ADAM J. FROSINI
LICENSED PROFESSIONAL ENGINEER
088870

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

DRAWING TITLE

TRAFFIC SIGNAL PLAN (1 OF 3)

DRAWING NUMBER

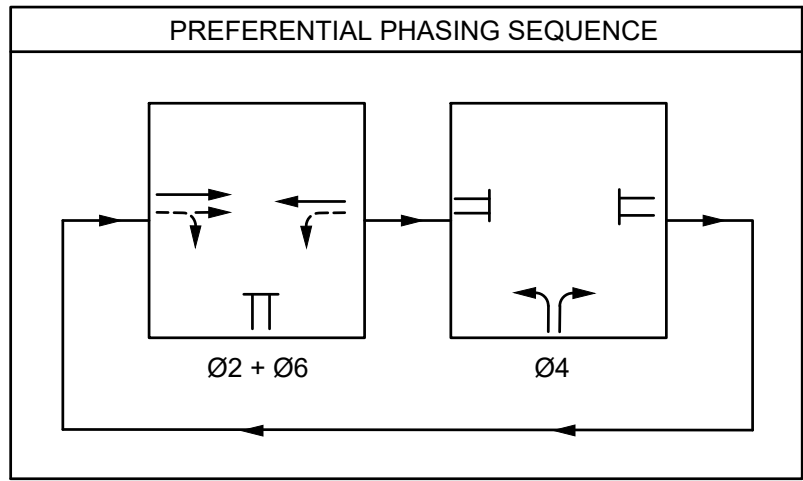
TSP-01

12 OF 17

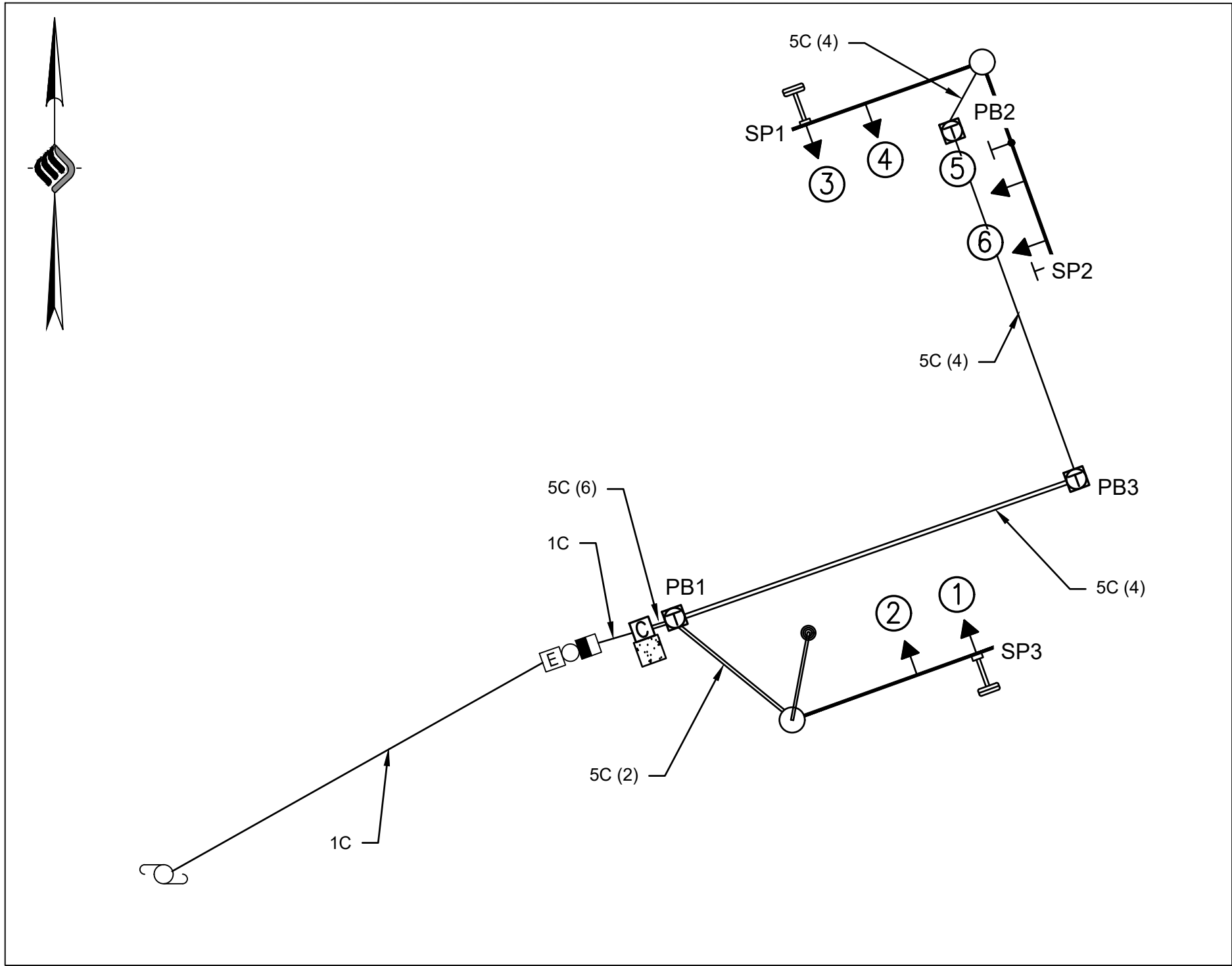
| NEW OVERHEAD SIGNS | | | | | |
|--------------------|----------|------|-----------|----------------------|---------------|
| SYMBOL | ITEM NO. | TEXT | MUTCD NO. | APPROX. SIZE OF SIGN | TYPE OF MOUNT |
| | 680.8207 | | R3-5L | 30" X 36" | MAST ARM |
| | 680.8207 | | R3-5R | 30" X 36" | MAST ARM |

| TABLE OF OPERATIONS | | | | | | |
|-----------------------|-------|----|----|----|----|----|
| PHASE | FACES | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Ø2+Ø6 | G | G | G | G | R | R |
| Ø4 | R | R | R | R | G | G |
| FLASHING OPERATION | FY | FY | FY | FY | FR | FR |
| DISPLAY | | | | | | |
| 12 IN DIAMETER LENSES | | | | | | |

| TABLE OF CLEARANCES | | |
|---------------------|------|---|
| TO | FROM | |
| | R | G |
| R | R | Y |
| | R | R |
| G | R | G |
| | R | G |



