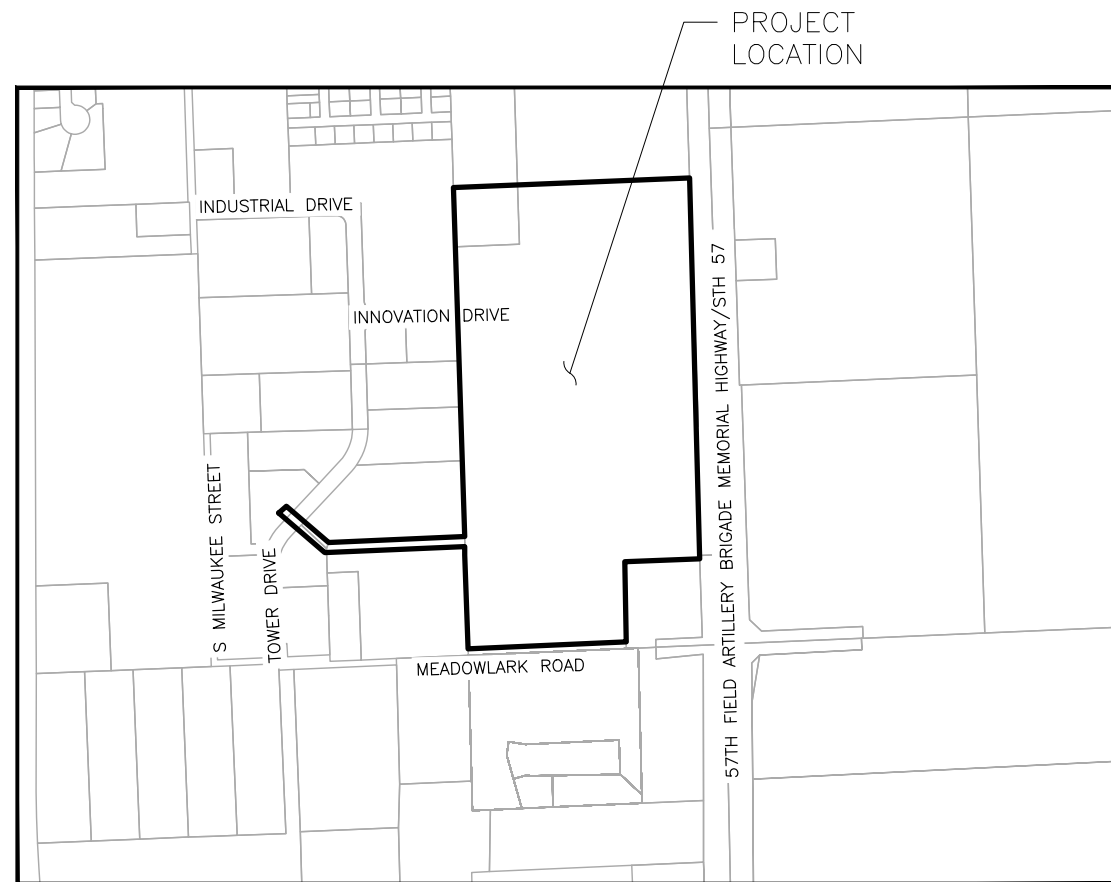
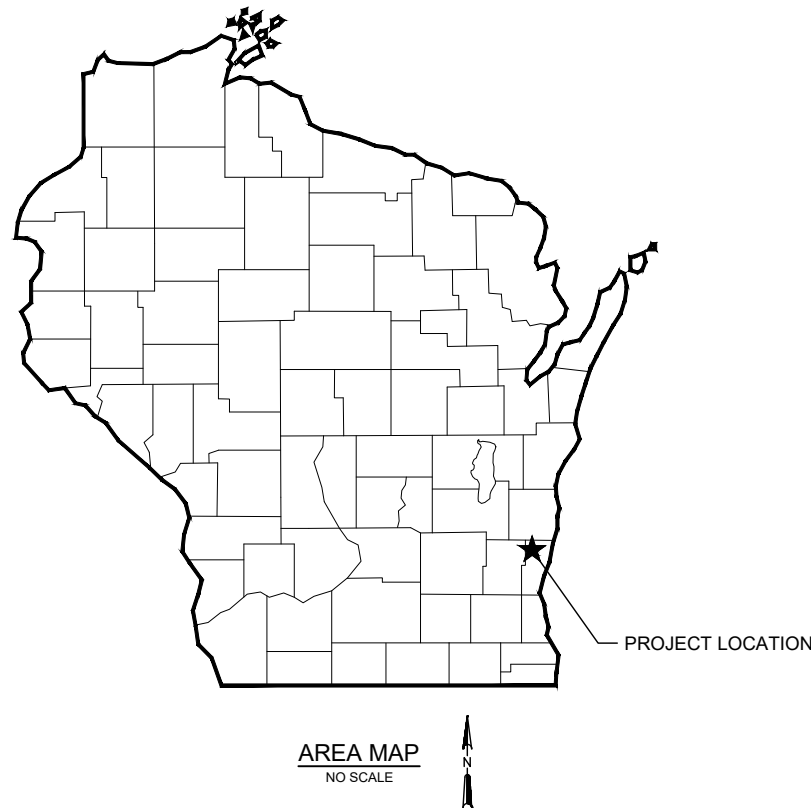


# BUSINESS PARK EXPANSION FOR THE VILLAGE OF FREDONIA OZAUKEE COUNTY, WISCONSIN



PROJECT LOCATION MAP  
NO SCALE

DRAWING LIST	
SHEET NO.	SHEET TITLE
1	TITLE SHEET AND LOCATION MAP
2	GENERAL NOTES AND LEGEND
3	ALIGNMENT DETAIL
4	ROADWAY TYPICAL SECTION
5-6	EROSION CONTROL NOTES AND DETAILS
7-10	CONSTRUCTION DETAILS
11	INTERSECTION DETAIL
12-13	DETENTION BASIN CONSTRUCTION DETAILS
14-15	DETENTION BASIN CONSTRUCTION DETAILS AND SECTIONS
16	NORTH DETENTION BASIN GRADING PLAN
17	SOUTH DETENTION BASIN GRADING PLAN
18-20	SITE GRADING AND RESTORATION PLAN
21-25	STORM SEWER PLAN AND PROFILE
26-29	ROADWAY, WATER MAIN, AND SANITARY SEWER PLAN AND PROFILE
30-32	WATER MAIN PLAN AND PROFILE
33-41	ROADWAY CROSS SECTIONS



*Isak P. Fruchtmann*  
2/15/2024

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CONTRACT 1-2024

ISSUED FOR BID, 02/15/2024



SHEET  
1

## GENERAL NOTES

- PROTECT ALL TREES, UNLESS SHOWN TO BE REMOVED.
- ALL DISTURBED AREAS SHALL BE RESTORED.
- A SAWED JOINT SHALL BE REQUIRED WHERE NEW PAVEMENT IS TO MEET AN EXISTING PAVED SURFACE.
- ALL CONCRETE AND ASPHALT SHALL BE SAWCUT UNLESS EXISTING CONCRETE OR ASPHALT CAN BE REMOVED WITHOUT DAMAGING PAVEMENT TO REMAIN IN PLACE.
- EXISTING UTILITIES SHOWN ARE INDICATED IN ACCORDANCE WITH THE INFORMATION PROVIDED BY THE UTILITY COMPANIES AND FIELD SURVEY. PROTECT EXISTING UTILITIES DURING CONSTRUCTION. CONTRACTOR SHALL CONTACT DIGGERS HOTLINE FOR UTILITY LOCATES AND SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATIONS OF THE UTILITY MAINS AND SERVICES DURING CONSTRUCTION.
- CONTRACTOR SHALL VERIFY ALL BENCHMARKS AND CONTROL POINTS TO CONFIRM ELEVATIONS PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL ESTABLISH ADDITIONAL BENCHMARKS AND CONTROL POINTS AS NECESSARY TO COMPLETE THE WORK. CONTRACTOR IS ENCOURAGED TO CHECK BENCHMARKS AND CONTROL POINTS PERIODICALLY FOR MOVEMENT.
- CONTRACTOR SHALL PROTECT ALL CONTROL POINTS NOT DIRECTLY IN THE CONSTRUCTION AREA.
- CONTRACTOR SHALL PROTECT ALL PROPERTY IRONS.
- OFFSETS PROVIDED ON THE STORM SEWER STRUCTURE TABLES ARE REFERENCED TO THE CENTER OF INLETS AND MANHOLE STRUCTURES, AND TO THE END OF THE CONNECTING PIPE FOR END WALLS; RIM ELEVATIONS ARE REFERENCED TO THE FLOW LINE FOR INLET AND THE TOP OF CASTING FOR MANHOLES.
- CONNECTIONS TO THE EXISTING WATER MAIN SHALL BE MADE BY A LIVE TAP USING A TAPPING SLEEVE.
- CONTRACTOR SHALL ALLOW PRIVATE DEVELOPERS AND UTILITIES OWNERS ACCESS TO THE SITE FOLLOWING THE COMPLETION OF MILESTONE 1. IF PRIVATE DEVELOPERS BEGIN INDIVIDUAL LOT DEVELOPMENT CONTRACTOR SHALL BE EXEMPT FROM MAINTAINING INDIVIDUAL LOT EROSION CONTROL MEASURES AND SITE STABILIZATION.
- CONTRACTOR SHALL BALANCE ON SITE EARTHWORK OPERATIONS. SURPLUS MATERIAL SHALL BE SPREAD IN A MANNER TO UNIFORMLY RAISE FILL SITE GRADES. APPROXIMATELY 200,000 CY OF CUT AND FILL, RESPECTIVELY, IS ANTICIPATED TO COMPLETE SITE GRADING OPERATIONS PER THE GRADING PLANS, WHICH INCLUDES BOTH DETENTION BASINS AND THE ROADWAY. ADDITIONAL CUT AND FILL NEEDED TO COMPLETE GRADING OPERATIONS SHALL BE INCIDENTAL TO THE COMMON EXCAVATION ITEMS.

## UTILITY CONTACTS

### CHARTER COMMUNICATIONS - CABLE

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## LEGEND

EXISTING	PROPOSED
EXISTING RIGHT OF WAY	PROPOSED GAS LINE
EXISTING GAS LINE	PROPOSED SANITARY SEWER
EXISTING SANITARY SEWER	PROPOSED WATER MAIN
EXISTING WATER MAIN	PROPOSED WATER MAIN W/ CASING
EXISTING STORM SEWER	PROPOSED STORM SEWER
EXISTING TELEPHONE LINE	PROPOSED TELEPHONE LINE
EXISTING UNDERGROUND ELECTRIC LINE	PROPOSED UNDERGROUND ELECTRIC LINE
EXISTING OVERHEAD ELECTRIC LINE	PROPOSED FIBER OPTIC LINE
EXISTING FIBER OPTIC LINE	PROPOSED FENCE
EXISTING FENCE	PROPOSED SILT FENCE
CONTROL POINT	PROPOSED SHEET PILING
EXISTING BENCHMARK	PROPOSED INLET PROTECTION
SOIL BORING	PROPOSED END CAP
EXISTING DECIDUOUS/CONIFEROUS TREE	PROPOSED WATER VALVE
EXISTING TREE STUMP	PROPOSED FIRE HYDRANT
EXISTING MANHOLE	PROPOSED SANITARY SEWER MANHOLE
EXISTING INLET	PROPOSED STORM SEWER MANHOLE
EXISTING CATCH BASIN	PROPOSED INLET
EXISTING POWER POLE	
EXISTING LIGHT POLE	
EXISTING SIGN	
EXISTING GAS VALVE	
EXISTING WATER VALVE	
EXISTING WATER MANHOLE	
EXISTING FIRE HYDRANT	

## CONTACTS

### VILLAGE OF FREDONIA

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www.DiggersHotline.com

## GENERAL NOTES AND LEGEND

BUSINESS PARK EXPANSION  
VILLAGE OF FREDONIA  
OZAUKEE COUNTY, WISCONSIN

DATE:	NO.	REVISIONS

JOB NO.  
3844.016

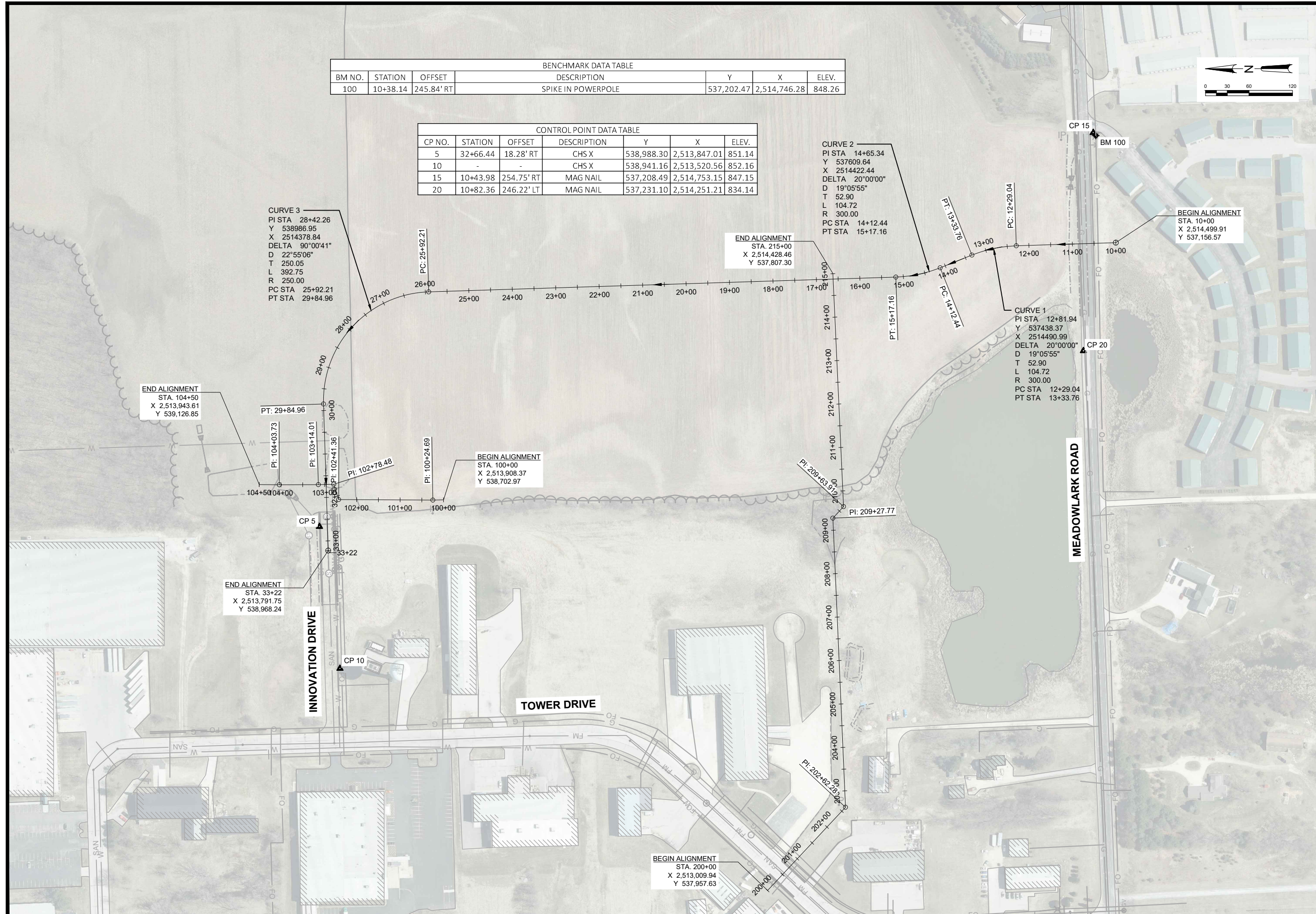
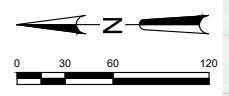
PROJECT MGR.  
IPF



SHEET  
2

BENCHMARK DATA TABLE						
BM NO.	STATION	OFFSET	DESCRIPTION	Y	X	ELEV.
100	10+38.14	245.84' RT	SPIKE IN POWERPOLE	537,202.47	2,514,746.28	848.26

CONTROL POINT DATA TABLE						
CP NO.	STATION	OFFSET	DESCRIPTION	Y	X	ELEV.
5	32+66.44	18.28' RT	CHS X	538,988.30	2,513,847.01	851.14
10	-	-	CHS X	538,941.16	2,513,520.56	852.16
15	10+43.98	254.75' RT	MAG NAIL	537,208.49	2,514,753.15	847.15
20	10+82.36	246.22' LT	MAG NAIL	537,231.10	2,514,251.21	834.14



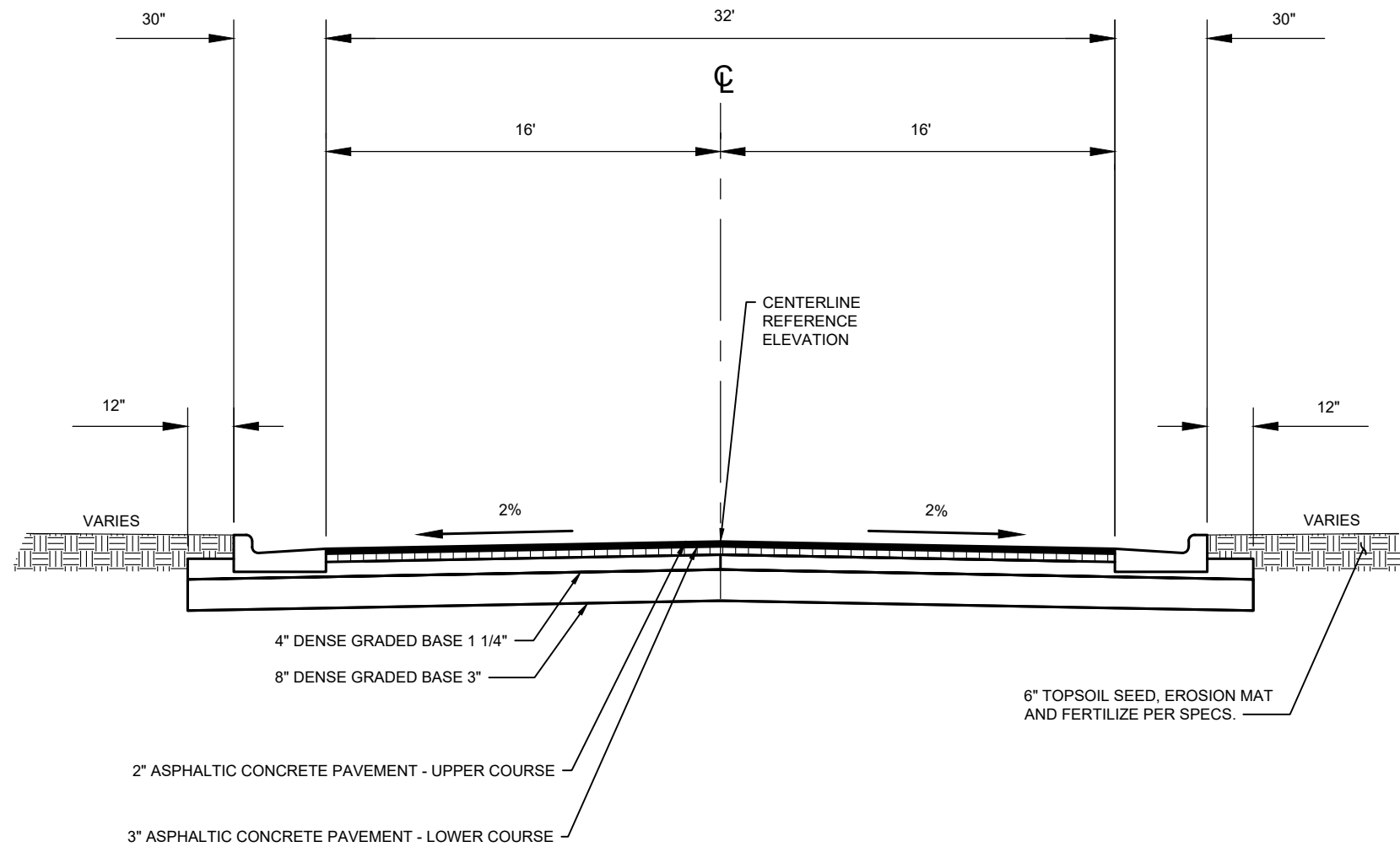
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**ALIGNMENT DETAIL**  
**BUSINESS PARK EXPANSION**  
**VILLAGE OF FREDONIA**  
**OZAUKEE COUNTY, WISCONSIN**