| TABLE OF INPUTS 33 THROUGH 64 | | | | |
|-------------------------------|----------|-----------------------|----------------------|----------------------|
| SDLC CHANNEL | FUNCTION | DETECTION ZONE NUMBER | SIZE | REMARKS |
| 33 | Ø4 | 33 | 6' X 6' | EB RIGHT COUNT |
| 34 | Ø4 | 34 | 6' X 6' | EB RIGHT COUNT |
| 35 | Ø4 | 35 | 6' X 6' | EB LEFT COUNT |
| 36 | Ø4 | 36 | 6' X 40' X 14' X 41' | EB THRU / RIGHT |
| 37 | Ø4 | 37 | 6' X 40' | EB LEFT |
| 38 | Ø6 | 38 | 6' X 6' | SB RIGHT COUNT |
| 39 | Ø6 | 39 | 6' X 6' | SB THRU COUNT |
| 40 | Ø6 | 40 | 6' X 6' | SB THRU / RIGHT |
| 41 | Ø2 | 41 | 6' X 40' | NB LEFT / THRU COUNT |
| 42 | Ø2 | 42 | 6' X 40' | NB LEFT / THRU |
| 43 | | | | |
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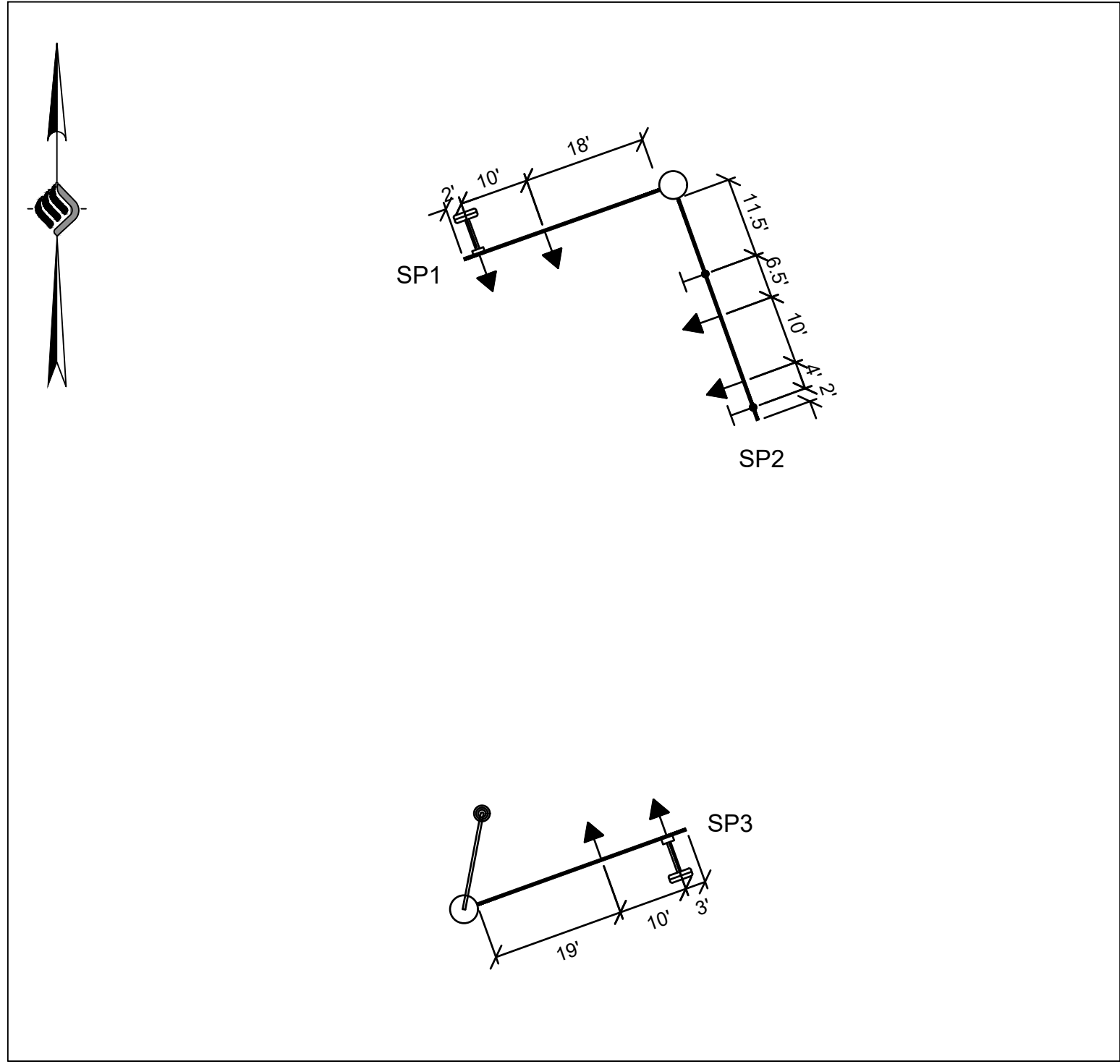
WIRING DIAGRAM

1" = 20'

LEGEND

5C = SIGNAL CABLE, 5 CONDUCTOR, 14 AWG - ITEM 680.730514

1C = SERVICE CABLE, 1 CONDUCTOR, 6 AWG - ITEM 680.95010615



MAST ARM DIAGRAM

1" = 20'

| TABLE OF SWITCH PACKS | | | | | | |
|--|----------|-----------|------------------|---------------------------|----------------------------|--|
| SIGNA NO. XX: NYS ROUTE 32 & NYS ROUTE 144 | | | | COUNTY: ALBANY | | |
| SWITCH PACK | FUNCTION | FACE NO.S | FLASH PLUG COLOR | INDICATIONS | TERMINAL BOARD WIRING | |
| | | | | | TERMINAL | WIRE COLOR CODE |
| SP 1 | | | | | | |
| SP 2 | Ø2 | 1,2 | Y | R Y G GRND. WIRE | SP 1R SP 1Y SP 1G | 14/5C-1-R, 14/5C-2-R 14/5C-1-O, 14/5C-2-O 14/5C-1-G, 14/5C-2-G 14/5C-1-W, 14/5C-2-W |
| SP 3 | | | | R Y G GRND. WIRE | SP 3R SP 3Y SP 3G | |
| SP 4 | Ø4 | 5,6 | R | R Y G GRND. WIRE | SP 2R SP 2Y SP 2G | 14/5C-3-R, 14/5C-4-R 14/5C-3-O, 14/5C-4-O 14/5C-3-G, 14/5C-4-G 14/5C-3-W, 14/5C-4-W |
| SP 5 | | | | GRND. WIR | SP 5R SP 5Y SP 5G | |
| SP 6 | Ø6 | 3,4 | Y | R Y G GRND. WIRE | SP 3R SP 3Y SP 3G | 14/5C-5-R, 14/5C-6-R 14/5C-5-O, 14/5C-6-O 14/5C-5-G, 14/5C-6-G 14/5C-5-W, 14/5C-6-W |
| SP 7 | | | | GRND. WIR | SP 7R SP 7Y SP 7G | |
| SP 8 | | | | GRND. WIR | SP 8R SP 8Y SP 8G | |
| SP 9 | | | | GRND. WIRE | SP 9R SP 9Y SP 9G | |
| SP 10 | | | | GRND. WIR | SP 10R SP 10Y SP 10G | |
| SP 11 | | | | GRND. WIRE | SP 11R SP 11Y SP 11G | |
| SP 12 | | | | GRND. WIRE | SP 12R SP 12Y SP 12G | |
| SP 13 | | | | GRND. WIR | SP 13R SP 13Y SP 13G | |
| SP 14 | | | | GRND. WIRE | SP 14R SP 14Y SP 14G | |
| SP 15 | | | | GRND. WIRE | SP 15R SP 15Y SP 15G | |
| SP-16 | | | | GRND. WIR | SP 16R SP 16Y SP 16G | |

CUT CONFLICT MONITOR DIODES: 2-6

PLANNING BOARD HTE# 21-00100006

NOTES:

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REGIONAL TRAFFIC SIGNAL DETAILS AND NYS STANDARD SHEETS.
- THE CONTRACTOR SHALL NOTIFY THE REGION 1 TRAFFIC SIGNAL MAINTENANCE FOREMAN (518) 237-3954 AT LEAST 2 WEEKS IN ADVANCE OF WHEN WORK IS TO BEGIN.
- TRAFFIC SIGNAL TURN-ON SHALL BE DONE BY NYS TRAFFIC SIGNAL PERSONNEL ONLY. THE CONTRACTOR SHALL PAY A LIQUIDATED DAMAGES CHARGE OF \$10,000 IF THE TRAFFIC SIGNAL IS TURNED ON (INCLUDING FLASHING OPERATION) WITHOUT NYS TRAFFIC SIGNAL PERSONNEL PRESENT. THE CONTRACTOR SHALL NOTIFY THE NYS TRAFFIC SIGNAL SECTION TWO WEEKS PRIOR TO THE REQUESTED DATE OF TURN-ON.
- WHERE THERE IS A POTENTIAL FOR DANGEROUS PROXIMITY OR CONTACT WITH ENERGIZED ELECTRICAL SYSTEMS, UTILITIES SHALL BE CALLED TO DECIDE THE NEED TO DE-ENERGIZE OR INSULATE LINES, OR OTHERWISE PROTECT AGAINST ACCIDENTAL CONTACT.
- THE REQUIRED WORK ZONE TRAFFIC CONTROL SHALL CONFORM TO THE NATIONAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE NEW YORK STATE SUPPLEMENT.