**JOB NO.**  
3844.016  
**PROJECT MGR.**  
IPF



**SHEET**  
3



INNOVATION DRIVE TYPICAL SECTION

NO SCALE

NO.	REVISIONS	DATE:

**ROADWAY TYPICAL SECTION**

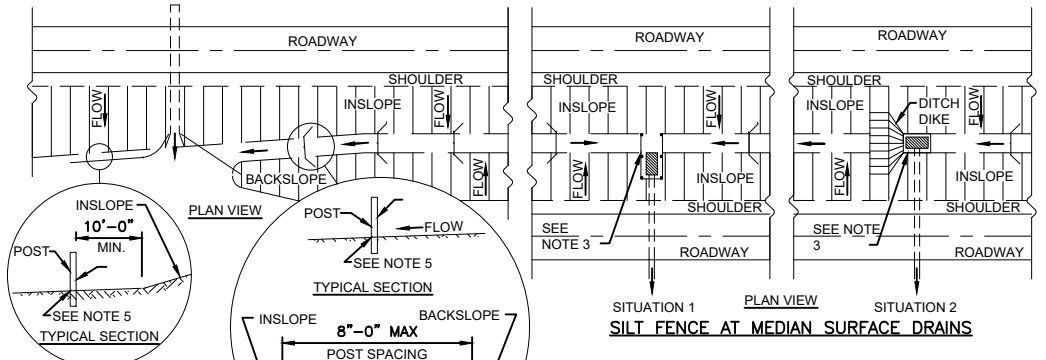
**BUSINESS PARK EXPANSION  
VILLAGE OF FREDONIA  
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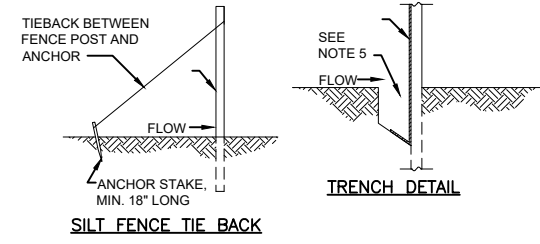


**SHEET**  
**4**



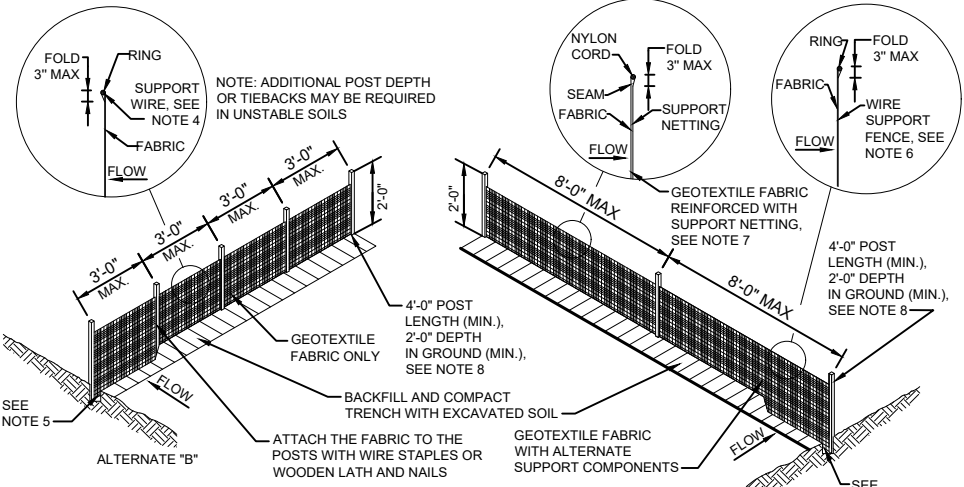
20' FOR NORMAL 10' DITCH  
GEOTEXTILE FABRIC SIDE

**TYPICAL APPLICATIONS OF SILT FENCE**



- NOTES:**
- DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.
  - WHEN POSSIBLE THE SILT FENCE SHALL BE CONSTRUCTED IN AN ARC OR HORSESHOE SHAPE, WITH THE ENDS POINTING UPSLOPE TO MAXIMIZE BOTH STRENGTH AND EFFECTIVENESS.
  - CROSS BRACE WITH 2"x4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
  - MINIMUM 14 GAGE WIRE REQUIRED, FOLD FABRIC 3" OVER THE WIRE AND STAPLE OR PLACE WIRE RINGS ON 12" C-C.
  - EXCAVATE TRENCH A MINIMUM OF 4" WIDE AND 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC, FOLD MATERIAL TO FIT TRENCH AND BACKFILL AND COMPACT TRENCH WITH EXCAVATED SOIL.

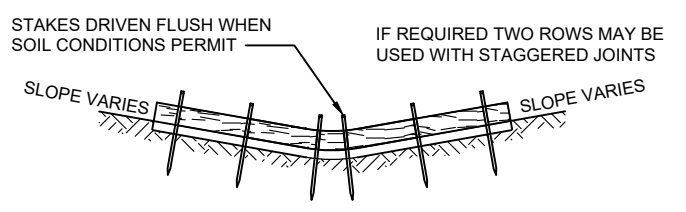
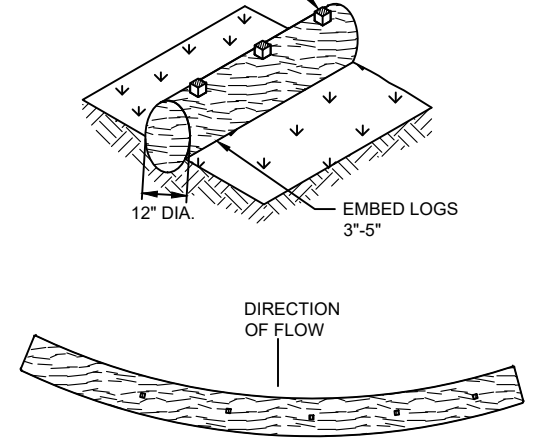
**A**  
5  
**SILT FENCE**  
NO SCALE



- WIRE SUPPORT FENCE SHALL BE 14 GAGE MINIMUM WOVEN WIRE WITH A MAXIMUM MESH SPACING OF 6". SECURE TOP OF GEOTEXTILE FABRIC TO TOP OF FENCE WITH STAPLES OR WIRE RINGS AT 12" C TO C.
- GEOTEXTILE FABRIC SHALL BE REINFORCED WITH AN INDUSTRIAL POLYPROPYLENE NETTING WITH A MAXIMUM MESH SPACING OF 1/4" OR EQUAL. A HEAVY DUTY NYLON TOP SUPPORT CORD OR EQUIVALENT IS REQUIRED.
- ALTERNATES "A" AND "B" ARE EQUAL AND EITHER MAY BE USED
- STEEL POSTS SHALL BE STUDDED "TEE" OR "U" TYPE WITH A MINIMUM WEIGHT OF 1.2 LBS/LINEAR FOOT WITHOUT ANCHORS. OR ANCHORS SUFFICIENT TO RESIST POST MOVEMENT ARE REQUIRED. WOOD POSTS SHALL BE A MINIMUM SIZE OF 4" DIAMETER, OR 2 1/2"x3 1/2", EXCEPT WOOD POSTS FOR GEOTEXTILE FABRIC REINFORCED WITH NETTING SHALL BE A MINIMUM SIZE OF 1 1/8"x1 1/8" OAK OR HICKORY.

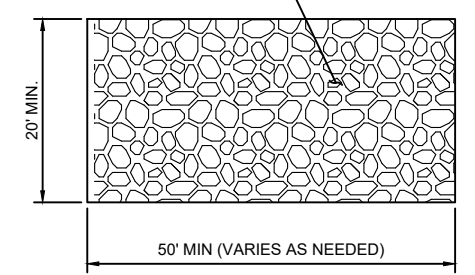
**C**  
5  
**TRACKING PAD**  
NO SCALE

WOOD STAKES SPACED 3'-4" O.C.  
NOMINAL 2"x2"x30" MIN.  
LENGTH OR EQUIVALENT.

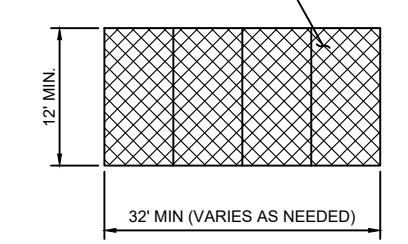


**B**  
5  
**STRAW WATTLE**  
NO SCALE

CLEAN SELECT CRUSHED  
MATERIAL AT A MINIMUM  
THICKNESS OF 12", UNDERLAIN  
WITH GEOTEXTILE FABRIC.



MANUFACTURED TRACKOUT  
CONTROL DEVICE. INSTALL  
PER MANUFACTURER'S  
RECOMMENDATIONS.



**EROSION CONTROL NOTES**

- ALL PERMIT CONDITIONS SHALL BE MET DURING CONSTRUCTION OF THE PROJECT.
- CONSTRUCTION SITE EROSION CONTROL AND SEDIMENTATION CONTROL SHALL COMPLY WITH THE REQUIREMENTS OF THE VILLAGE OF FREDONIA, AND SHALL MEET OR EXCEED EROSION CONTROL METHODS AS SHOWN AND SPECIFIED IN THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR) "CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL TECHNICAL STANDARDS".
- CONTRACTOR SHALL OBTAIN ALL NECESSARY EROSION CONTROL PERMITS PRIOR TO ANY LAND DISTURBING ACTIVITY. CONTRACTOR SHALL PROVIDE EROSION CONTROL PLAN AS PERMIT REQUIRES.
- ALL EROSION CONTROL MEASURES SHALL BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND SHALL BE INSTALLED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON THE SITE.
- ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED FOR STABILITY AND OPERATION AFTER A RAINFALL OF 0.5 INCHES OR MORE, BUT NO LESS THAN ONCE EVERY WEEK. MAINTENANCE OF ALL EROSION CONTROL STRUCTURES SHALL BE PROVIDED TO INSURE INTENDED PURPOSE IS ACCOMPLISHED. REPAIRS AND MAINTENANCE SHALL BE COMPLETED WITHIN 24 HOURS OF INSPECTION. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP AND REMOVAL OF ALL SEDIMENT WHEN LEAVING PROPERTY. EROSION CONTROL MEASURES MUST BE IN WORKING CONDITION AT END OF EACH WORK DAY.
- EROSION CONTROL MEASURES SHALL BE MAINTAINED ON A CONTINUING BASIS UNTIL SITE IS FULLY STABILIZED.
- FILTER FABRIC SHALL BE INSTALLED BENEATH INLET COVERS TO TRAP SEDIMENT AS PER INLET PROTECTION DETAIL IN THE LOCATIONS SHOWN ON THE CONSTRUCTION PLANS PRIOR TO ANY LAND DISTURBING ACTIVITY.
- PERIODIC STREET SWEEPING SHALL BE COMPLETED TO MAINTAIN THE PUBLIC STREET FREE OF DUST AND DIRT.
- SILT FENCE SHALL BE INSTALLED IN HORSESHOE FASHION AROUND ALL TOPSOIL AND FILL STOCKPILES. NOTIFY THE VILLAGE OF FREDONIA OF ANY NEW STOCKPILE LOCATIONS.
- WASTE AND MATERIAL DISPOSAL. ALL WASTE AND UNUSED BUILDING MATERIALS (INCLUDING GARBAGE, DEBRIS, CLEANING WASTES, WASTEWATER, TOXIC MATERIALS, OR HAZARDOUS MATERIALS) SHALL BE PROPERLY DISPOSED AND NOT ALLOWED TO BE CARRIED OFF-SITE BY RUNOFF OR WIND.
- ANY SOIL DISTURBANCE AND/OR SOIL OR DIRT STORAGE PILES SHALL BE LOCATED A MINIMUM OF TWENTY-FIVE FEET FROM ANY DOWNSLOPE ROAD, LAKE, STREAM, WETLAND, OR DRAINAGE CHANNEL. STRAW BALE OR FILTER FABRIC FENCES SHALL BE PLACED ON THE DOWN SLOPE SIDE OF THE PILE, IF REMAINING FOR MORE THAN THIRTY DAYS. PILES SHALL BE STABILIZED BY MULCHING, VEGETATIVE COVER, TARPS, OR OTHER MEANS.
- ALL DISTURBED GROUND LEFT INACTIVE FOR SEVEN OR MORE DAYS SHALL BE STABILIZED BY TEMPORARY OR PERMANENT SEEDING, AND MULCHING SODDING, COVERING WITH TARPS, OR EQUIVALENT BEST MANAGEMENT PRACTICES. IF TEMPORARY SEEDING IS USED, A PERMANENT COVER SHALL ALSO BE REQUIRED AS PART OF THE FINAL SITE STABILIZATION. SEEDING OR SODDING SHALL BE REQUIRED AS PART OF THE FINAL SITE STABILIZATION.
- TRACKING. EACH SITE SHALL HAVE GRAVELED ROADS, ACCESS DRIVES AND PARKING AREAS OF SUFFICIENT WIDTH AND LENGTH TO PREVENT SEDIMENT FROM BEING TRACKED ONTO PUBLIC OR PRIVATE ROADWAYS. ANY SEDIMENT REACHING A PUBLIC OR PRIVATE ROAD SHALL BE REMOVED BY STREET CLEANING, TO THE SATISFACTION OF THE VILLAGE, BEFORE THE END OF EACH WORKDAY. FLUSHING MAY NOT BE USED UNLESS SEDIMENT WILL BE CONTROLLED BY A SEDIMENT BASIN OR OTHER APPROPRIATE BEST MANAGEMENT PRACTICE SPECIFIED IN THE WDNR "CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL TECHNICAL STANDARDS". NOTIFY THE VILLAGE OF FREDONIA FOR CHANGES IN STABILIZED CONSTRUCTION ENTRANCE LOCATION.
- SEDIMENT CLEANUP. ALL OFF-SITE SEDIMENT DEPOSITS OCCURRING AS A RESULT OF A STORM EVENT SHALL BE CLEANED UP BY THE END OF THE NEXT WORK DAY. ALL OTHER OFF-SITE SEDIMENT DEPOSITS OCCURRING AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE CLEANED UP BY THE END OF THE WORK DAY.
- NOTIFY THE VILLAGE TWO WORKING DAYS PRIOR TO COMMENCING ANY LAND DEVELOPMENT OR LAND DISTURBING ACTIVITY.
- NOTIFY THE VILLAGE OF COMPLETION OF ANY BEST MANAGEMENT PRACTICES WITHIN THE NEXT WORKING DAY AFTER THEIR INSTALLATION.
- OBTAIN PERMISSION IN WRITING FROM THE VILLAGE PRIOR TO MODIFYING THE EROSION CONTROL PLAN. NOTIFY WDNR AT LEAST FIVE WORKING DAYS PRIOR TO IMPLEMENTING CHANGES TO THE EROSION CONTROL PLAN.
- REPAIR ANY SILTATION OR EROSION DAMAGE TO ADJOINING SURFACES AND DRAINAGE WAYS RESULTING FROM LAND DEVELOPMENT OR LAND DISTURBING ACTIVITIES.
- KEEP A COPY OF THE EROSION CONTROL PLAN ON SITE.
- WHENEVER SOIL EXHIBITING OBVIOUS SIGNS OF CONTAMINATION IS ENCOUNTERED DURING EXCAVATION OR INSTALLATION, CEASE WORK IMMEDIATELY, TAKE APPROPRIATE IMMEDIATE PRECAUTIONS TO ENSURE WORKER HEALTH AND SAFETY, AND CONTACT OPERATIONS SUPERVISOR OR INSPECTOR.
- WATER PUMPED FROM THE SITE, INCLUDING BUT NOT LIMITED TO, PITS OR TRENCHES SHALL BE TREATED BY SEDIMENT BASINS, AN APPROVED SEDIMENT BAG, A STRAW BALE DEWATER BASIN, A COMBINATION OF BOTH, OR OTHER APPROPRIATE BEST MANAGEMENT PRACTICES SPECIFIED IN THE WDNR "CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL TECHNICAL STANDARDS". WATER SHALL NOT BE DISCHARGED IN A MANNER THAT CAUSES EROSION OF THE SITE, ADJACENT SITES, OR RECEIVING CHANNELS.
- NO WORK SHALL BE PERFORMED WITHIN THE BANKS OR BELOW THE ORDINARY HIGH WATERMARK OF ANY NAVIGABLE WATERWAY OR STREAM AND NO CROSSING OF NAVIGABLE WATERWAYS WITH EQUIPMENT CAN OCCUR.
- ANY SOIL BEING DISTURBED WITHIN 75 FEET OF AN ORDINARY HIGHWATER MARK OF ANY NAVIGABLE WATERWAY OR STREAM SHALL BE STABILIZED WITHIN 24 HOURS OF CONSTRUCTION COMPLETION.
- REMOVE ALL EROSION CONTROL PRACTICES ONCE SITE HAS BEEN STABILIZED.
- EROSION AND SEDIMENT CONTROL PRODUCTS SHALL BE ON THE CURRENT WISCONSIN DEPARTMENT OF TRANSPORTATION PRODUCT ACCEPTABILITY LIST
- RE-TOPSOIL GRADED AREAS IMMEDIATELY AFTER GRADING IS COMPLETED WITHIN THOSE AREAS. SEED, FERTILIZE, AND MULCH/EROSION MAT TOP-SOILED AREAS WITHIN SEVEN (7) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL. SEED WITH TEMPORARY SEED AND MULCH ALL DISTURBED AREAS THAT WILL NOT BE PERMANENTLY RESTORED IN 14 DAYS OR LESS.