McFarland Johnson

60 RAILROAD PLACE
SUITE 402
SARATOGA SPRINGS, NEW YORK 12866
P:518-580-9380 F:518-580-9383
SaratogaROM@mjinc.com

PROJECT MILESTONE

BID PLANS

| NO. | DATE | DESCRIPTION |
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CLIENT:
ALBANY PORT DISTRICT COMMISSION

ALBANY, NEW YORK

PROJECT:
**PORT OF ALBANY OFF-SITE
INFRASTRUCTURE IMPROVEMENTS**

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| DRAWN | TCH |
| DESIGNED | TCH |
| CHECKED | AJF |
| SCALE | 1"=20' |
| DATE | JULY 17, 2023 |
| PROJECT | 18641.00 |



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DRAWING TITLE

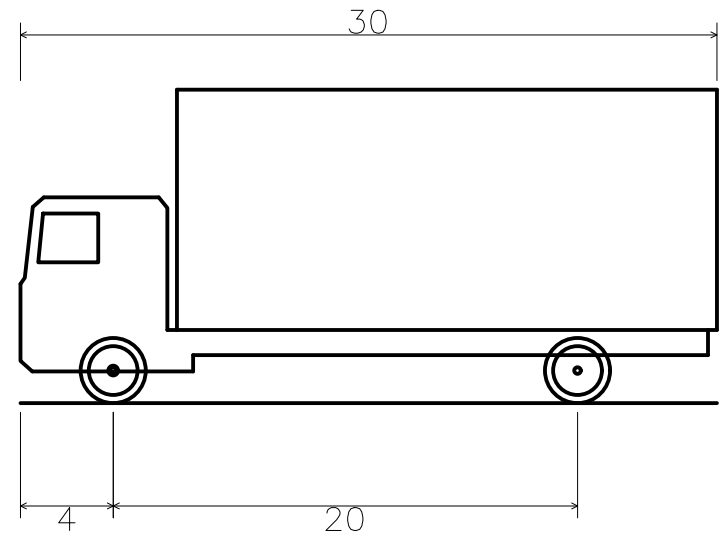
**TRAFFIC SIGNAL PLAN
(2 OF 3)**

DRAWING NUMBER

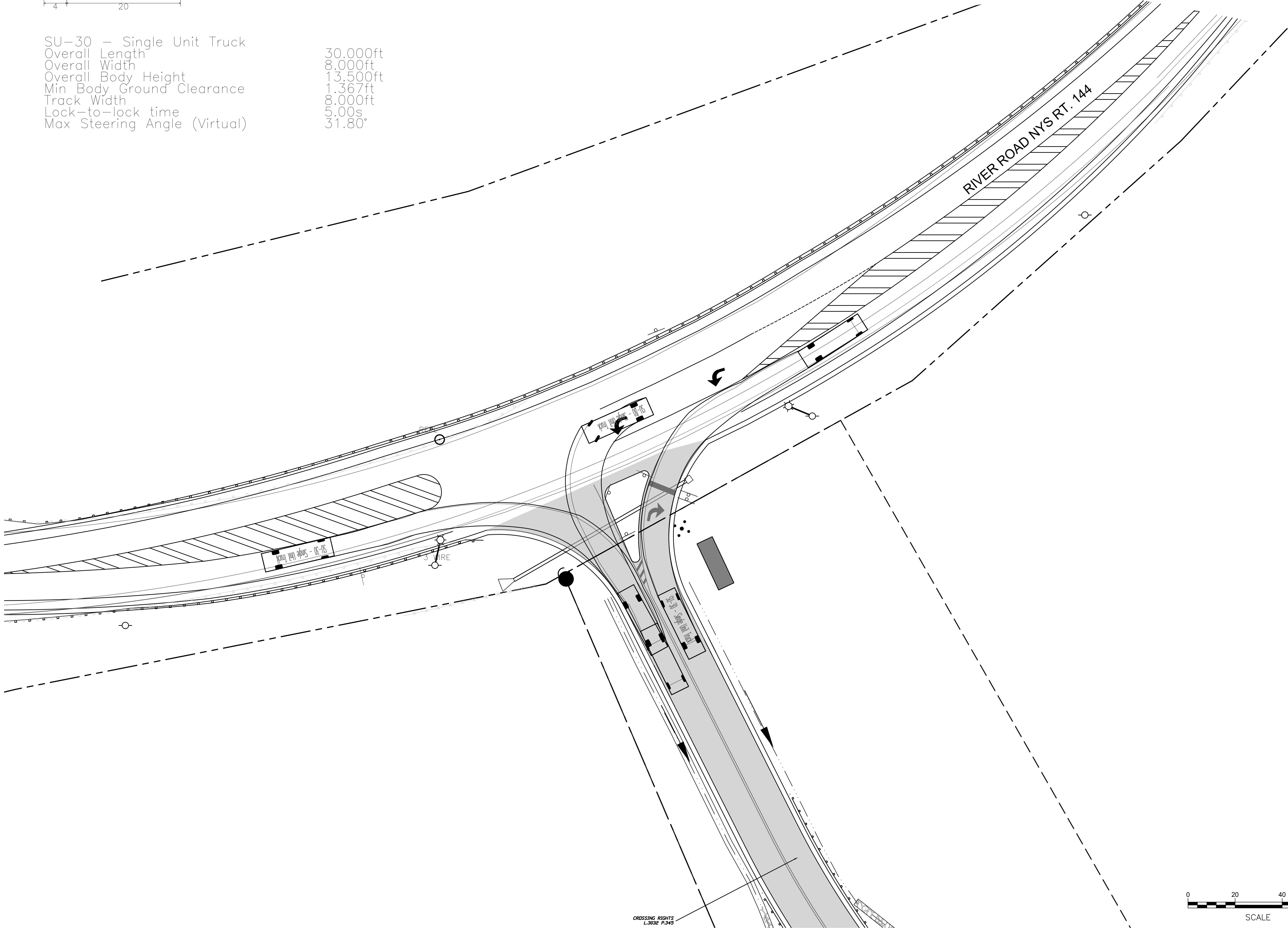
TSP-02

1. ALL TRAFFIC SIGNAL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH NEW YORK STATE STANDARD SHEETS 680-01 THRU 680-17 INCLUSIVE, AS APPLICABLE, EXCEPT AS MODIFIED BELOW OR IN THE CONTRACT PLANS.
2. WHERE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA) SPECIFICATION EQUIPMENT IS TO BE INSTALLED, SUCH EQUIPMENT SHALL MEET ALL REQUIREMENTS OF N.E.M.A. SPECIFICATION TS2-2003 AS AMENDED.
3. UNLESS OTHERWISE NOTED, NYSDOT SHALL HAVE MAINTENANCE JURISDICTION OVER ALL SIGNALS IN THIS CONTRACT UPON COMPLETION OF THEIR INSTALLATION AND OFFICIAL ACCEPTANCE.
4. ALL MATERIALS CATALOG CUT SHEETS MUST BE SELECTED FROM NYSDOT APPROVED PRODUCT LIST. THE CUT SHEETS CAN THEN BE SUBMITTED TO THE E.I.C. FOR REVIEW AND ACCEPTANCE PRIOR TO INSTALLATION.
5. THE CONTRACTOR SHALL HAVE ALL CONVENTIONAL, N.E.M.A. OR INTERSECTION FLASHER EQUIPMENT (TO BE INSTALLED), INSPECTED BY NYSDOT SIGNAL MAINTENANCE FORCES BEFORE THE SIGNAL IS ENERGIZED. THE CONTRACTOR SHALL MAINTAIN EACH SIGNAL IN CONTINUOUS OPERATION AS SPECIFIED BY THE TABLE OF OPERATIONS FOR 30 DAYS BEFORE SEEKING FINAL ACCEPTANCE.
6. UPON COMPLETION OF WORK AT AN INTERSECTION, NYSDOT TRAFFIC SIGNAL MAINTENANCE PERSONNEL WILL PERFORM AN INSPECTION OF THE SIGNAL SYSTEM. WITHIN TWO WEEKS OF NOTIFICATION, THE CONTRACTOR SHALL UNBAG THE NEW SIGNAL HEADS AND SHALL PROVIDE ACCESS TO ALL PULBBOXES FOR INSPECTION PURPOSES. THE CONTRACTOR SHALL BE NOTIFIED OF ANY DEFECTS FOUND DURING THE INSPECTION, AND WILL MAKE THE NECESSARY CORRECTIONS BEFORE THE INTERSECTION WILL BE ACCEPTED. THE CONTRACTOR SHALL PROVIDE SUFFICIENT PERSONNEL AND TRAFFIC CONTROL DEVICES TO SAFELY MAINTAIN TRAFFIC THROUGH THE INTERSECTION WHILE THE INSPECTION IS BEING PERFORMED. THE SIGNAL HEADS SHALL BE REBAGGED SHOULD THE INSPECTION FAIL.
7. WORK ZONE TRAFFIC CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 619 - WORK ZONE TRAFFIC CONTROL - OF THE NYSDOT STANDARD SPECIFICATIONS, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND ANY PROVISIONS CONTAINED IN THE PLANS. THE CONTRACTOR SHALL INSTALL SIGNS ON ALL LEGS OF AN INTERSECTION PRIOR TO WORKING AT THAT INTERSECTION.
8. THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN A TRAFFIC SIGNAL SHALL INCLUDE MAINTAINING VEHICLE DETECTORS ON A VEHICLE ACTUATED INSTALLATION. IF A VEHICLE DETECTOR BECOMES INOPERATIVE, THE CONTRACTOR SHALL REPAIR IT, REPLACE IT, OR, IF A NEW COMPATIBLE DETECTOR IS CALLED FOR IN THE PLANS, HE MAY, WITH THE PERMISSION OF THE E.I.C., CONNECT THE NEW DETECTOR INTO THE EXISTING SYSTEM.
9. ALL SIGNAL IMPROVEMENTS SHOWN ON THE PLANS, INCLUDING LANE DESIGNATION SIGNS, TURNING LANES, CHANNELIZATION, PAVEMENT MARKINGS, ETC., SHALL BE IN PLACE BEFORE THE NEW SIGNAL SYSTEM IS PLACED INTO OPERATION. THE CONTRACTOR SHALL WORK WITH THE E.I.C. AND THE REGIONAL TRAFFIC ENGINEER TO COORDINATE THESE OPERATIONS.
10. THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANY THAT WILL BE SUPPLYING POWER TO THE TRAFFIC SIGNAL EQUIPMENT AT EACH INTERSECTION WITHIN 30 DAYS OF THE CONTRACT AWARD. THE CONTRACTOR SHALL MEET ALL REQUIREMENTS OF THE NEW YORK BOARD OF FIRE UNDERWRITERS IN THEIR SIGNAL INSTALLATIONS AND EACH INSTALLATION MUST PASS A FIRE UNDERWRITERS INSPECTION BEFORE SERVICE CONNECTION WILL BE MADE BY THE UTILITY COMPANY. THE COST OF THE INSPECTION SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS TRAFFIC SIGNAL ITEMS.
11. IF IT IS DISCOVERED THAT THE MINIMUM CLEARANCES FROM PRIMARY AND/OR SECONDARY POWER CONDUCTORS AS REQUIRED BY SECTION 23 OF THE NATIONAL ELECTRICAL SAFETY CODE (ANSI STANDARD C2-1997) AND LOCAL UTILITY CODES CANNOT BE ACHIEVED, THE UTILITY COMPANY OWNING SUCH CONDUCTORS SHALL BE NOTIFIED IN WRITING OF THE PROBLEM. NO FURTHER WORK SHALL BE DONE UNTIL SAID POWER LINES HAVE BEEN RELOCATED TO PROVIDE THE PROPER CLEARANCE.
12. UNDER NO CONDITION SHALL THE CONTRACTOR MAKE THE SERVICE CONNECTION; ALL SERVICE CONNECTIONS SHALL BE MADE BY THE APPROPRIATE UTILITY COMPANY.
13. THE LOCATIONS OF ALL UNDERGROUND OBJECTS HAVE NOT BEEN SHOWN ON ALL PLANS. THE CONTRACTOR SHALL DETERMINE THE EXISTING CONDITIONS AND SUPPORT AND PROTECT ALL LINES ENCOUNTERED IN THE TRENCHING AND EXCAVATION OPERATIONS. THE CONTRACTOR SHALL NOTIFY DIG SAFELY NEW YORK 2 (TWO) WORK DAYS PRIOR TO DIGGING, DRILLING, OR BLASTING AT 811 FOR A UTILITY STAKE-OUT.
14. WHERE ONE CONDUIT IS TOO SMALL TO PERMIT PASSAGE OF THE REQUIRED SIGNAL WIRING, TWO OR MORE CONDUITS SHALL BE USED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE NUMBER OF CONDUITS NEEDED.
15. ALL HOLES FOR L.B. CONDULETS, THIMBLE BOLTS, AND POLE-MOUNTED SIGNAL AND/OR PEDESTRIAN HEADS SHALL BE DRILLED. THE USE OF CUTTING TORCHES IS NOT PERMITTED UNLESS WRITTEN PERMISSION IS GRANTED IN ADVANCE BY THE REGIONAL TRAFFIC ENGINEER.
16. EACH PHASE SHALL HAVE ITS OWN GROUND WIRE.
17. A CARD SHALL BE PLACED ON THE INSIDE DOOR OF EACH CONTROLLER CABINET LISTING ALL THE COMPONENT PARTS BY SERIAL NUMBER, DATE OF INSTALLATION, AND DATE OF OFFICIAL OPERATION. WHERE STATE MICROCOMPUTERS ARE TO BE USED, THIS WILL BE DONE BY STATE MAINTENANCE FORCES.
18. ON ALL SIGNAL HEAD ASSEMBLIES ALL FEMALE THREADED CONNECTING HARDWARE SHALL HAVE TWO SET SCREWS AND ALL THREADED PIPE NIPPLES SHALL HAVE TAPERED THREADS.
19. THE BOTTOMS OF ALL TRAFFIC SIGNAL HEADS SHALL BE LOCATED AT LEAST 17.0' (5.2 M) ABOVE THE PAVEMENT SURFACE.
20. ONCE TRAFFIC SIGNAL HEAD ASSEMBLIES HAVE BEEN INSTALLED AND ADJUSTED IN THE FIELD TO THE SATISFACTION OF NYSDOT TRAFFIC MAINTENANCE PERSONNEL, THE CONTRACTOR SHALL APPLY A BEAD OF SILICONE SEALANT AROUND THE SERRATED LOCK RING AT ALL LOCATIONS WHERE VERTICAL PIPE NIPPLES ARE ATTACHED TO THE TOP SURFACES OF BOTH TRAFFIC SIGNAL SECTIONS AND PIPE CROSS BODIES TO PREVENT WATER INFILTRATION INTO THE SIGNAL ASSEMBLY.
21. ALL SIGNAL WIRE CONNECTIONS TO THE SIGNAL HEADS SHALL BE MADE DIRECTLY TO THE TERMINAL BLOCK(S) INSIDE OF EACH SIGNAL HEAD ASSEMBLY; PIGTAILS AND EXPOSED SPICES SHALL NOT BE PERMITTED. WHERE TWO SIGNAL HEADS ARE TO BE WIRED FROM THE SAME CABLE, THE SIGNALS SHALL BE DAISY CHAINED WITH ONE LENGTH OF WIRE RUNNING FROM THE CONTROLLER ENTERING THE FIRST SIGNALS WEATHERHEAD AND A SECOND LENGTH LEAVING THE WEATHERHEAD AND RUNNING TO THE OTHER SIGNALS WEATHERHEAD.

NOTE: INSTALL PER MANUFACTURERS INSTRUCTIONS



SU-30 - Single Unit Truck
Overall Length 30.000ft
Overall Width 8.000ft
Overall Body Height 13.500ft
Min Body Ground Clearance 1.367ft
Track Width 8.000ft
Lock-to-lock time 5.00s
Max Steering Angle (Virtual) 31.80°



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PROJECT MILESTONE
BID PLANS

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CLIENT: **ALBANY PORT DISTRICT COMMISSION**
ALBANY, NEW YORK
PROJECT: **PORT OF ALBANY OFF-SITE INFRASTRUCTURE IMPROVEMENTS**

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| DRAWN | TCH |
| DESIGNED | TCH |
| CHECKED | AJF |
| SCALE | 1"=40' |
| DATE | JULY 17, 2023 |
| PROJECT | 18641.00 |

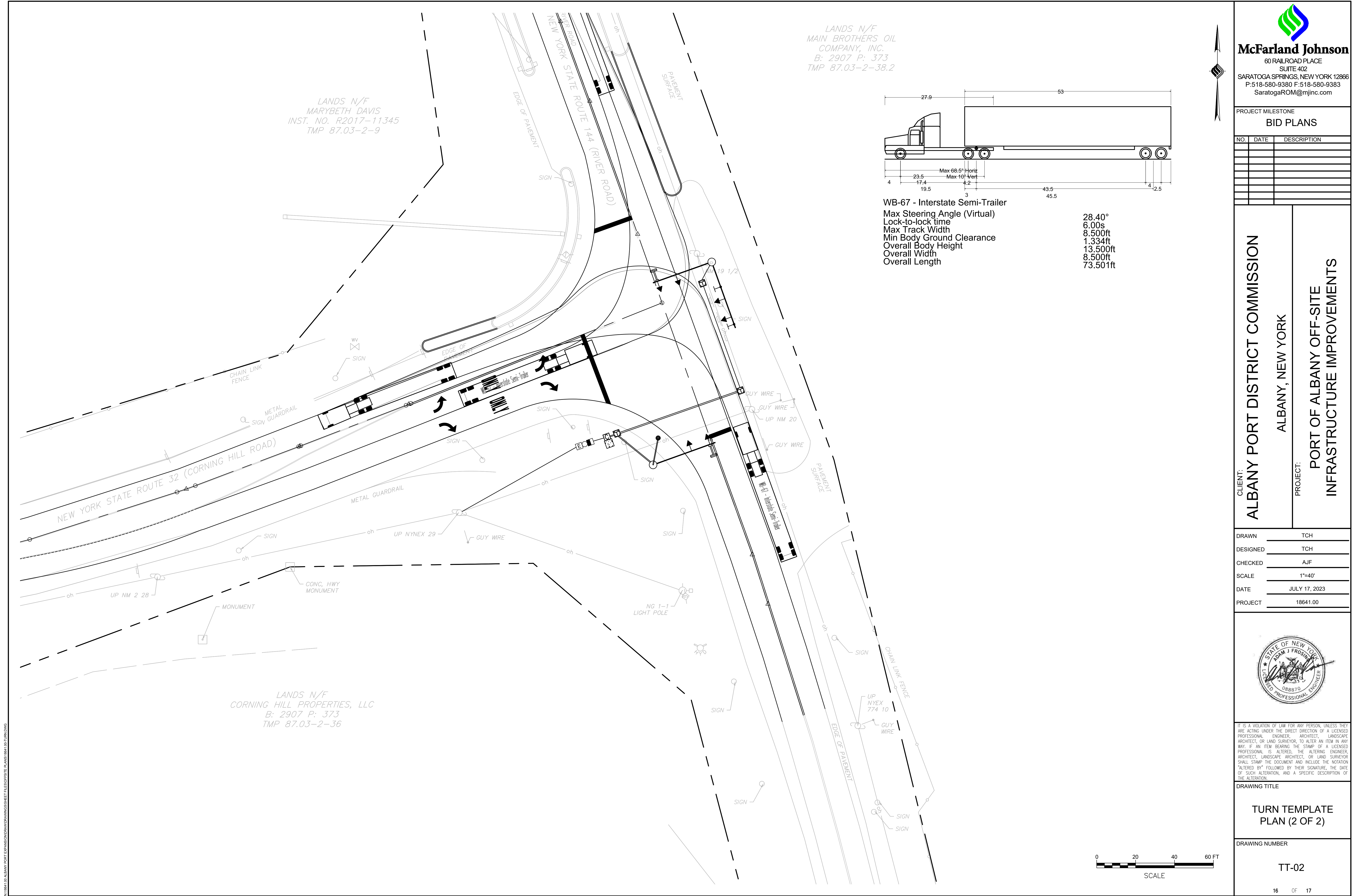


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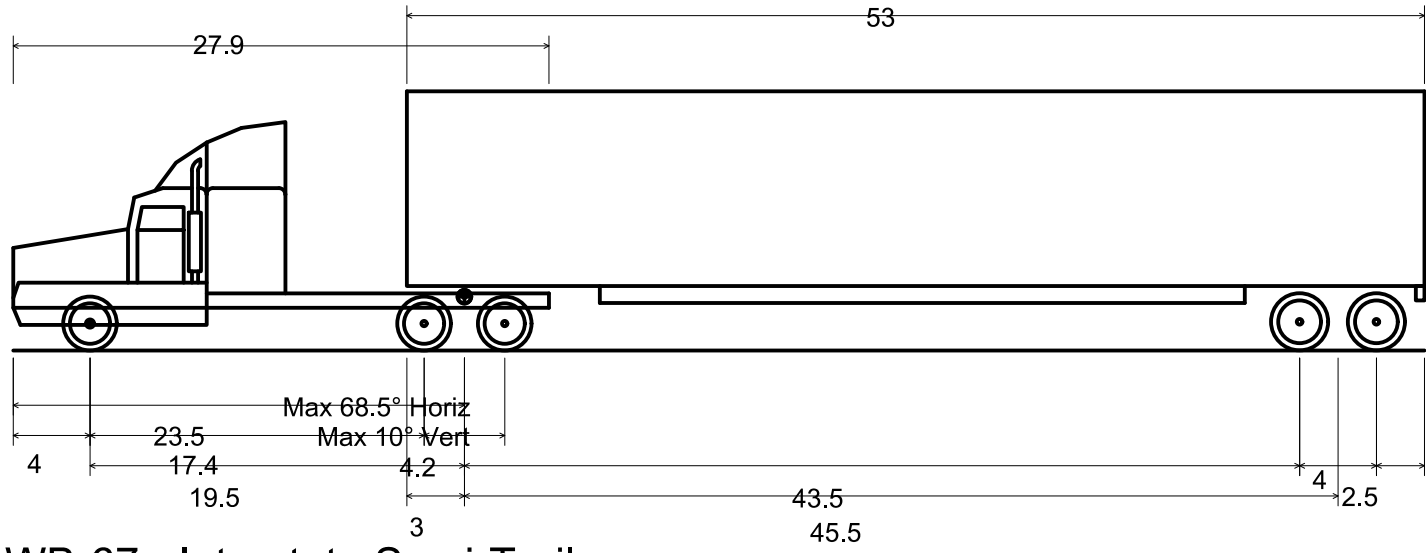
DRAWING TITLE
**TURN TEMPLATE
PLAN (1 OF 2)**