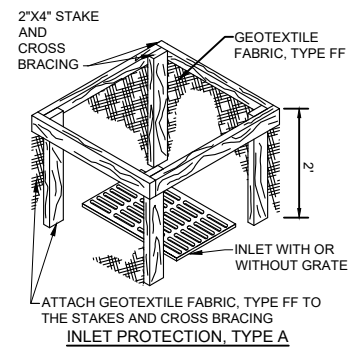
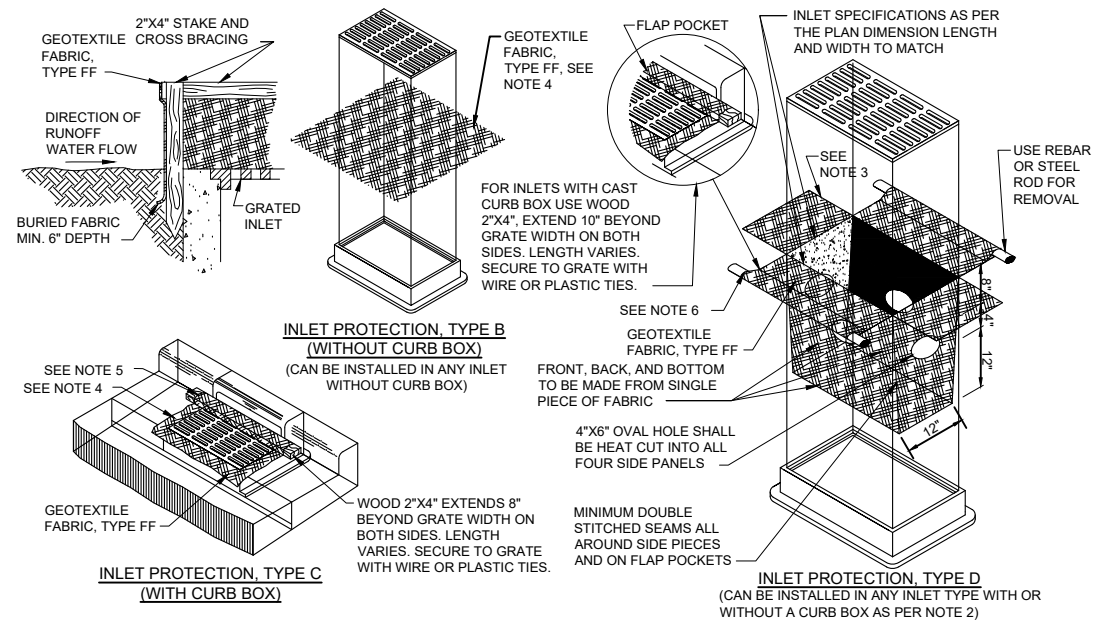
NO.	REVISIONS	DATE:

**EROSION CONTROL NOTES AND DETAILS**  
BUSINESS PARK EXPANSION  
VILLAGE OF FREDONIA  
OSHAUKEE COUNTY, WISCONSIN

**JOB NO.**  
3844.016  
**PROJECT MGR.**  
IPF



**SHEET**  
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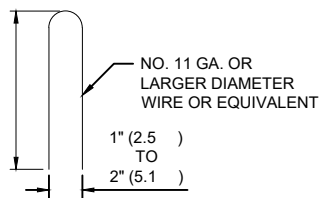
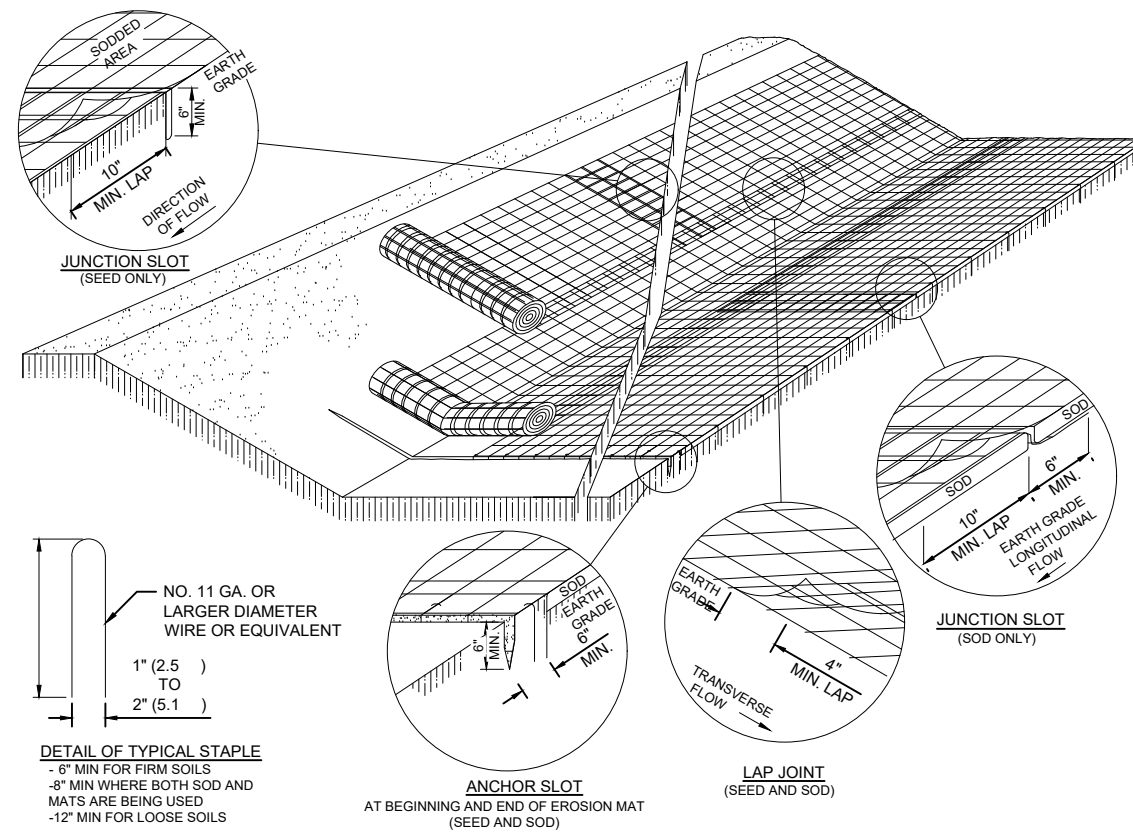


**NOTES:**

1. MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENTS EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.
2. WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET, ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.
3. FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
4. FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
5. FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.
6. FOR TYPES B AND C, TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE. THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.
7. FOR TYPE D, DO NOT INSTALL INLET PROTECTION TYPE D INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE. THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY, THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES, TO ACHIEVE THE 3" CLEARANCE.

**INLET PROTECTION  
TYPE A, B, C,  
AND D**

NO SCALE



**DETAIL OF TYPICAL STAPLE**

- 6" MIN FOR FIRM SOILS
- 8" MIN WHERE BOTH SOD AND MATS ARE BEING USED
- 12" MIN FOR LOOSE SOILS

**EROSION MAT OVER SEEDING**

JUNCTION OR ANCHOR SLOTS SHALL BE AT MINIMUM INTERVALS OF 100 FEET ON GRADES UP TO AND INCLUDING 3 PERCENT, AND 50 FEET ON GRADES EXCEEDING 3 PERCENT.

**EROSION MAT OVER SOD**

1. ONLY JUTE FABRIC WILL BE PERMITTED OVER SOD.
2. FLOOD STAKES FOR SOD MAY BE OMITTED IF THE EXISTING SLOPE AND SOIL CONDITIONS SO PERMIT.
3. THE WIDTH OF EROSION MAT SHALL ALWAYS EQUAL THE SOD WIDTH.
4. SOD STRIPS MAY BE PLACED EITHER LONGITUDINALLY OR TRANSVERSELY TO THE FLOW LINE OF THE DITCH.

**NOTES:**

1. DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
2. VARIATIONS IN THE DIMENSIONS OR MATERIALS SHOWN HEREON SHALL BE PERMITTED IF THEY PROVIDE EQUIVALENT PROTECTION AND MATERIAL STRENGTH.
3. LAP JOINTS SHALL NOT BE PLACED IN THE BOTTOM OF V-SHAPED DITCHES.
4. JUNCTION SLOTS ON ADJACENT STRIPS OF MATTING SHALL BE STAGGERED A MINIMUM OF 4 FEET APART.
5. EDGES OF THE EROSION MAT SHALL BE IMPRESSED IN THE SOIL.
6. EROSION MAT SHALL BE MEASURED AND PAID FOR IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

**EROSION CONTROL MAT INSTALLATION**

NO.	REVISIONS	DATE:

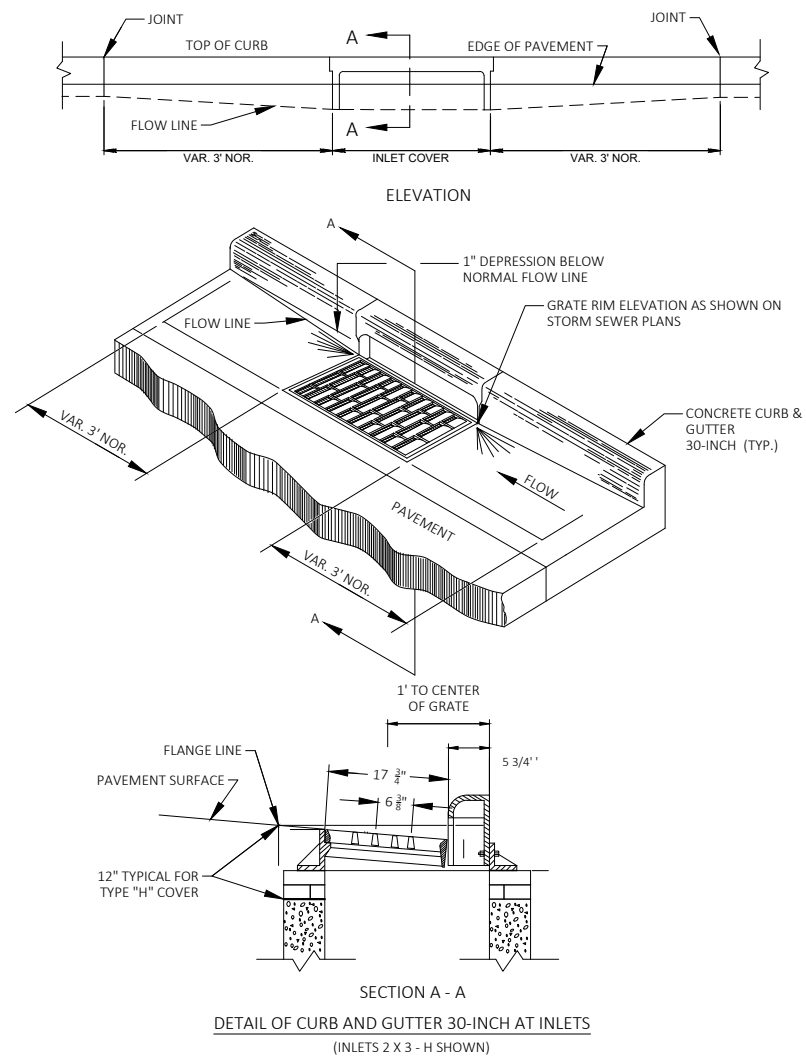
**EROSION CONTROL NOTES AND DETAILS**

BUSINESS PARK EXPANSION  
VILLAGE OF FREDONIA  
OZAUKEE COUNTY, WISCONSIN

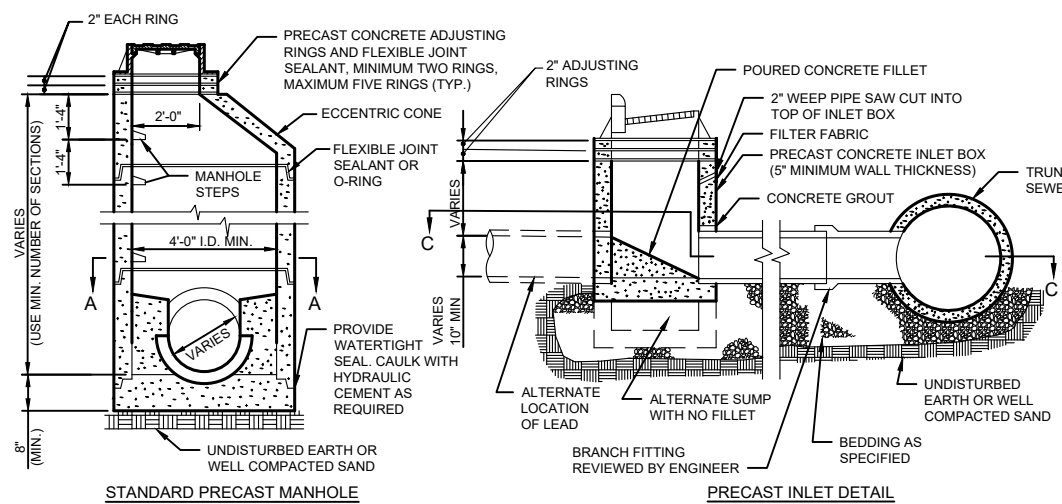
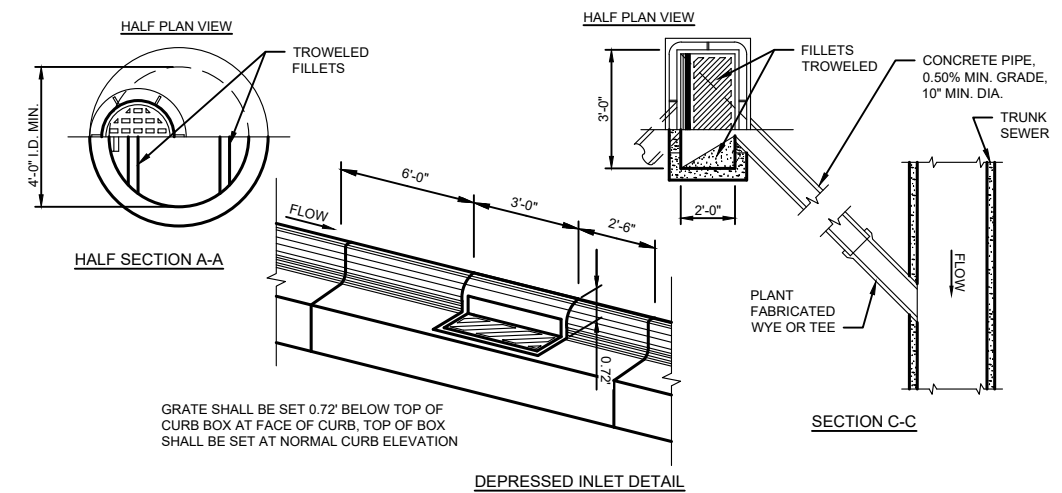
JOB NO.  
3844.016  
PROJECT MGR.  
IPF



SHEET  
6



**A**  
7  
NO SCALE



**B**  
7  
NO SCALE

**STORM SEWER MANHOLES AND INLETS**

- NOTES:**
1. DETAILS RELATIVE TO ITEMS SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE SPECIFICATIONS.
  2. VARIATIONS IN DIMENSIONS AND DESIGN MAY BE PERMISSIBLE PROVIDING EQUIVALENT CAPACITY AND STRENGTH ARE ATTAINED.
  3. WHEN ANY STRUCTURE IS CONSTRUCTED OF CONCRETE, CONCRETE BLOCK OR REINFORCED CONCRETE CULVERT PIPE, THE TOP OF THE MASONRY SHALL BE LEFT SUFFICIENTLY LOW TO PERMIT PROPER ADJUSTMENT OF COVER TO GRADE.
  4. REINFORCED PRECAST FLAT SLAB SHALL BE USED IN LIEU OF PRECAST ECCENTRIC CONE WHEN SHOWN ON THE DRAWINGS AND SHALL BE DESIGNED FOR H-20 TRUCK LOADING.
  5. PRECAST REINFORCED CONCRETE MANHOLE RISERS AND TOPS SHALL CONFORM TO ASTM C-478. JOINTS BETWEEN MANHOLE SECTIONS SHALL BE SEALED WITH RAM NEK. HANDLING HOLES SHALL BE FILLED WITH MORTAR, AND BOTH MADE WATER TIGHT.
  6. STEPS SHALL BE INSTALLED IN ALL MANHOLES.
  7. AT ALL BENDS IN SEWER, A SMOOTH RADIUS FLOW LINE SHALL BE PROVIDED IN MANHOLES. ALL CONCRETE FILLETS SHALL BE HAND TROWELED.
  8. INSIDE DIMENSIONS FOR MANHOLES: USE MINIMUM 4' DIAMETER FOR SEWER LESS THAN 18" IN DIAMETER. USE MINIMUM 5' DIAMETER FOR SEWER 18" THRU 24" IN DIAMETER. USE MINIMUM 6' DIAMETER OR MINIMUM 6' SQUARE FOR SEWER OVER 24" IN DIAMETER, UNLESS OTHERWISE SPECIFIED.
  9. ARRANGEMENT AND NUMBER OF INLETS AND DISCHARGE PIPES SHALL CONFORM TO THE NEEDS OF THE PERTINENT LOCATION.
  10. PROVIDE MINIMUM 2'-0" COVER FOR ALL INLET LEAD PIPE, UNLESS OTHERWISE SPECIFIED.
  11. ALL INLETS SHALL BE DEPRESSED AS SHOWN.
  12. INLET DEPTH AND GRADE OF INLET LEAD PIPE VARY ACCORDING TO DEPTH OF TRUNK SEWER. MINIMUM INLET DEPTH BELOW TOP OF CURB SHALL BE 4'-0".

DATE:	REVISIONS	NO.

**CONSTRUCTION DETAILS**

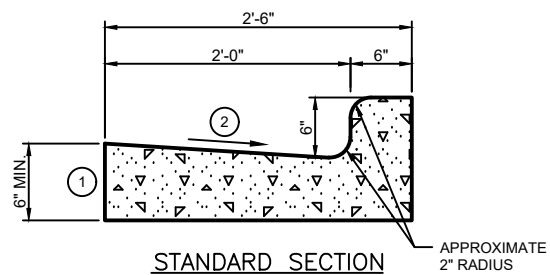
**BUSINESS PARK EXPANSION**  
**VILLAGE OF FREDONIA**  
**OZAUKEE COUNTY, WISCONSIN**

**JOB NO.**  
3844.016

**PROJECT MGR.**  
IPF

**SA STRAND ASSOCIATES**

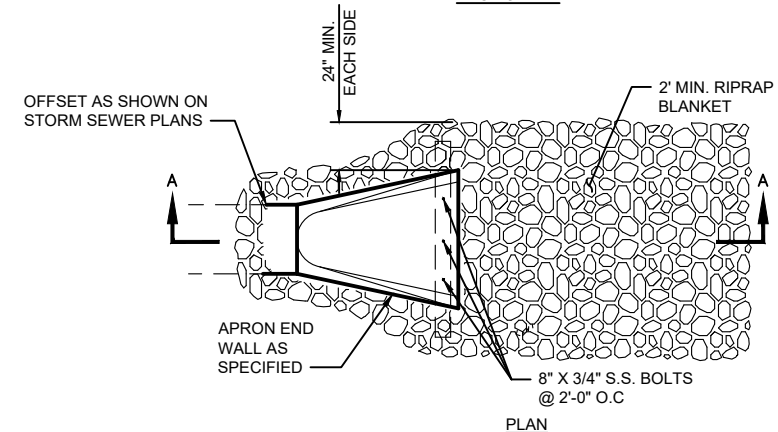
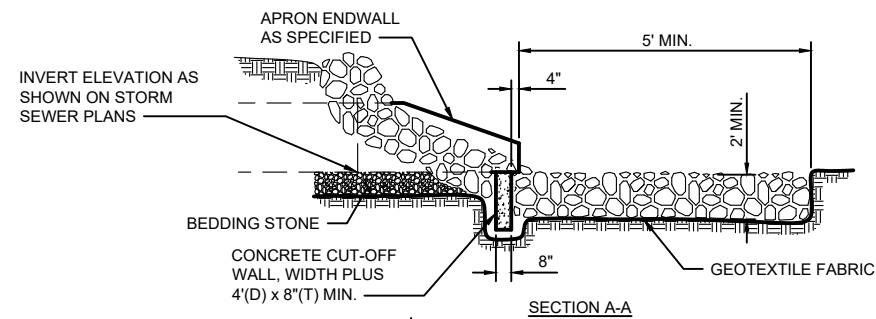
**SHEET**  
7



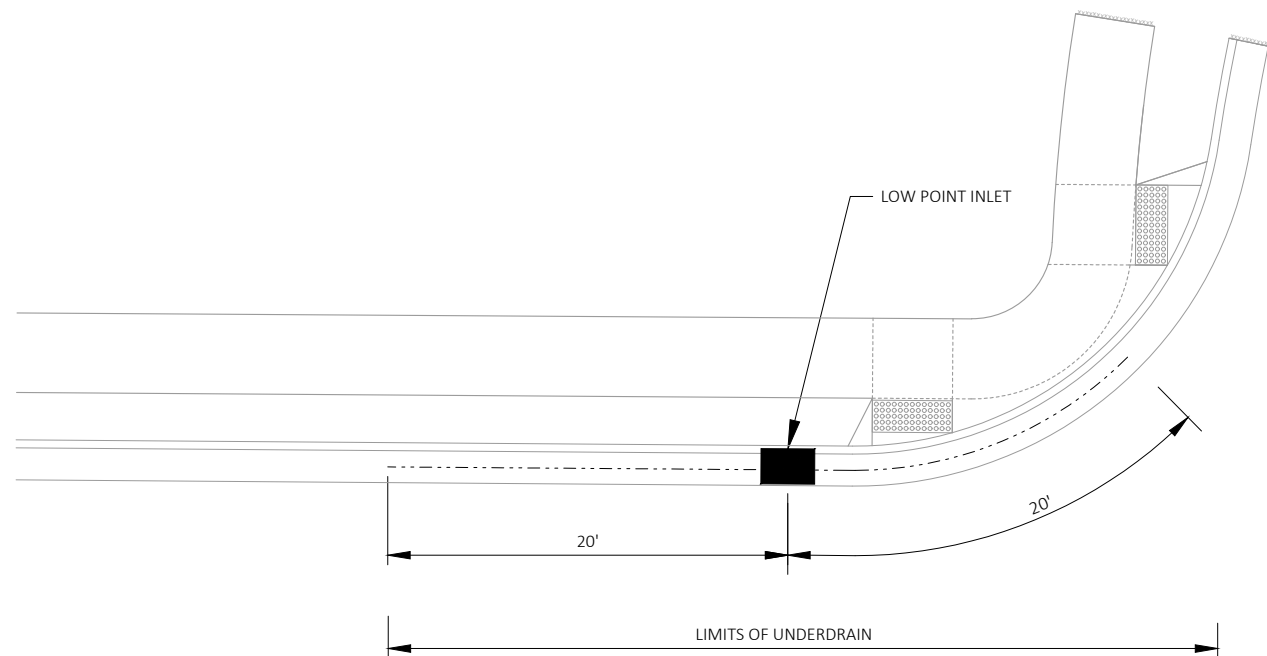
**NOTES:**

- ① THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ② USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ③ ENTRANCE CURB, SLOPE VARIABLE, UPWARD SLOPE ONLY.
- ④ SAME SLOPE AS ADJACENT PAVEMENT