DRAWING NUMBER
TT-01

N:\18641\02 ALBANY PORT DISTRICT\DRAWINGS\DRWG\18641-02 TURN.DWG



LANDS N/F
MAIN BROTHERS OIL
COMPANY, INC.
B: 2907 P: 373
TMP 87.03-2-38.2



WB-67 - Interstate Semi-Trailer
Max Steering Angle (Virtual) 28.40°
Lock-to-lock time 6.00s
Max Track Width 8.500ft
Min Body Ground Clearance 1.334ft
Overall Body Height 13.500ft
Overall Width 8.500ft
Overall Length 73.501ft



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CLIENT: **ALBANY PORT DISTRICT COMMISSION**
ALBANY, NEW YORK
PROJECT: **PORT OF ALBANY OFF-SITE
INFRASTRUCTURE IMPROVEMENTS**

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DRAWING TITLE
**TURN TEMPLATE
PLAN (2 OF 2)**

DRAWING NUMBER
TT-02





PROJECT MILESTONE

BID PLANS

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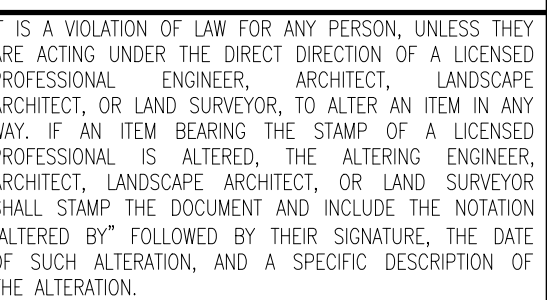
ALBANY PORT DISTRICT COMMISSION

PROJECT:

PORT OF ALBANY OFF-SITE
INFRASTRUCTURE IMPROVEMENTS

ALBANY NEW YORK

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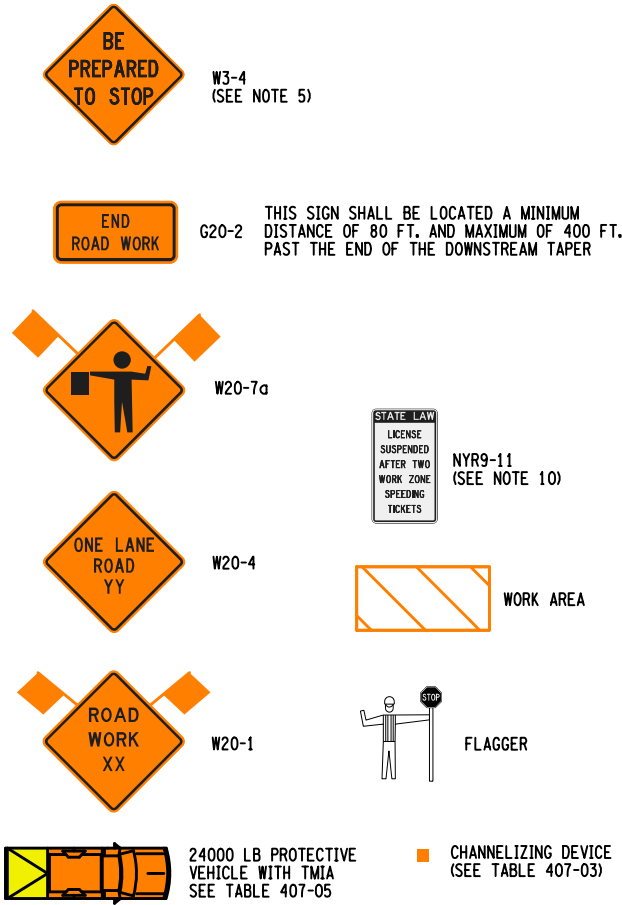
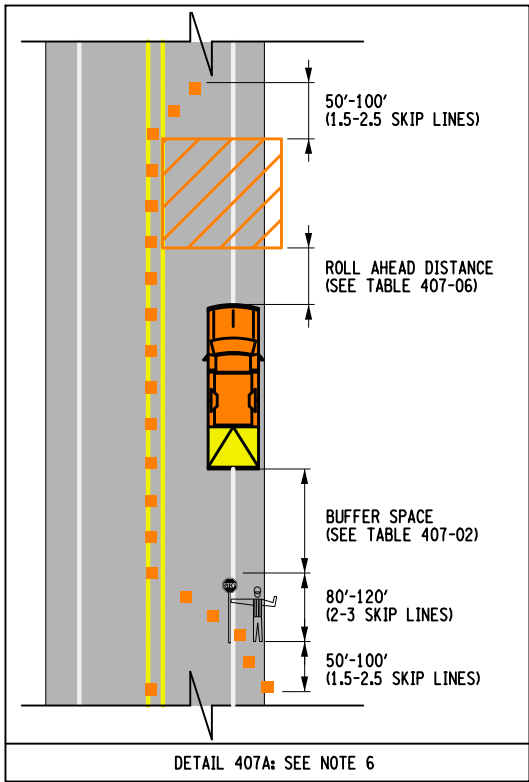
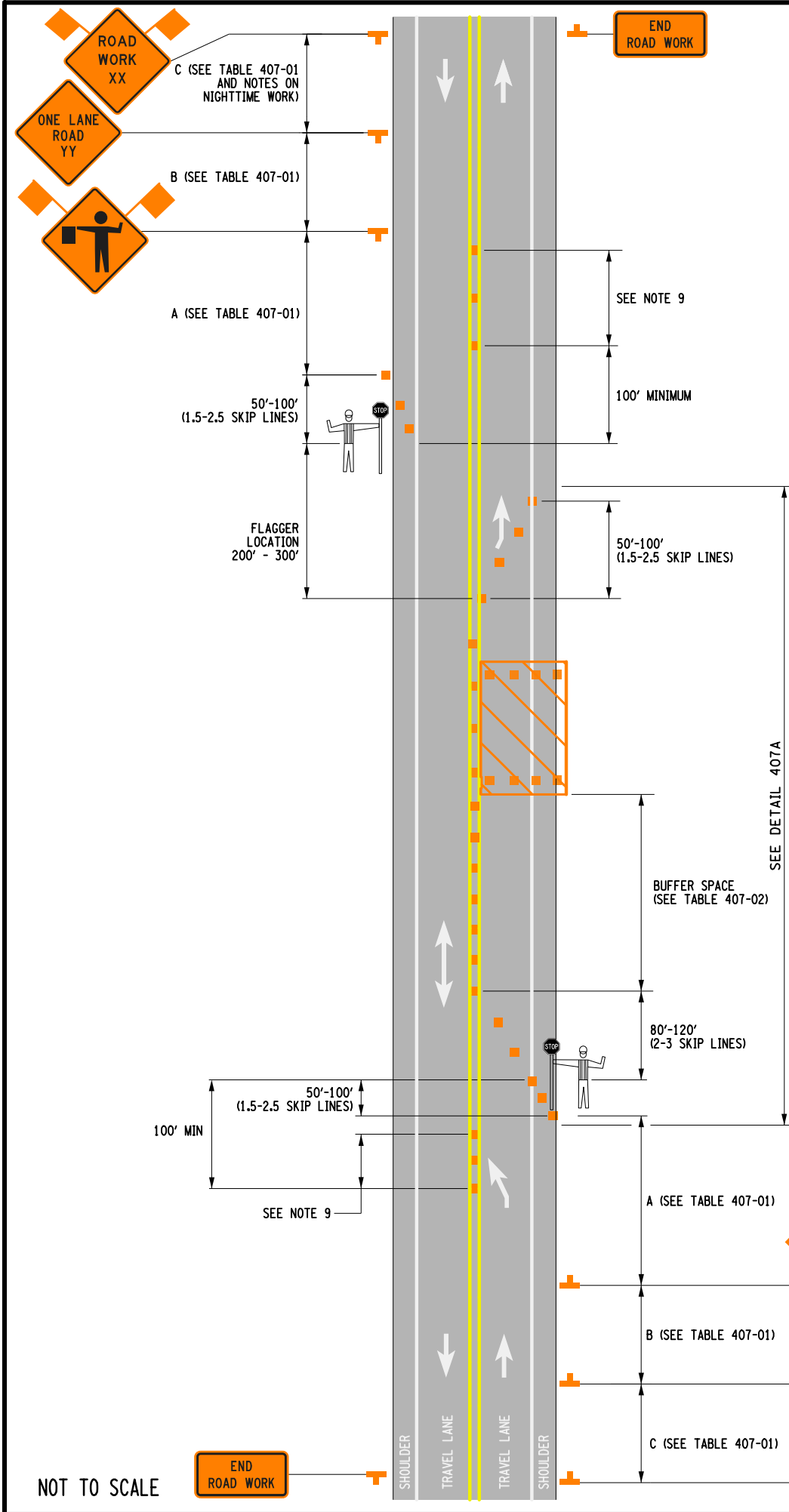
RAWING TITLE