**30" CURB AND GUTTER**  
NO SCALE

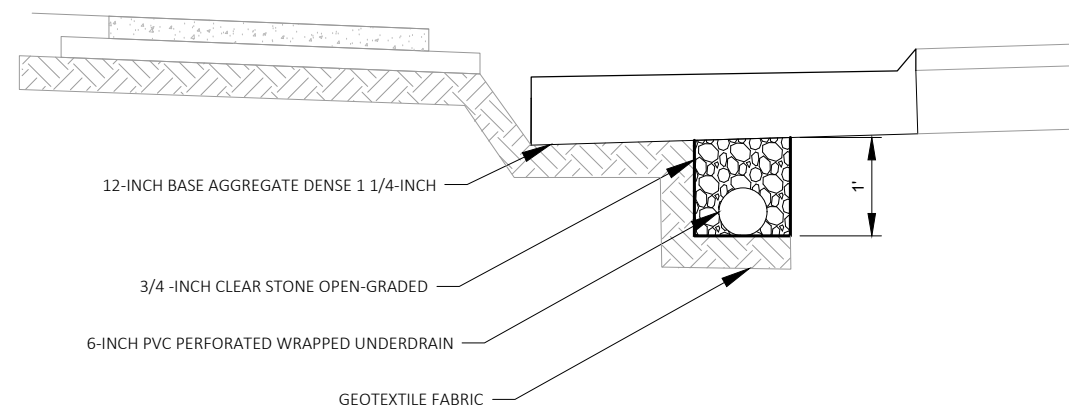


**STORM SEWER OUTFALL**  
NO SCALE



**PIPE UNDERDRAIN UNDER CURB & GUTTER DETAILS**

LOCATION: AT LOW POINTS, SEE PLAN AND PROFILE SHEETS FOR LOW POINT INFORMATION



**SECTION A - A**  
NO SCALE

DATE:	REVISIONS	NO.

**CONSTRUCTION DETAILS**  
BUSINESS PARK EXPANSION  
VILLAGE OF FREDONIA  
OZAUKEE COUNTY, WISCONSIN

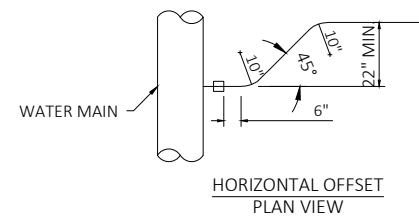
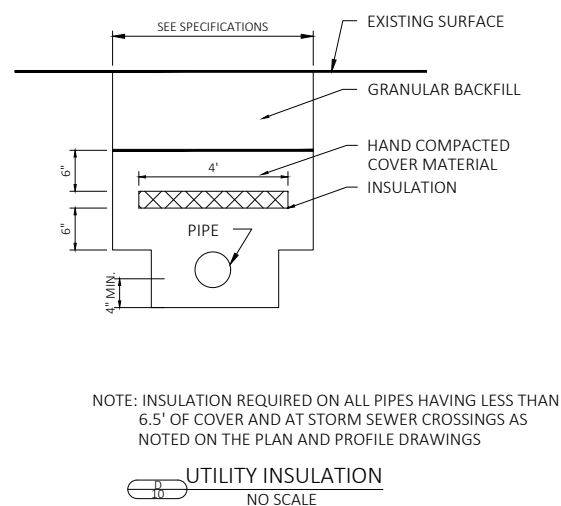
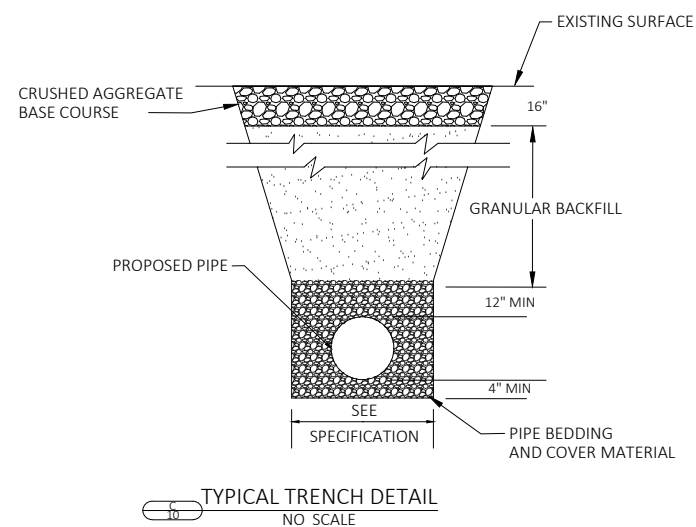
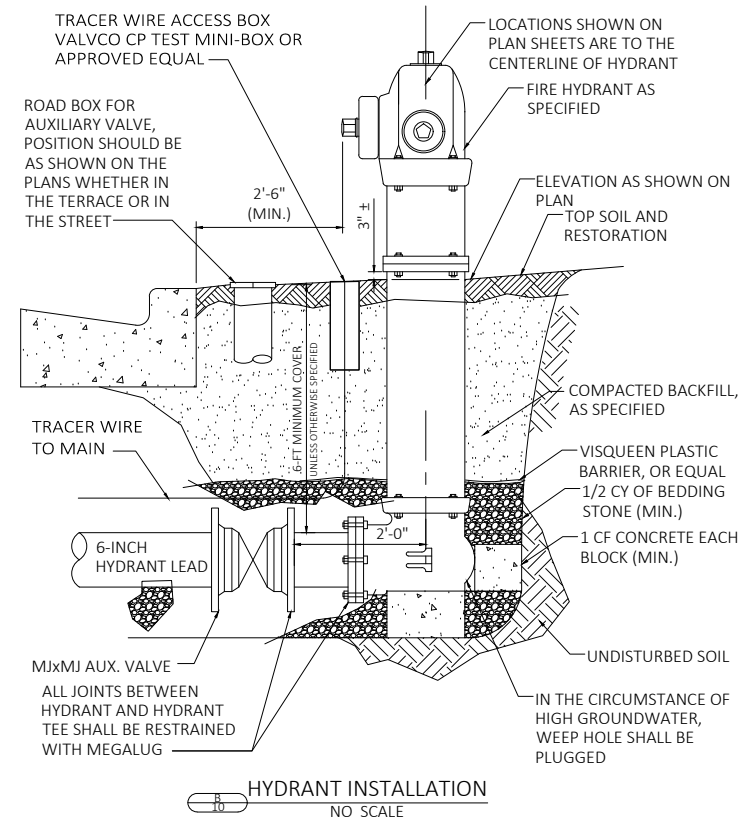
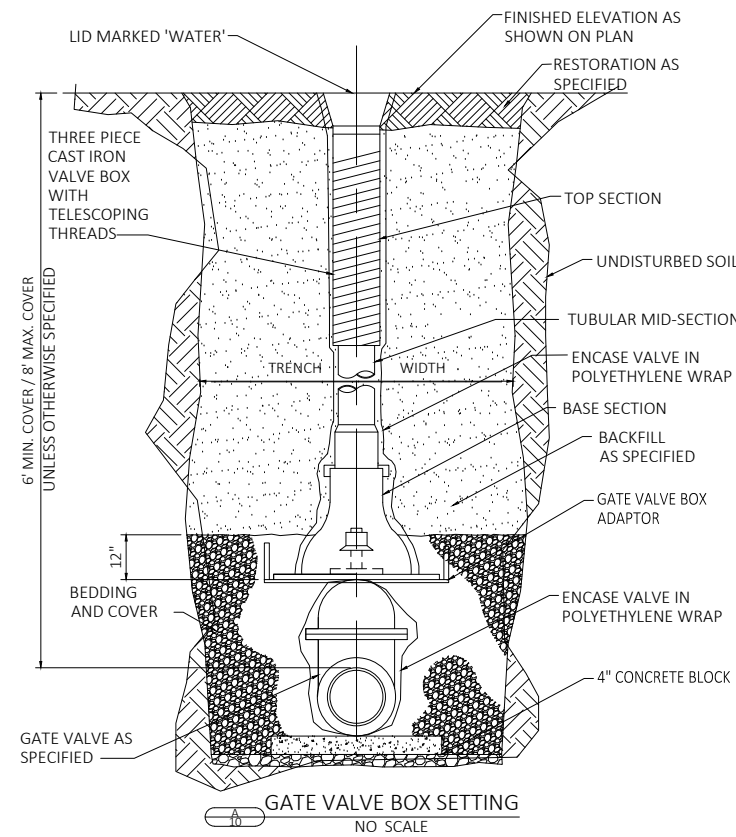
**JOB NO.**  
3844.016  
**PROJECT MGR.**  
IPF



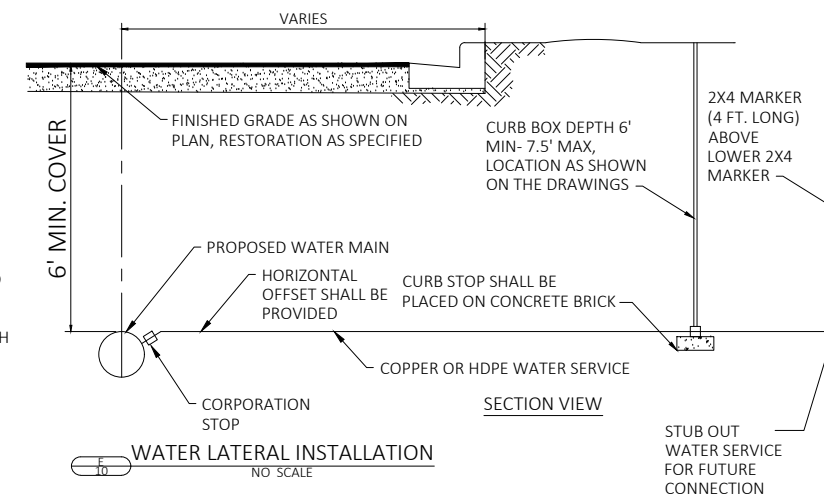
**SHEET**  
8







- NOTES**
1. ALL FITTINGS SHALL BE COMPRESSION JOINT TYPE (PER SPEC), AND CONFORM TO AWWA REQUIREMENTS
  2. CORPORATION STOP TO BE CONNECTED TO PVC WATER MAIN WITH SADDLE
  3. ALL TAPS TO BE MADE UNDER PRESSURE.
  4. NO TAPS TO BE CLOSER THAN 18" APART ALONG MAIN
  5. ALL BENDS TO BE SMOOTH RADIUS, 10" MIN
  6. WATER SERVICE LATERAL TO BE TESTED ALONG WITH WATER MAIN, UNLESS IT IS AN EXISTING SERVICE BEING RECONNECTED



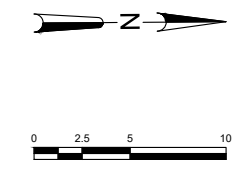
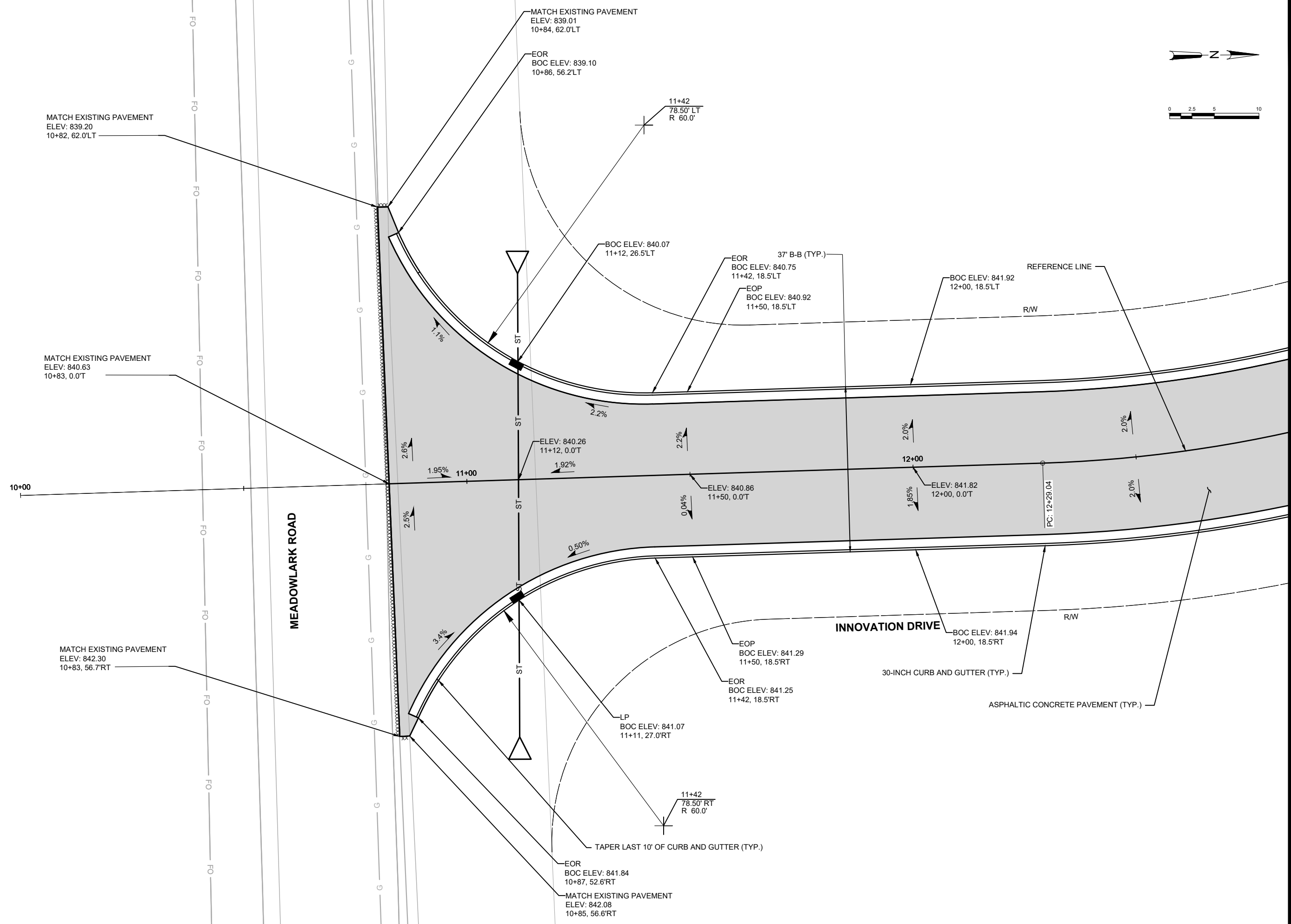
NO.	REVISIONS	DATE:

**CONSTRUCTION DETAILS**  
BUSINESS PARK EXPANSION  
VILLAGE OF FREDONIA  
OZAUKEE COUNTY, WISCONSIN

**JOB NO.**  
3844.016  
**PROJECT MGR.**  
IPF



**SHEET**  
10



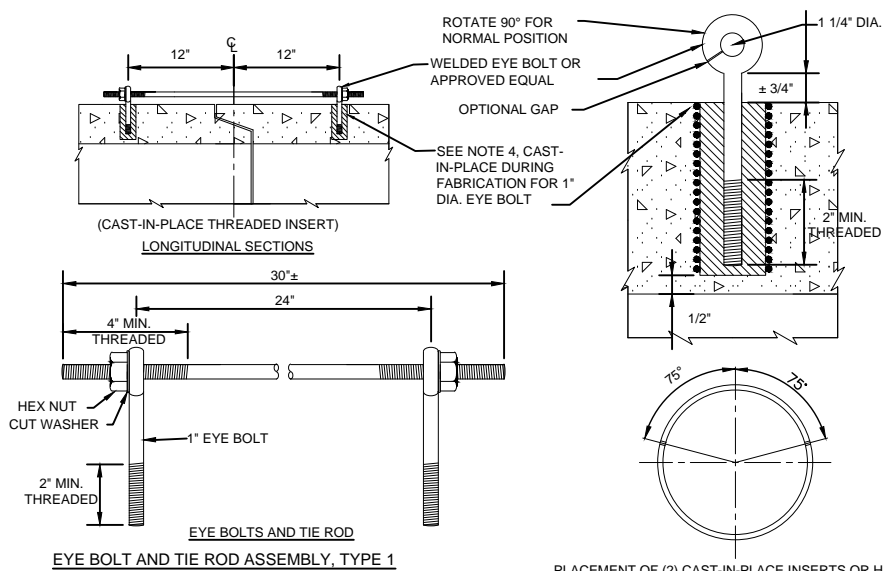
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**INTERSECTION DETAIL**  
**BUSINESS PARK EXPANSION**  
**VILLAGE OF FREDONIA**  
**OZAUKEE COUNTY, WISCONSIN**

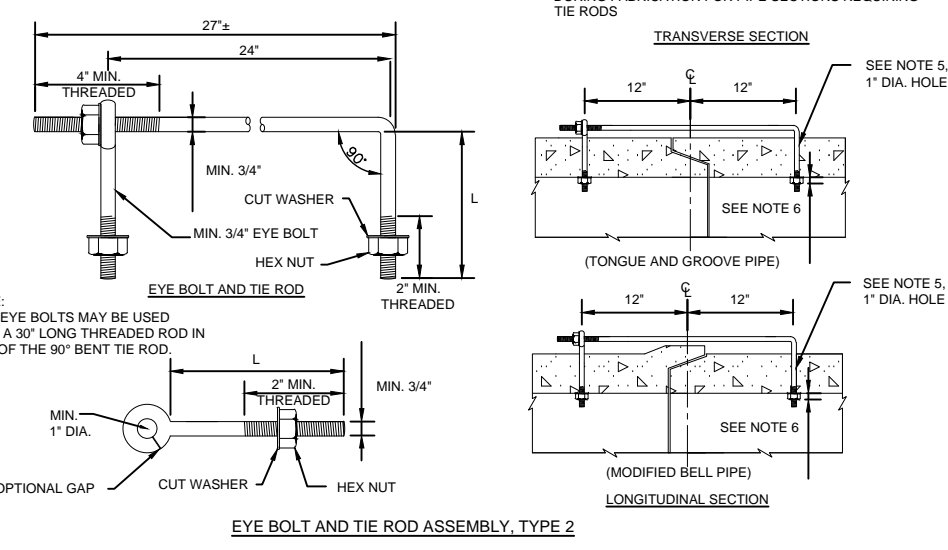
**JOB NO.**  
3844.016  
**PROJECT MGR.**  
IPF