SIGHT DISTANCE PLAN

RAWING NUMBER

SD-01





- NOTES:
- INTERMEDIATE-TERM IS STATIONARY WORK THAT OCCUPIES A LOCATION MORE THAN ONE DAYLIGHT PERIOD UP TO 3 CONSECUTIVE DAYS, OR NIGHTTIME WORK LASTING MORE THAN 1 HOUR.
 - WHEN A SIDE ROAD OR DRIVEWAY INTERSECTS THE ROADWAY WITHIN A WORK ZONE TRAFFIC CONTROL AREA, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES AND/OR FLAGGERS SHALL BE PLACED AS NEEDED. ADDITIONAL FLAGGERS SHALL BE LOCATED AT ALL INTERSECTIONS AND COMMERCIAL DRIVEWAYS LOCATED WITHIN OR NEAR THE ACTIVE WORK SPACE. NO WORK ACTIVITY, EQUIPMENT, OR STORAGE OF VEHICLES, OR MATERIAL SHALL OCCUR WITHIN THE BUFFER SPACE AT ANY TIME.
 - CHANNELIZING DEVICE SPACING (CENTER TO CENTER) SHALL NOT EXCEED 20' IN THE ACTIVE WORK SPACE.
 - CHANNELIZING DEVICES SHALL BE PLACED TRANSVERSELY A MINIMUM OF EVERY 800' AS SHOWN WHEN A PAVED SHOULDER HAVING A WIDTH OF 8' OR GREATER IS CLOSED FOR A DISTANCE GREATER THAN 800'.
 - IF THE TRAFFIC IS EXPECTED TO QUEUE PAST THE W20-4 SIGN, A W3-4 SIGN SHOULD BE ADDED HALFWAY BETWEEN THE W20-4 AND W20-1 SIGNS.
 - IF CONDITION WARRANTS, PROTECTIVE VEHICLE WITH APPROPRIATE ROLL AHEAD DISTANCE MAY BE USED IN ADVANCE OF THE WORK AREA. TO USE PROTECTIVE VEHICLE, BUFFER SPACE SHALL BE PROVIDED ACCORDINGLY, AND THE WHEELS SHALL BE ALIGNED WITH THE LANE STRIPING.
 - FLAGGER SIGN (W20-7a) AND ONE LANE ROAD AHEAD SIGN (W20-4) SHALL BE REMOVED, COVERED OR TURNED AWAY FROM ROAD USERS WHEN FLAGGING OPERATIONS ARE NOT OCCURRING.
 - ALL FLAGGERS SHALL USE 24" (MIN.) OCTAGON SHAPED STOP/SLOW PADDLES HAVING 6' STAFF. THE PADDLE IS THE PREFERRED DEVICE, BUT THE FLAG MAY BE USED AT INTERSECTIONS WHERE THE STOP/SLOW PADDLE WOULD OFFER CONTRADICTING INFORMATION TO DRIVERS TRAVELING IN OPPOSITE DIRECTIONS/LEGS OF THE INTERSECTION OR DURING INCIDENT MANAGEMENT SITUATIONS.
 - CENTERLINE CONES MAY BE ADDED TO ENHANCE THE VISIBILITY OF THE FLAGGER STATION. IF CONES ARE USED, PLACE THEM 100 FT. (MINIMUM) FROM FLAGGER.
 - THE NY9-11 SIGN IS RECOMMENDED. WHEN USED, IT SHALL BE PLACED IN ADVANCE OF THE FIRST ADVANCE WARNING SIGN. THE PLACEMENT DISTANCE SHALL BE 1000' FOR POSTED SPEED LIMITS OF 45 MPH OR HIGHER, AND 300' - 500' FOR POSTED SPEED LIMITS OF LESS THAN 45 MPH.
- NOTES ON NIGHTTIME WORK:
- WORK OCCURRING AFTER SUNSET AND BEFORE SUNRISE WILL BE CONSIDERED NIGHTTIME OPERATIONS.
 - ALL SIGNS, STOP / SLOW PADDLES AND RED FLAGS USED TO WARN / ALERT / CONTROL TRAFFIC SHALL BE RETROREFLECTIVE.
 - ALL WORKERS INVOLVED SHALL WEAR PROTECTIVE HELMET AND NIGHTTIME APPAREL IN ACCORDANCE WITH §107-05A. HIGH VISIBILITY APPAREL AT ALL TIMES.
 - VEHICLES OPERATING ON THE PAVEMENT OF A CLOSED ROADWAY OR TRAVEL LANE SHALL DISPLAY ROTATING AMBER BEACONS AT ALL TIMES.
 - LEVEL I ILLUMINATION SHALL BE PROVIDED NEAR THE BEGINNING OF LANE CLOSURE TAPERS AND AT ROAD CLOSURES, INCLUDING THE SETUP AND REMOVAL OF THE CLOSURE TAPERS.
 - LEVEL II ILLUMINATION SHALL BE PROVIDED FOR FLAGGING STATIONS, ASPHALT PAVING, MILLING, AND CONCRETE PLACEMENT AND/OR REMOVAL OPERATIONS, INCLUDING BRIDGE DECKS, 50 FEET AHEAD OF AND 100 FEET BEHIND A PAVING OR MILLING MACHINE.
 - LEVEL III ILLUMINATION SHALL BE PROVIDED FOR PAVEMENT OR STRUCTURAL CRACK FILLING, JOINT REPAIR, PAVEMENT PATCHING AND REPAIRS, INSTALLATION OF SIGNAL EQUIPMENT OR OTHER ELECTRICAL/MECHANICAL, AND OTHER TASKS INVOLVING FINE DETAILS OR INTRICATE PARTS AND EQUIPMENT.
 - ALL LIGHTING SHALL BE DESIGNED, INSTALLED, AND OPERATED TO AVOID GLARE THAT AFFECTS TRAFFIC ON THE ROADWAY OR THAT CAUSES ANNOYANCE OR DISCOMFORT FOR RESIDENCES ADJOINING THE ROADWAY.
 - PRIOR TO THE START OF NIGHTTIME OPERATIONS, A WRITTEN NIGHTTIME OPERATIONS AND LIGHTING PLAN IS REQUIRED FOR APPROVAL.
 - SEE NIGHTTIME SAFETY BULLETIN, HDM §16.5.7, & STANDARD SPECIFICATIONS §619 FOR ADDITIONAL REQUIREMENTS AND CONSIDERATIONS.