**SHEET**  
**11**



- NOTES:**
1. ALL APRON END WALL JOINTS AND TWO ADDITIONAL UPSTREAM JOINTS (TOTAL OF 3) SHALL BE TIED TOGETHER AS SHOWN. ADDITIONAL TIED JOINTS MAY BE REQUIRED, AS SPECIFIED OR AS SHOWN ON THE PLAN. UNLESS OTHERWISE STATED IN THE CONTRACT THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE CULVERT PIPE AS INDICATED ON THE PLANS AND BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE REINFORCED CONCRETE CULVERT PIPE.
  2. DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
  3.  $\phi$  OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
  4. THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
  5. HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12" FROM  $\phi$  OF TONGUE AND GROOVE.
  6. BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2".
  7. ROD DIAMETER +1".
  8. LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



ADJUSTABLE TIE ROD DIMENSION TABLE

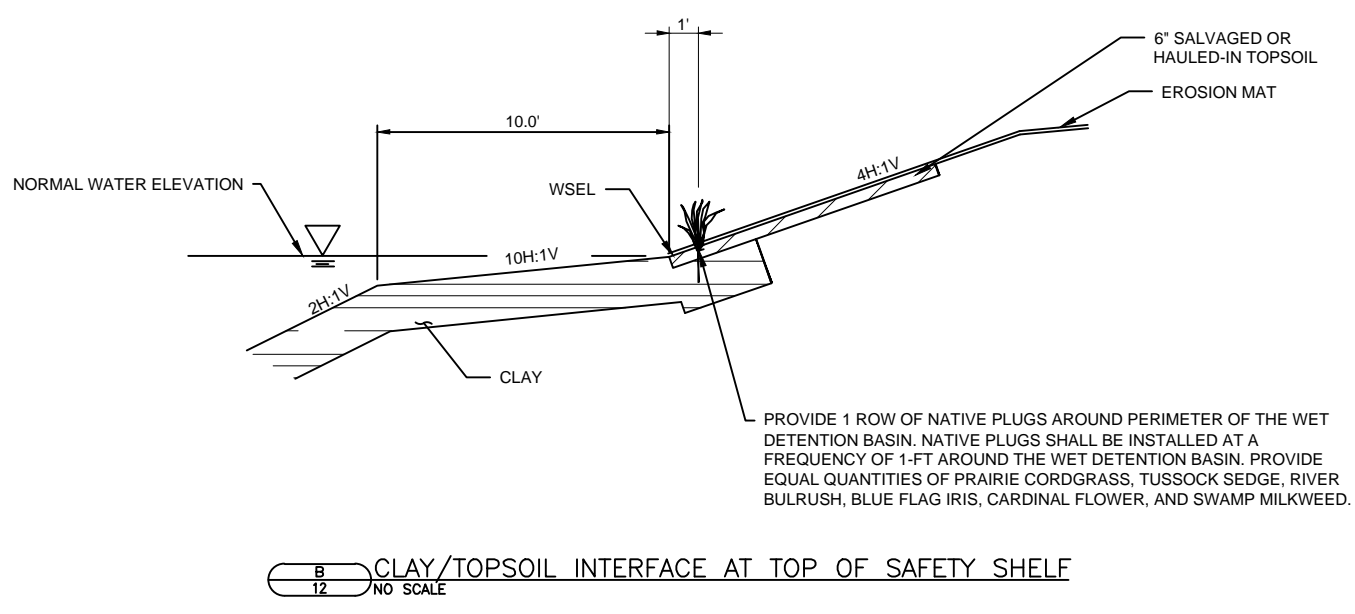
PIPE DIAMETER	TIE ROD DIAMETER	D	L1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 7/16

DIMENSIONS SHOWN ARE IN INCHES

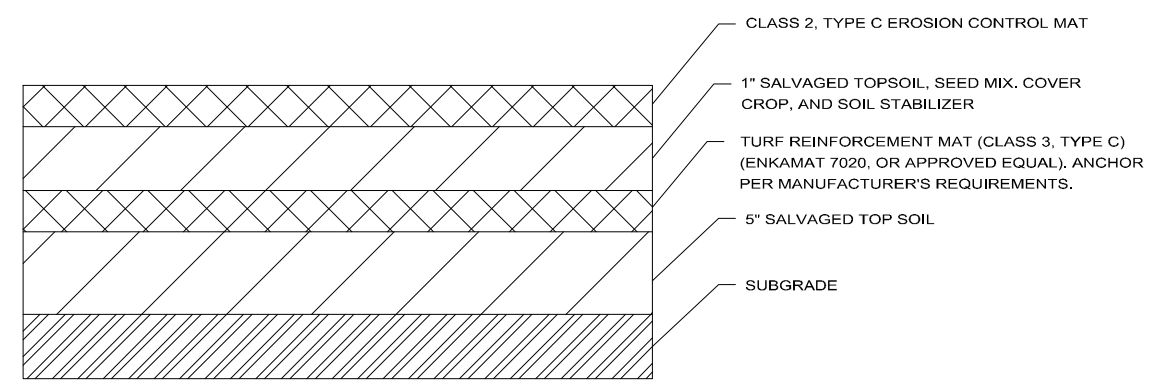
EYE BOLT DIMENSION TABLE

PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	

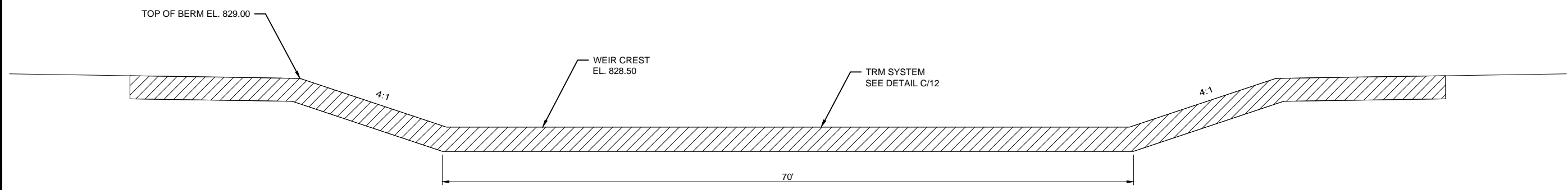
**A**  
12 NO SCALE  
JOINT TIES CONCRETE PIPE



**B**  
12 NO SCALE  
CLAY/TOPSOIL INTERFACE AT TOP OF SAFETY SHELF



**C**  
12 NO SCALE  
TRM SYSTEM DETAIL



**D**  
12 NO SCALE  
OVERFLOW SPILLWAY FOR NORTH DETENTION BASIN

NO.	REVISIONS	DATE:

DETENTION BASIN CONSTRUCTION DETAILS

BUSINESS PARK EXPANSION  
VILLAGE OF FREDONIA  
OZAUKEE COUNTY, WISCONSIN

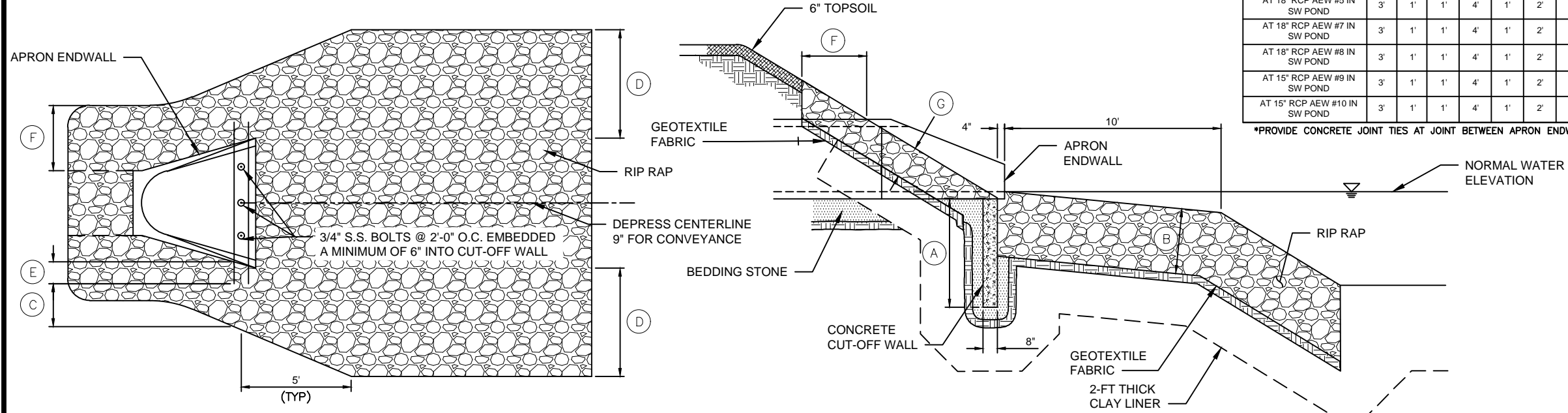
JOB NO.  
3844.016  
PROJECT MGR.  
IPF



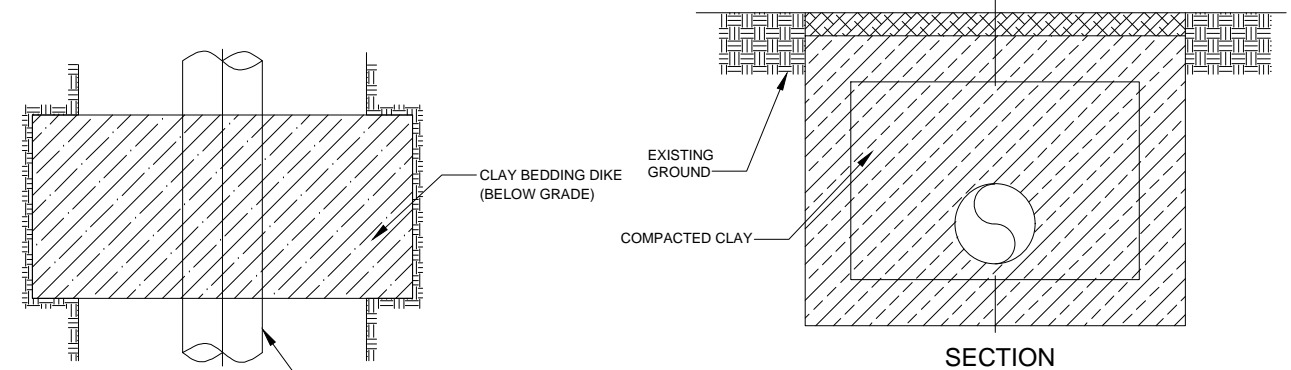
SHEET  
12

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	RIPRAP TYPE (SEE SPECIFICATION 31 37 00)
AT 24" RCP* DISCHARGE INTO NE DITCH	3'	1'	1'	4'	1'	2'	1'	MEDIUM RIP RAP
AT 24" RCP DISCHARGE INTO SW WETLAND	3'	1.5'	1'	4'	1'	2'	1'	MEDIUM RIP RAP
AT 24" RCP AEW #1 IN NE POND	3'	1'	1'	4'	1'	2'	1'	MEDIUM RIP RAP
AT 24" RCP AEW #3 IN SW POND	3'		1'	4'	1'	2'	1'	MEDIUM RIP RAP
AT 18" RCP AEW #5 IN SW POND	3'	1'	1'	4'	1'	2'	1'	MEDIUM RIP RAP
AT 18" RCP AEW #7 IN SW POND	3'	1'	1'	4'	1'	2'	1'	MEDIUM RIP RAP
AT 18" RCP AEW #8 IN SW POND	3'	1'	1'	4'	1'	2'	1'	MEDIUM RIP RAP
AT 15" RCP AEW #9 IN SW POND	3'	1'	1'	4'	1'	2'	1'	MEDIUM RIP RAP
AT 15" RCP AEW #10 IN SW POND	3'	1'	1'	4'	1'	2'	1'	MEDIUM RIP RAP

\*PROVIDE CONCRETE JOINT TIES AT JOINT BETWEEN APRON ENDWALL AND FIRST UPSTREAM PIPE.

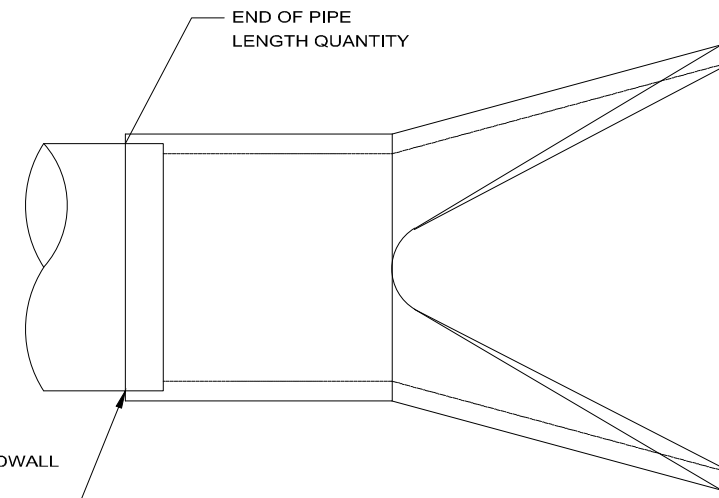


**A**  
13  
CONCRETE APRON ENDWALL & FIELDSTONE RIPRAP  
NO SCALE

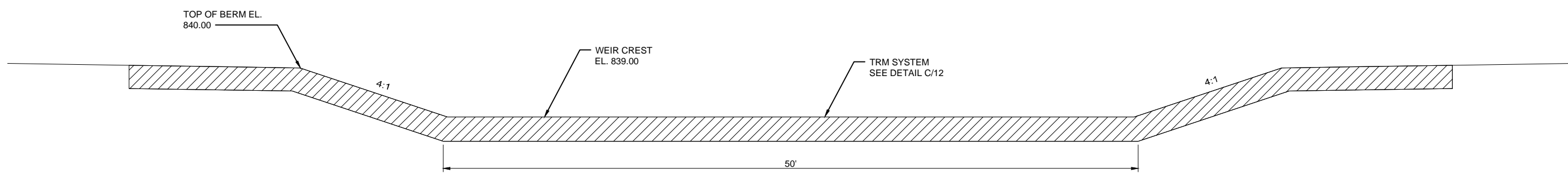


**B**  
13  
CLAY BEDDING DIKE  
NO SCALE

NOTE: CONTRACTOR SHALL BACKFILL AND COMPACT TRENCH WITH CLAY DAM. NO STONE SHALL BE USED IN THE BOTTOM OF TRENCH ALONG THE LENGTH OF THE DAM.



**C**  
13  
APRON ENDWALL DETAIL  
NO SCALE



**D**  
13  
OVERFLOW SPILLWAY FOR SOUTH DETENTION BASIN  
NO SCALE

DATE:							

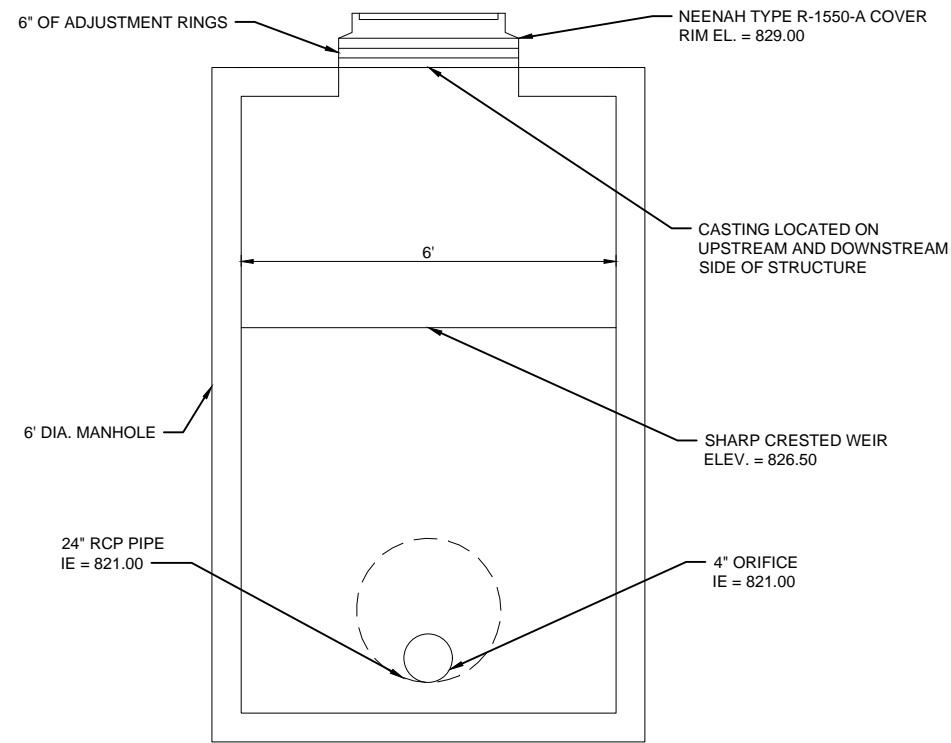
NO.	REVISIONS

DETENTION BASIN CONSTRUCTION DETAILS  
 BUSINESS PARK EXPANSION  
 VILLAGE OF FREDONIA  
 OZAUKEE COUNTY, WISCONSIN

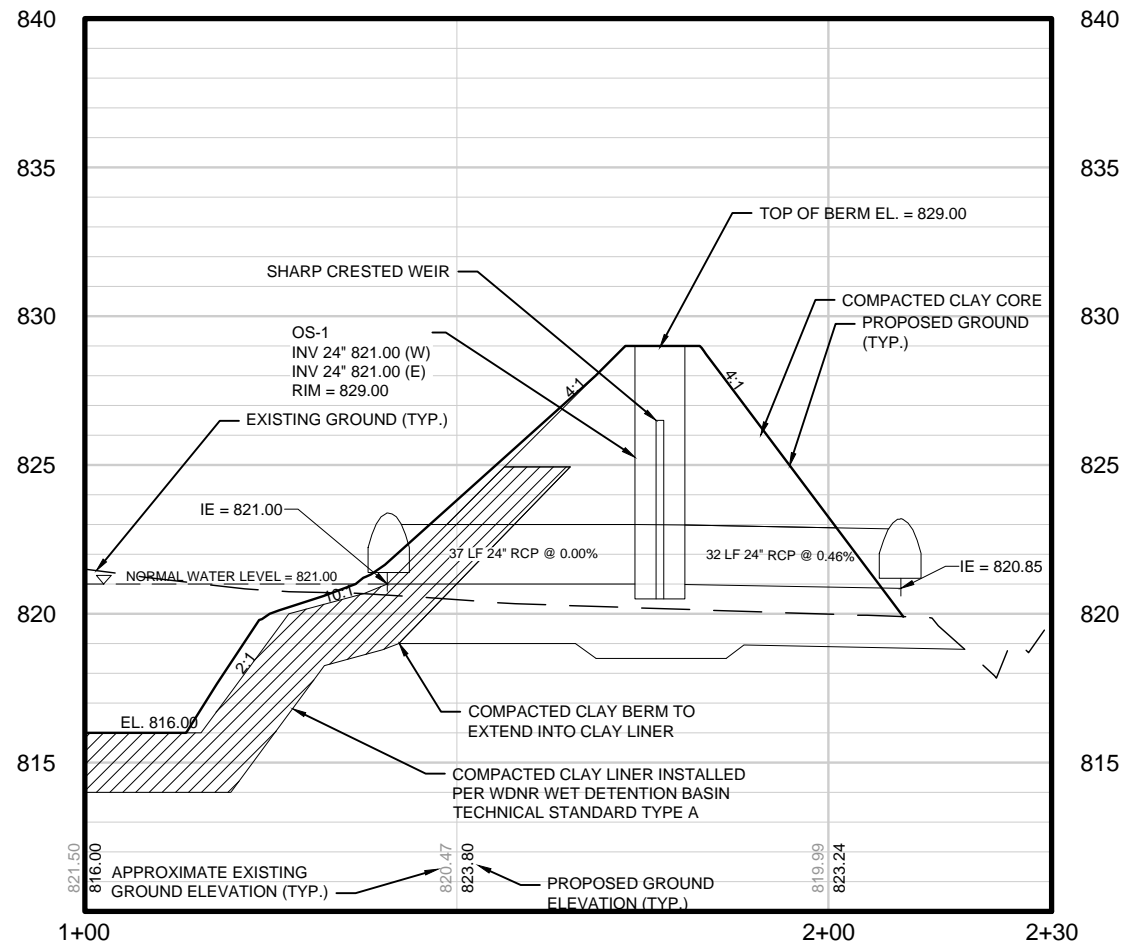
JOB NO.  
3844.016  
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IPF



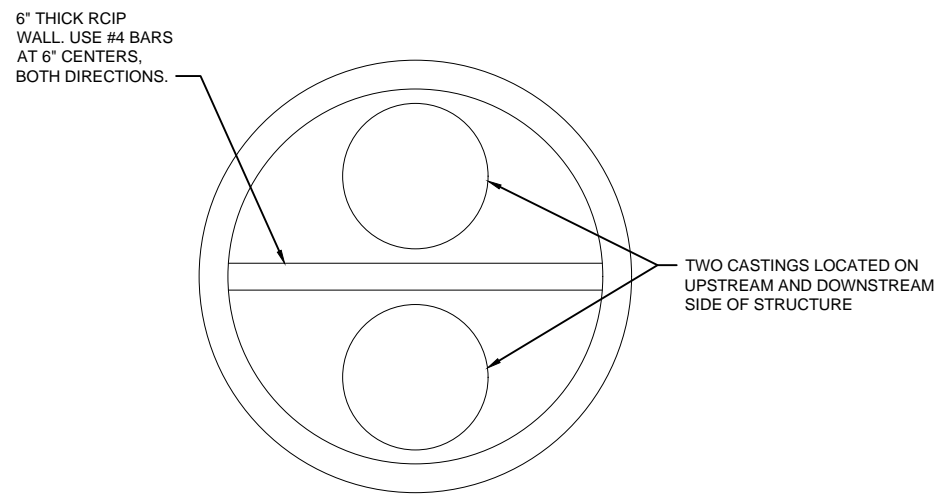
SHEET  
13



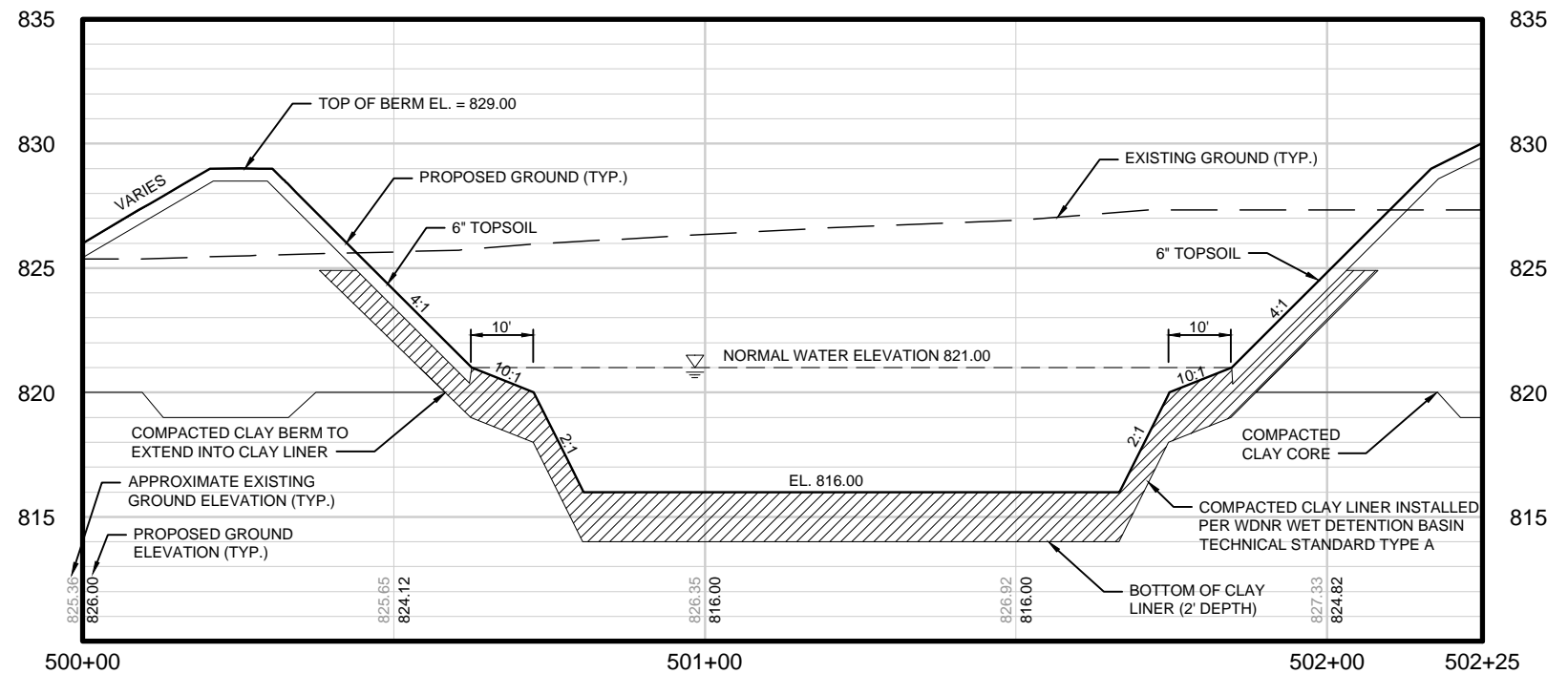
**A**  
14  
NO SCALE  
OUTLET STRUCTURE 1 (OS-1) SECTION C-C



**B**  
14  
NO SCALE  
BASIN SECTION B-B



**C**  
14  
NO SCALE  
OUTLET STRUCTURE 1 (OS-1) PLAN VIEW



**D**  
14  
NO SCALE  
BASIN SECTION A-A

NO.	REVISIONS	DATE:

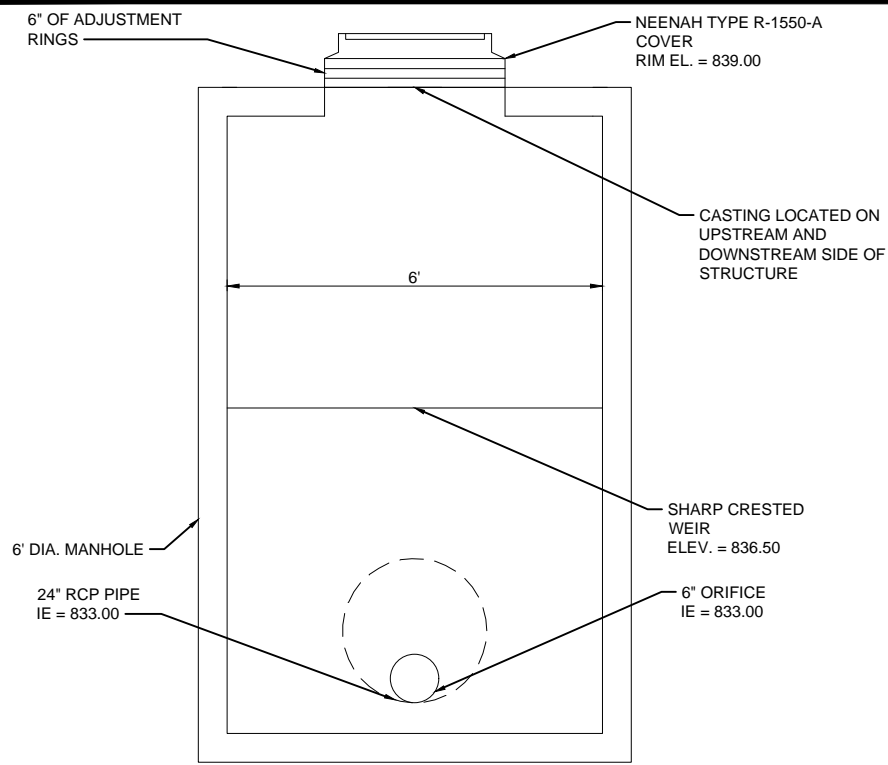
NORTH DETENTION BASIN CONSTRUCTION DETAILS  
 AND SECTIONS  
 BUSINESS PARK EXPANSION  
 VILLAGE OF FREDONIA  
 OZAUKEE COUNTY, WISCONSIN

JOB NO.  
3844.016

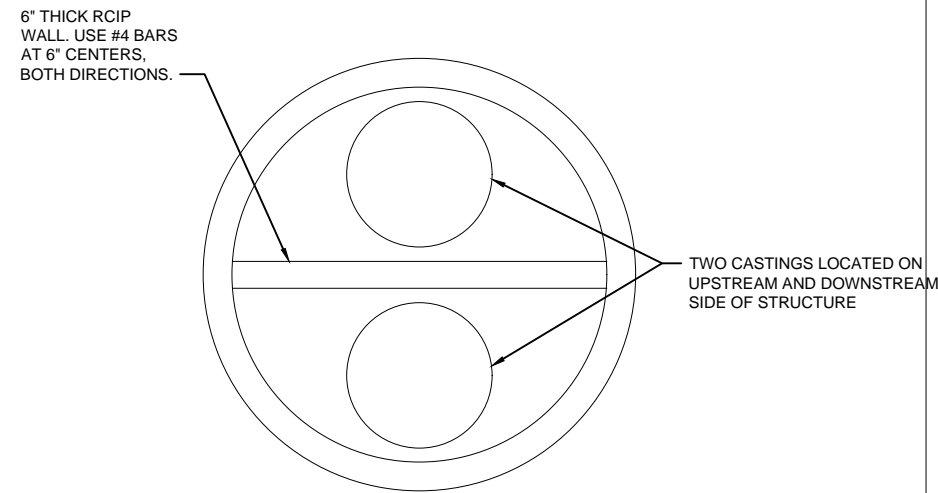
PROJECT MGR.  
IPF



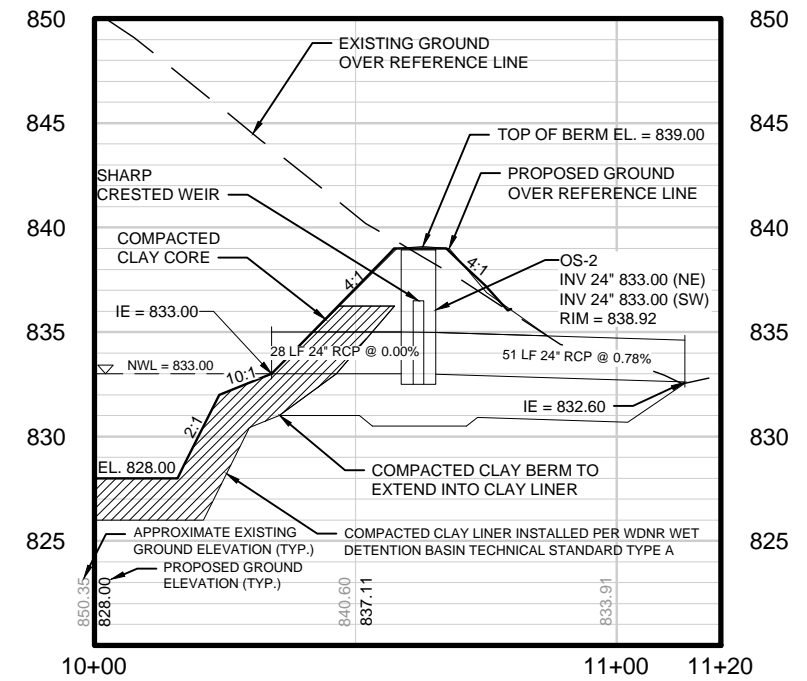
SHEET  
14



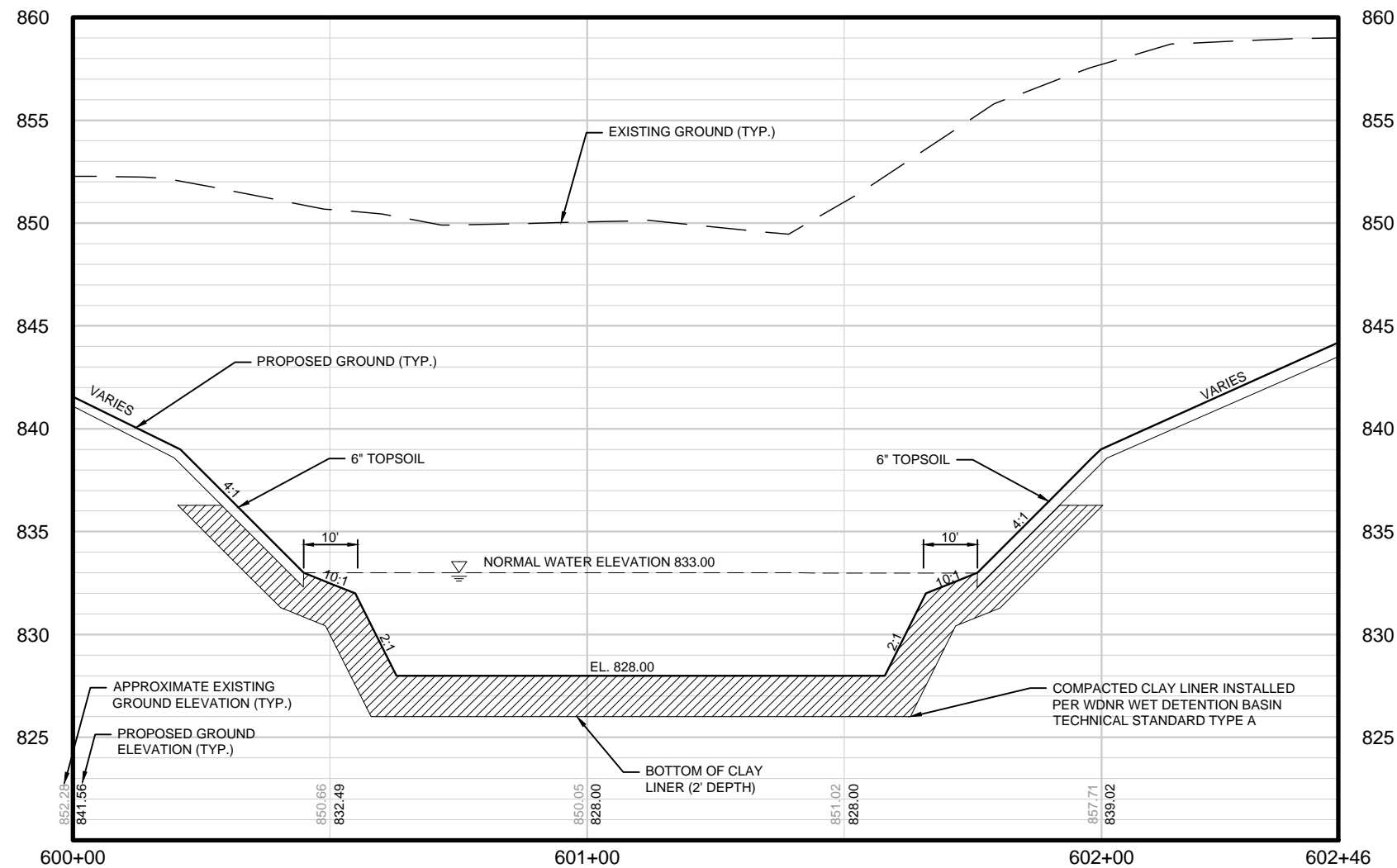
**A**  
15  
OUTLET STRUCTURE 2 (OS-2) SECTION F-F  
NO SCALE



**B**  
15  
OUTLET STRUCTURE 2 (OS-2) PLAN VIEW  
NO SCALE



**C**  
15  
BASIN SECTION E-E  
NO SCALE



**D**  
15  
BASIN SECTION D-D  
NO SCALE

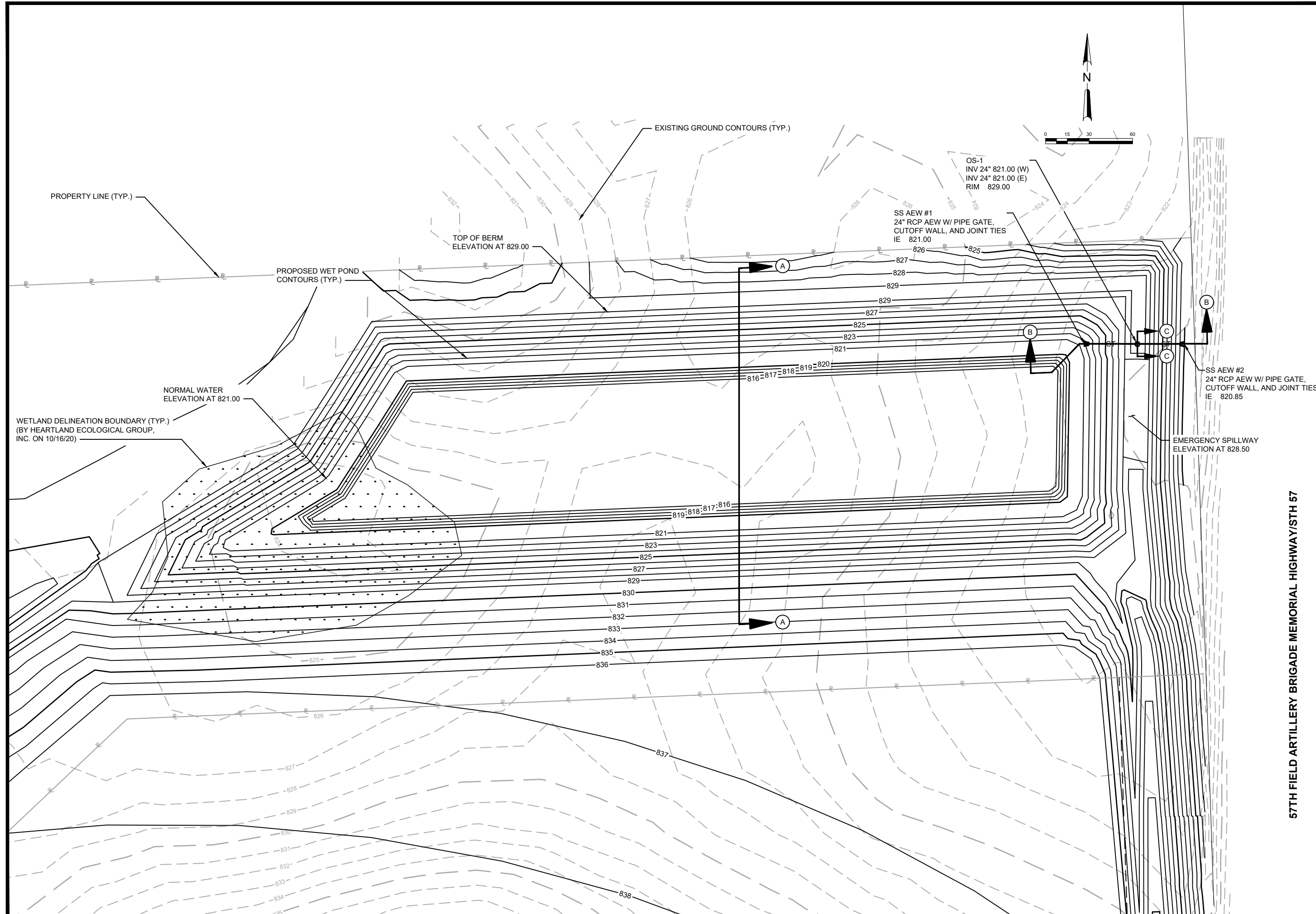
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SOUTH DETENTION BASIN CONSTRUCTION DETAILS  
 AND SECTIONS  
 BUSINESS PARK EXPANSION  
 VILLAGE OF FREDONIA  
 OZAUKEE COUNTY, WISCONSIN