REFER TO SHEET 2 OF 2 FOR ALL TABLES

| | |
|---|--|
|  Department of Transportation | |
| U.S. CUSTOMARY STANDARD SHEET | |
| WORK ZONE TRAFFIC CONTROL TWO-LANE TWO-WAY ROADWAY LANE CLOSURE WITH FLAGGERS INTERMEDIATE TERM OPERATIONS (SHEET 1 OF 2) | |
| APPROVED DECEMBER 2, 2021 <i>Robert Limoges</i> ROBERT LIMOGES, P.E. DIRECTOR, OTSM | ISSUED UNDER EI 21-028 619-407 |

| TABLE 407-01: ADVANCE WARNING SIGN SPACING | | | | | |
|--|------------------------|---------|---------|-------------|----------|
| ROAD TYPE | DISTANCE BETWEEN SIGNS | | | SIGN LEGEND | |
| | A (FT.) | B (FT.) | C (FT.) | XX | YY |
| URBAN (≤ 30 MPH*) | 100 | 100 | 100 | AHEAD | AHEAD |
| URBAN (35-40 MPH*) | 200 | 200 | 200 | AHEAD | AHEAD |
| URBAN (≥ 45 MPH*) | 350 | 350 | 350 | 1000 FT. | AHEAD |
| RURAL | 500 | 500 | 500 | 1500 FT. | 1000 FT. |

• PRECONSTRUCTION POSTED SPEED LIMIT

| TABLE 407-02: LONGITUDINAL BUFFER SPACE | |
|--|--|
| PRECONSTRUCTION POSTED SPEED LIMIT (MPH) | LONGITUDINAL BUFFER SPACE DISTANCE (FT.)/ * OF SKIP LINES |
| | |
| 45 | 360/9 |
| 50 | 425/11 |
| 55 | 495/13 |
| 65 | 645/16 |

| TABLE 407-03: CHANNELIZING DEVICE APPLICATION FOR INTERMEDIATE-TERM STATIONARY WORK ZONES | | | | | | | | | | | |
|---|--|--|---------------------|----------------|------------|------------------|------------------------------|----------------------------|-----------------|------------------------------|--------------------|
| WORK ZONE PROVISIONS | | MAXIMUM DEVICE SPACING (CENTER TO CENTER) | CHANNELIZING DEVICE | | | | | | | | |
| | | | DRUMS | STANDARD CONES | TALL CONES | EXTRA TALL CONES | TEMPORARY TUBULAR MARKERS | INTERIM TUBULAR MARKERS | VERTICAL PANELS | OVERSIZED VERTICAL PANELS | TYPE II BARRICADES |
| INTERMEDIATE-TERM STATIONARY WORK ZONES INVOLVE WORK THAT OCCUPIES A LOCATION FOR MORE THAN 1 DAYLIGHT PERIOD OR NIGHTTIME WORK THAT OCCUPIES A LOCATION FOR MORE THAN 1 HOUR | | | | | | | | | | | |
| | | | | | | | | | | | |
| SHOULDER/MERGING/ SHIFTING TAPERS | | 20 FT. • | X | | | | | | X | X | |
| | | 40 FT. | X | | | | | | X | X | |
| MARKING FOR TRANSVERSE BUMPS¹ | | N/A | X² | | | X² | | | X² | | |
| TRANSVERSE DEVICE WITHIN CLOSED TRAFFIC LANE AND/OR SHOULDER | | 800 FT. | X | | X | X | | | X | X | 0 |
| REMOVAL OF EXISTING GUIDE RAIL | | 80 FT. | X | | X | X | | X | X | X | 0 |
| | | 40 FT. | | | | | | | | | |
| NOTES: X= ALLOWED BLANK = NOT ALLOWED 0 = OPTIONAL 1. - A TYPE 1 OBJECT MARKER MAY BE USED IN LIEU OF CHANNELIZING DEVICE. 2. - CHANNELIZING DEVICES SHALL BE EQUIPPED WITH A FLASHING WARNING LIGHT. | | | | | | | | | | | |
| • SEE NOTE 3 ON SHEET 1 OF 2. | | | | | | | | | | | |

| TABLE 407-04: REQUIRED SIGN SIZES* | | |
|---|-------------|---------|
| SIGN | NON-FREEWAY | FREEWAY |
| G20-2 | 36x18 | 48x24 |
| W3-4 | 36x36 | 48x48 |
| W20-1 | 36x36 | 48x48 |
| W20-4 | 36x36 | 48x48 |
| W20-7a | 36x36 | 48x48 |
| WARNING FLAG | 18x18 | 18x18 |
| *FREEWAY SIZES MAY BE USED ON NON-FREEWAY, IF SPACE CONSTRAINTS DO NOT EXIST. | | |

| TABLE 407-05: PROTECTIVE VEHICLE REQUIREMENTS | | | | |
|---|---|-------------|-------------|------------|
| CLOSURE TYPE | ROAD TYPE & SPEED | NON-FREEWAY | | |
| | | ≥ 45 MPH | 35 - 40 MPH | ≤ 30 MPH |
| | EXPOSURE CONDITIONS¹ | | | |
| LANE CLOSURE OR ENCROACHMENT | WORKERS ON FOOT OR VEHICLE EXPOSED TO TRAFFIC | P, TMIA | P, TMIA | SEE NOTE 2 |
| | OTHER HAZARDS NO WORKERS EXPOSED | P, TMIA | SEE NOTE 2 | SEE NOTE 2 |
| SHOULDER CLOSURE OR ENCROACHMENT | WORKERS ON FOOT OR VEHICLE EXPOSED TO TRAFFIC | P, TMIA | SEE NOTE 2 | SEE NOTE 2 |
| | OTHER HAZARDS NO WORKERS EXPOSED | SEE NOTE 2 | SEE NOTE 2 | SEE NOTE 2 |

LEGEND

P: PROTECTIVE VEHICLE REQUIRED FOR EACH CLOSED LANE & EACH
CLOSED PAVED SHOULDER 8' OR WIDER, IF THE WORK SPACE MOVES
WITHIN THE STATIONARY CLOSURE, THE PROTECTIVE VEHICLE
SHALL BE REPOSITIONED ACCORDINGLY

TMIA: TMIA REQUIRED

NOTES:

1. THE EXPOSURE CONDITIONS ASSUMES THERE IS NO POSITIVE
PROTECTION PRESENT

2. EITHER A PROTECTIVE VEHICLE OR THE STANDARD BUFFER
SPACE SHALL BE PROVIDED

| TABLE 407-06: ROLL AHEAD DISTANCE | | |
|---|----------------------|-------|
| ROLL AHEAD DISTANCE (FT.)/# OF SKIP LINES FOR VEHICLES | | |
| PRECONSTRUCTION POSTED SPEED LIMIT (MPH) | STATIONARY OPERATION | |
| | MIN | MAX |
| ≥ 55 | 120/3 | 200/5 |
| 45 - 50 | 80/2 | 160/4 |
| ≤ 40 | 40/1 | 120/3 |



NEW YORK
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U.S. CUSTOMARY STANDARD SHEET

WORK ZONE TRAFFIC CONTROL
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LANE CLOSURE WITH FLAGGERS
INTERMEDIATE TERM OPERATION
(SHEET 2 OF 2)

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