JOB NO.  
 3844.016  
 PROJECT MGR.  
 IPF



SHEET  
 15



NO.	REVISIONS	DATE

**NORTH DETENTION BASIN GRADING PLAN**  
 BUSINESS PARK EXPANSION  
 VILLAGE OF FREDONIA  
 OZAUKEE COUNTY, WISCONSIN

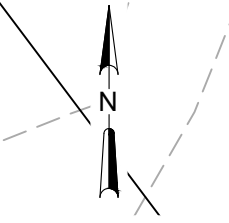
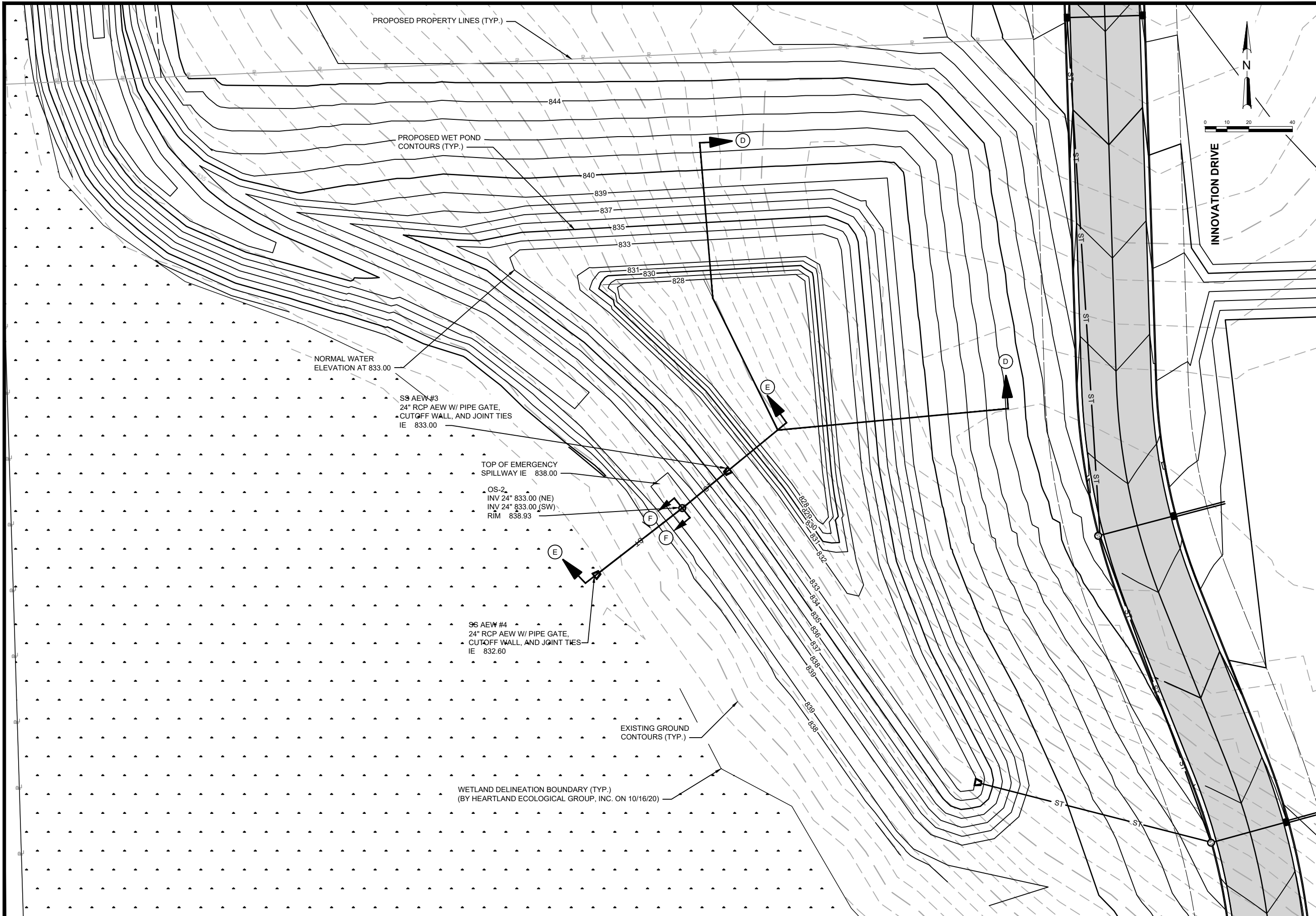
57TH FIELD ARTILLERY BRIGADE MEMORIAL HIGHWAY/STH 57

JOB NO.  
3844.016  
 PROJECT MGR.  
IPF



SHEET  
16





INNOVATION DRIVE

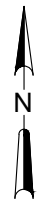
NO.	REVISIONS	DATE

**SOUTH DETENTION BASIN GRADING PLAN**  
 BUSINESS PARK EXPANSION  
 VILLAGE OF FREDONIA  
 OZAUKEE COUNTY, WISCONSIN

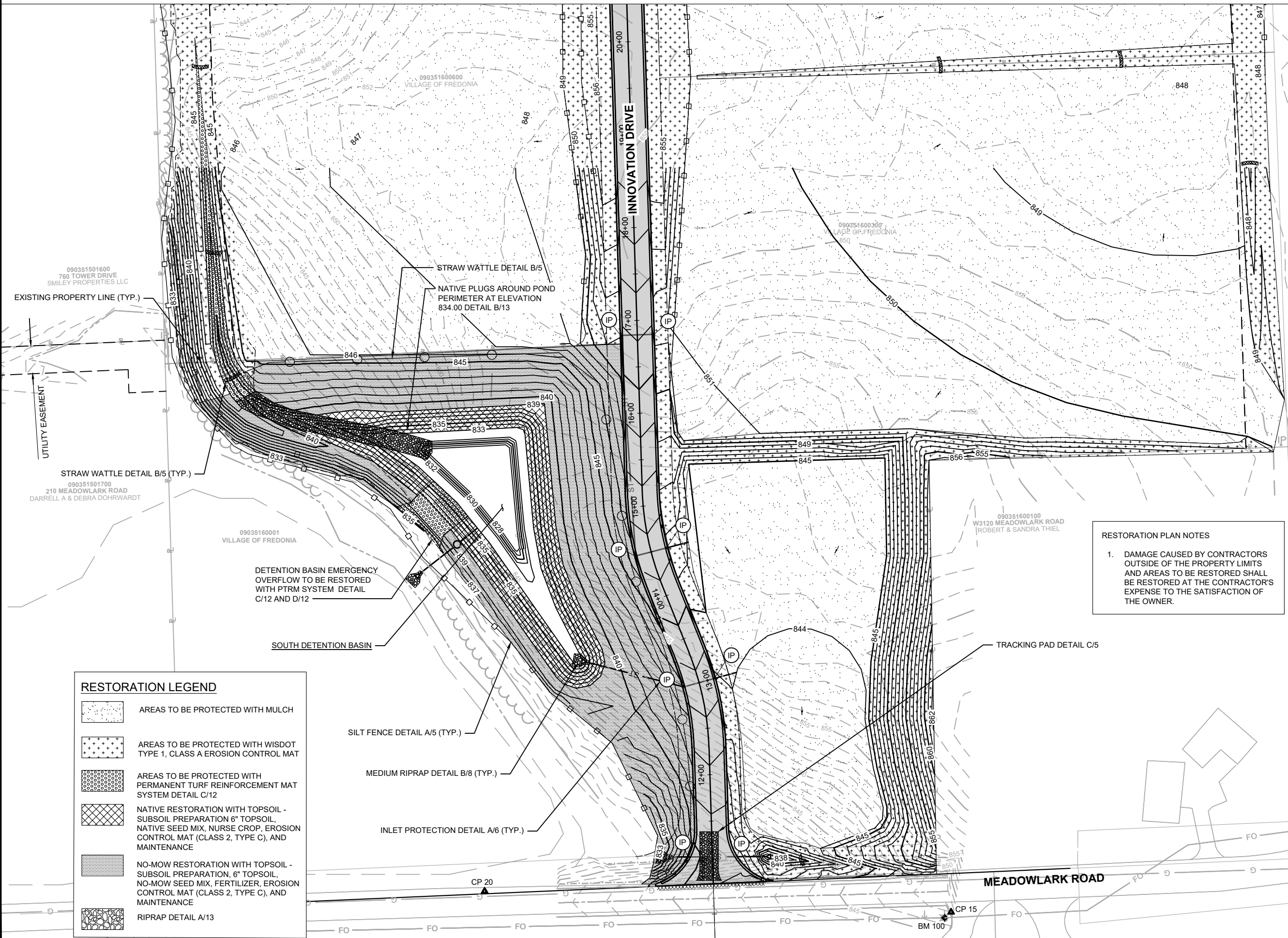
JOB NO.  
3844.016  
 PROJECT MGR.  
IPF



SHEET  
17



57TH FIELD ARTILLERY BRIGADE MEMORIAL HIGHWAY/STH 57



090351501600  
760 TOWER DRIVE  
SMILEY PROPERTIES LLC  
EXISTING PROPERTY LINE (TYP.)

STRAW WATTLE DETAIL B/5  
NATIVE PLUGS AROUND POND  
PERIMETER AT ELEVATION  
834.00 DETAIL B/13

090351501700  
210 MEADOWLARK ROAD  
DARRELL A & DEBRA DOHRWARDT

090351600001  
VILLAGE OF FREDONIA

DETENTION BASIN EMERGENCY  
OVERFLOW TO BE RESTORED  
WITH PTRM SYSTEM DETAIL  
C/12 AND D/12

SOUTH DETENTION BASIN

090351600100  
W3120 MEADOWLARK ROAD  
ROBERT & SANDRA THIEL

RESTORATION PLAN NOTES  
1. DAMAGE CAUSED BY CONTRACTORS  
OUTSIDE OF THE PROPERTY LIMITS  
AND AREAS TO BE RESTORED SHALL  
BE RESTORED AT THE CONTRACTOR'S  
EXPENSE TO THE SATISFACTION OF  
THE OWNER.

TRACKING PAD DETAIL C/5

**RESTORATION LEGEND**

-  AREAS TO BE PROTECTED WITH MULCH
-  AREAS TO BE PROTECTED WITH WISDOT TYPE 1, CLASS A EROSION CONTROL MAT
-  AREAS TO BE PROTECTED WITH PERMANENT TURF REINFORCEMENT MAT SYSTEM DETAIL C/12
-  NATIVE RESTORATION WITH TOPSOIL - SUBSOIL PREPARATION 6" TOPSOIL, NATIVE SEED MIX, NURSE CROP, EROSION CONTROL MAT (CLASS 2, TYPE C), AND MAINTENANCE
-  NO-MOW RESTORATION WITH TOPSOIL - SUBSOIL PREPARATION, 6" TOPSOIL, NO-MOW SEED MIX, FERTILIZER, EROSION CONTROL MAT (CLASS 2, TYPE C), AND MAINTENANCE
-  RIPRAP DETAIL A/13

SILT FENCE DETAIL A/5 (TYP.)

MEDIUM RIPRAP DETAIL B/8 (TYP.)

INLET PROTECTION DETAIL A/6 (TYP.)

CP 20

BM 100

MEADOWLARK ROAD

NO.	REVISIONS	DATE:

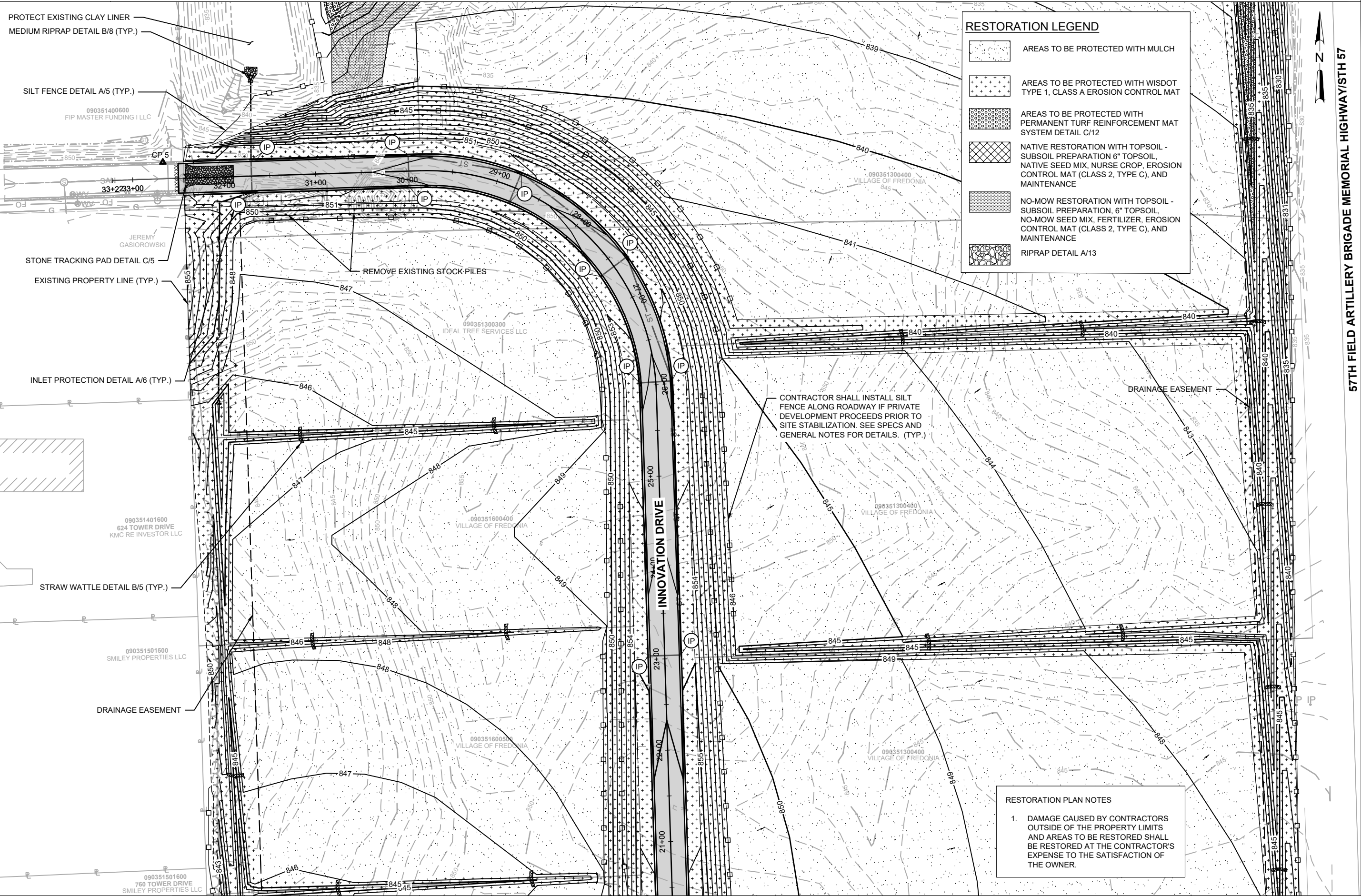
**SITE GRADING AND RESTORATION PLAN-SOUTH**

BUSINESS PARK EXPANSION  
VILLAGE OF FREDONIA  
OSHAUKEE COUNTY, WISCONSIN

JOB NO.  
3844.016  
PROJECT MGR.  
IPF



SHEET  
18



**RESTORATION LEGEND**

- AREAS TO BE PROTECTED WITH MULCH
- AREAS TO BE PROTECTED WITH WISDOT TYPE 1, CLASS A EROSION CONTROL MAT
- AREAS TO BE PROTECTED WITH PERMANENT TURF REINFORCEMENT MAT SYSTEM DETAIL C/12
- NATIVE RESTORATION WITH TOPSOIL - SUBSOIL PREPARATION 6" TOPSOIL, NATIVE SEED MIX, NURSE CROP, EROSION CONTROL MAT (CLASS 2, TYPE C), AND MAINTENANCE
- NO-MOW RESTORATION WITH TOPSOIL - SUBSOIL PREPARATION, 6" TOPSOIL, NO-MOW SEED MIX, FERTILIZER, EROSION CONTROL MAT (CLASS 2, TYPE C), AND MAINTENANCE
- RIPRAP DETAIL A/13

**RESTORATION PLAN NOTES**

- DAMAGE CAUSED BY CONTRACTORS OUTSIDE OF THE PROPERTY LIMITS AND AREAS TO BE RESTORED SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.

DATE:	
NO.	
REVISIONS	

57TH FIELD ARTILLERY BRIGADE MEMORIAL HIGHWAY/STH 57

**SITE GRADING AND RESTORATION PLAN-MIDDLE**




BUSINESS PARK EXPANSION  
VILLAGE OF FREDONIA  
OSAUKEE COUNTY, WISCONSIN

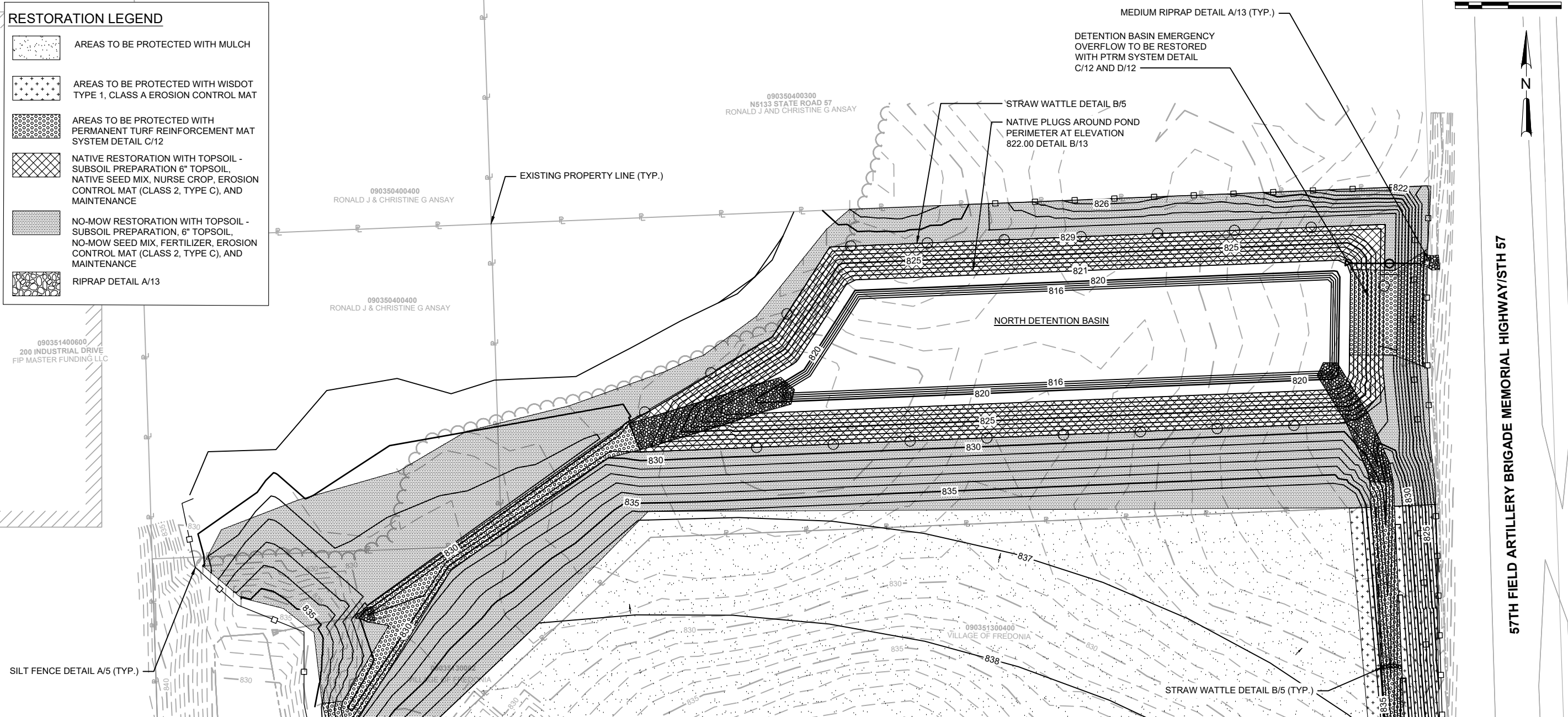
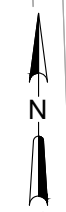
JOB NO.  
3844.016  
PROJECT MGR.  
IPF



SHEET  
19

**RESTORATION LEGEND**

-  AREAS TO BE PROTECTED WITH MULCH
-  AREAS TO BE PROTECTED WITH WISDOT TYPE 1, CLASS A EROSION CONTROL MAT
-  AREAS TO BE PROTECTED WITH PERMANENT TURF REINFORCEMENT MAT SYSTEM DETAIL C/12
-  NATIVE RESTORATION WITH TOPSOIL - SUBSOIL PREPARATION 6" TOPSOIL, NATIVE SEED MIX, NURSE CROP, EROSION CONTROL MAT (CLASS 2, TYPE C), AND MAINTENANCE
-  NO-MOW RESTORATION WITH TOPSOIL - SUBSOIL PREPARATION 6" TOPSOIL, NO-MOW SEED MIX, FERTILIZER, EROSION CONTROL MAT (CLASS 2, TYPE C), AND MAINTENANCE
-  RIPRAP DETAIL A/13



MATCH LINE - SEE SHEET 19

**RESTORATION PLAN NOTES**

1. DAMAGE CAUSED BY CONTRACTORS OUTSIDE OF THE PROPERTY LIMITS AND AREAS TO BE RESTORED SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.

NO.	REVISIONS	DATE:

**SITE GRADING AND RESTORATION PLAN-NORTH**

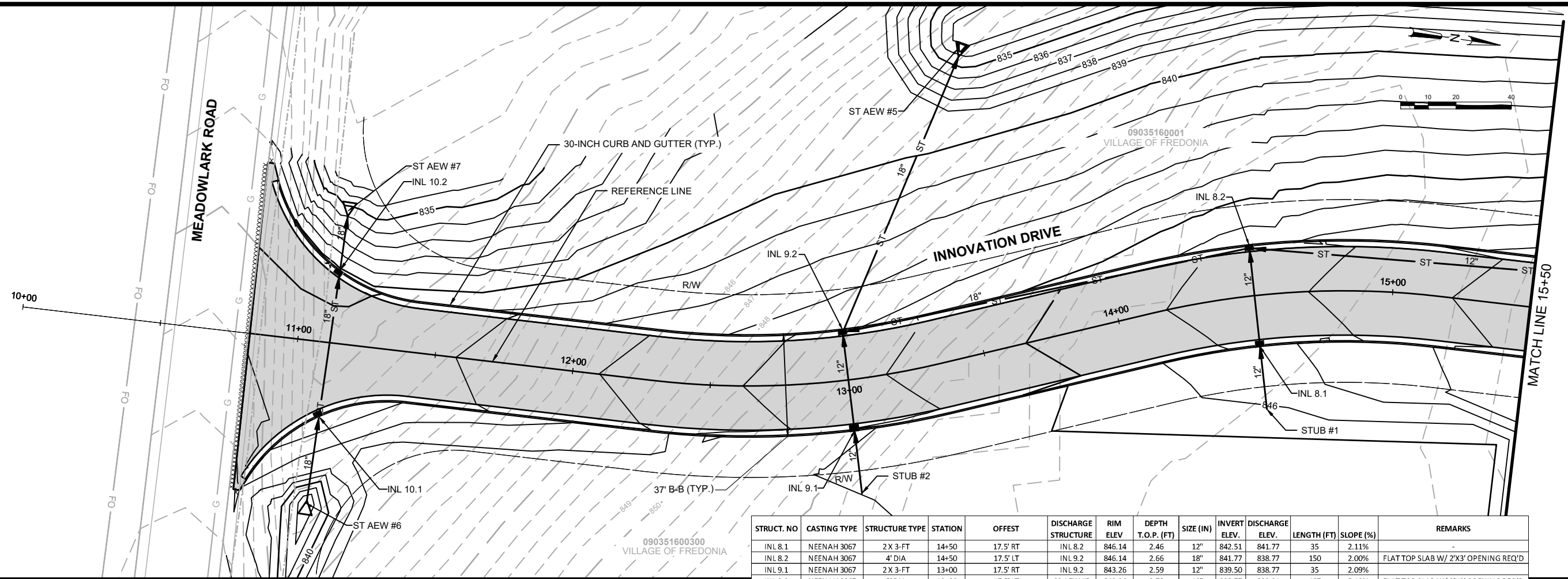
BUSINESS PARK EXPANSION  
 VILLAGE OF FREDONIA  
 OZAUKEE COUNTY, WISCONSIN

**JOB NO.**  
3844.016

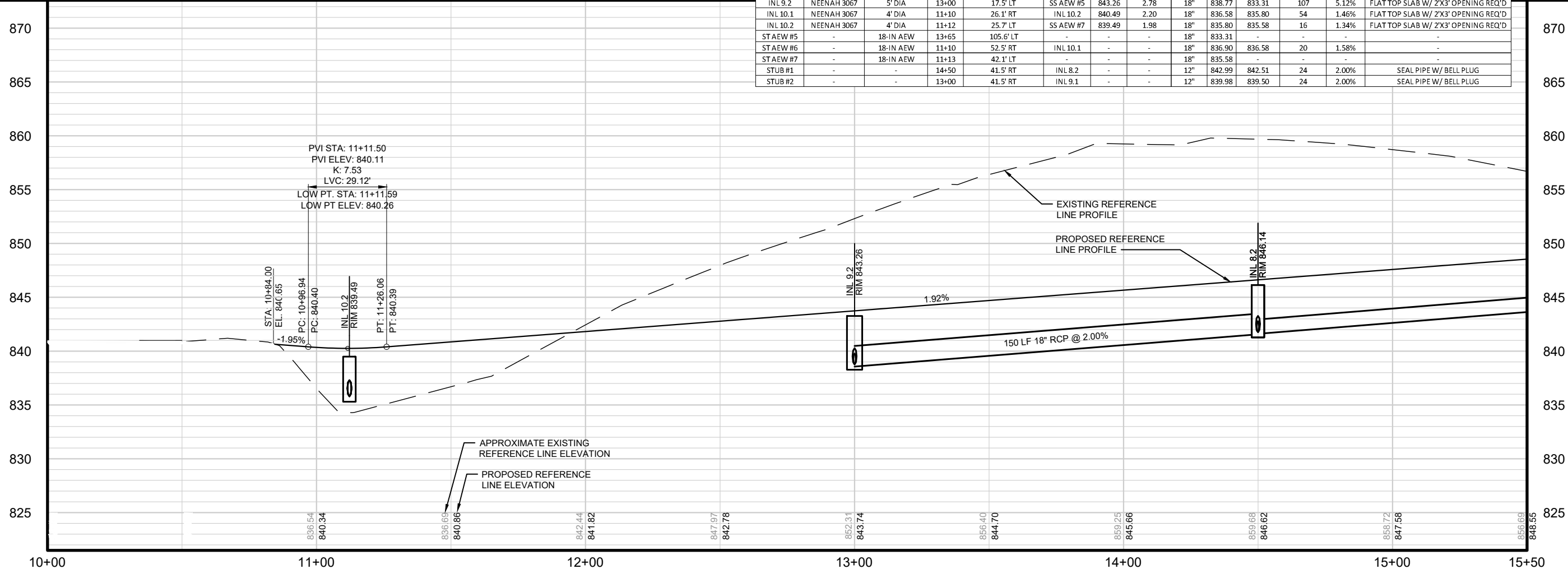
**PROJECT MGR.**  
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**SHEET**  
**20**



STRUCT. NO	CASTING TYPE	STRUCTURE TYPE	STATION	OFFSET	DISCHARGE STRUCTURE	RIM ELEV.	DEPTH T.O.P. (FT)	SIZE (IN)	INVERT ELEV.	DISCHARGE ELEV.	LENGTH (FT)	SLOPE (%)	REMARKS
INL 8.1	NEENAH 3067	2 X 3-FT	14+50	17.5' RT	INL 8.2	846.14	2.46	12"	842.51	841.77	35	2.11%	-
INL 8.2	NEENAH 3067	4' DIA	14+50	17.5' LT	INL 9.2	846.14	2.66	18"	841.77	838.77	150	2.00%	FLAT TOP SLAB W/ 2'X3' OPENING REQ'D
INL 9.1	NEENAH 3067	2 X 3-FT	13+00	17.5' RT	INL 9.2	843.26	2.59	12"	839.50	838.77	35	2.09%	-
INL 9.2	NEENAH 3067	5' DIA	13+00	17.5' LT	SS AEW #5	843.26	2.78	18"	838.77	833.31	107	5.12%	FLAT TOP SLAB W/ 2'X3' OPENING REQ'D
INL 10.1	NEENAH 3067	4' DIA	11+10	26.1' RT	INL 10.2	840.49	2.20	18"	836.58	835.80	54	1.46%	FLAT TOP SLAB W/ 2'X3' OPENING REQ'D
INL 10.2	NEENAH 3067	4' DIA	11+12	25.7' LT	SS AEW #7	839.49	1.98	18"	835.80	835.58	16	1.34%	FLAT TOP SLAB W/ 2'X3' OPENING REQ'D
ST AEW #5	-	18-IN AEW	13+65	105.6' LT	-	-	-	18"	833.31	-	-	-	-
ST AEW #6	-	18-IN AEW	11+10	52.5' RT	INL 10.1	-	-	18"	836.90	836.58	20	1.58%	-
ST AEW #7	-	18-IN AEW	11+13	42.1' LT	-	-	-	18"	835.58	-	-	-	-
STUB #1	-	-	14+50	41.5' RT	INL 8.2	-	-	12"	842.99	842.51	24	2.00%	SEAL PIPE W/ BELL PLUG
STUB #2	-	-	13+00	41.5' RT	INL 9.1	-	-	12"	839.98	839.50	24	2.00%	SEAL PIPE W/ BELL PLUG



NO.	REVISIONS	DATE:

**STORM SEWER PLAN AND PROFILE**  
**BUSINESS PARK EXPANSION**  
**VILLAGE OF FREDONIA**  
**OZAUKEE COUNTY, WISCONSIN**

**JOB NO.**  
 3844.016  
**PROJECT MGR.**  
 IPF

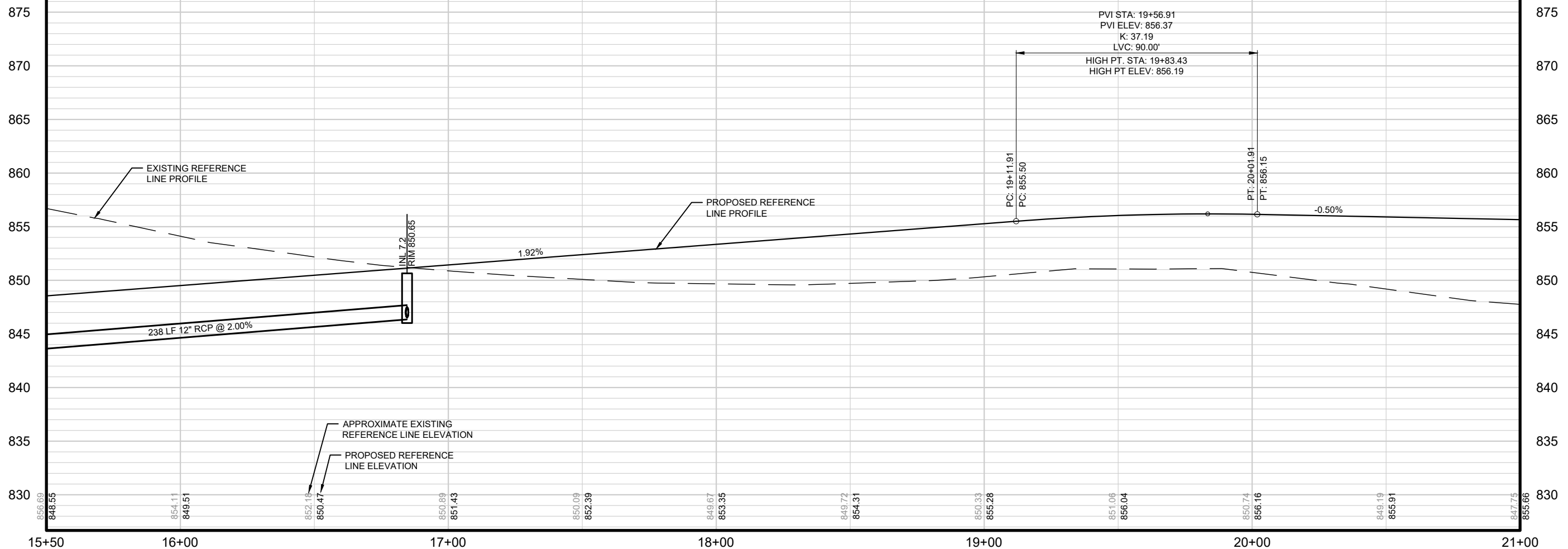


**SHEET**  
**21**

MATCH LINE 15+50

MATCH LINE 21+00

STRUCT. NO	CASTING TYPE	STRUCTURE TYPE	STATION	OFFSET	DISCHARGE STRUCTURE	RIM ELEV.	DEPTH T.O.P. (FT)	SIZE (IN)	INVERT ELEV.	DISCHARGE ELEV.	LENGTH (FT)	SLOPE (%)	REMARKS
INL 7.1	NEENAH 3067	2 X 3-FT	16+85	17.5' RT	INL 7.2	850.65	2.61	12"	846.87	846.52	35	1.00%	-
INL 7.2	NEENAH 3067	2 X 3-FT	16+85	17.5' LT	INL 8.2	850.65	2.96	12"	846.52	841.77	238	2.00%	-



NO.	REVISIONS	DATE:

**STORM SEWER PLAN AND PROFILE**  
**BUSINESS PARK EXPANSION**  
**VILLAGE OF FREDONIA**  
**OZAUKEE COUNTY, WISCONSIN**

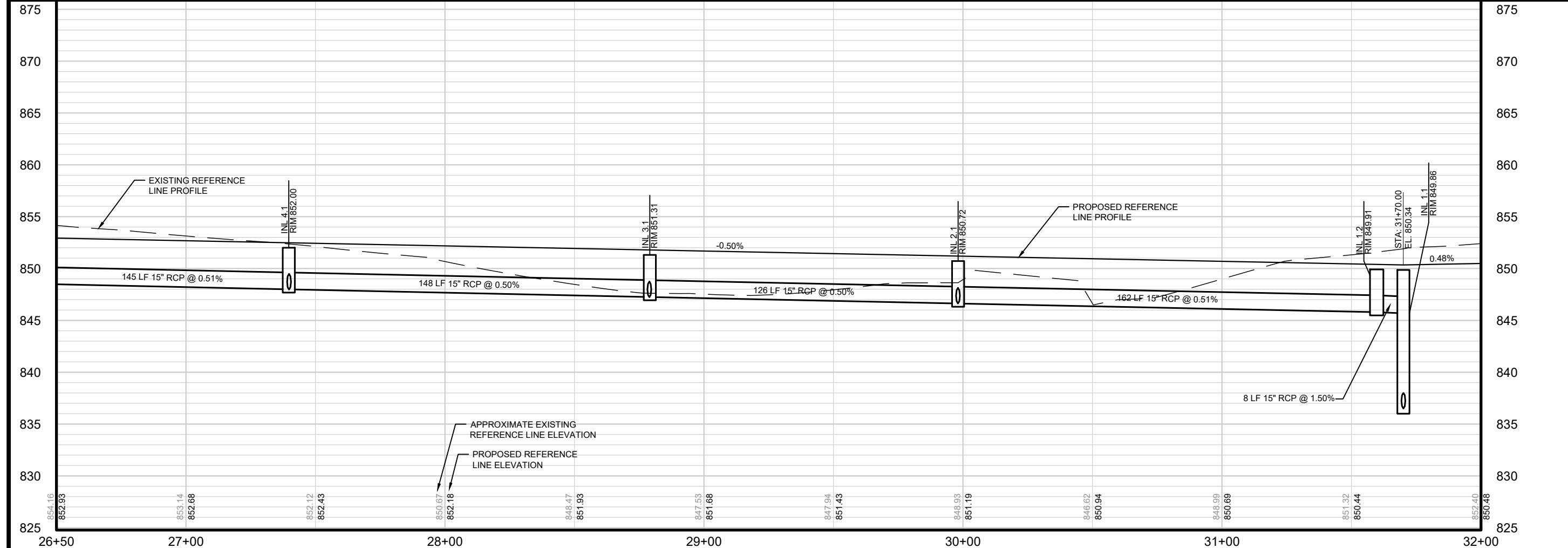
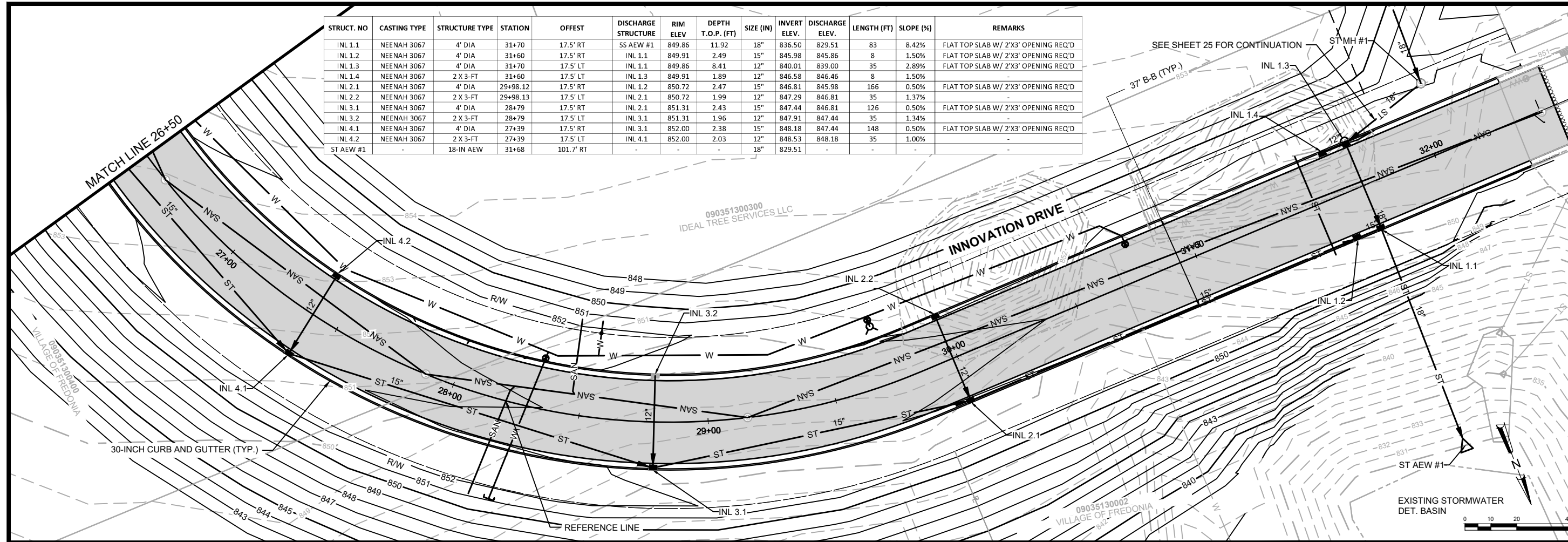
**JOB NO.**  
3844.016  
**PROJECT MGR.**  
IPF



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**22**



STRUCT. NO	CASTING TYPE	STRUCTURE TYPE	STATION	OFFSET	DISCHARGE STRUCTURE	RIM ELEV.	DEPTH T.O.P. (FT)	SIZE (IN)	INVERT ELEV.	DISCHARGE ELEV.	LENGTH (FT)	SLOPE (%)	REMARKS
INL 1.1	NEENAH 3067	4' DIA	31+70	17.5' RT	55 AEW #1	849.86	11.92	18"	836.50	829.51	83	8.42%	FLAT TOP SLAB W/ 2'X3' OPENING REQ'D
INL 1.2	NEENAH 3067	4' DIA	31+60	17.5' RT	INL 1.1	849.91	2.49	15"	845.98	845.86	8	1.50%	FLAT TOP SLAB W/ 2'X3' OPENING REQ'D
INL 1.3	NEENAH 3067	4' DIA	31+70	17.5' LT	INL 1.1	849.86	8.41	12"	840.01	839.00	35	2.89%	FLAT TOP SLAB W/ 2'X3' OPENING REQ'D
INL 1.4	NEENAH 3067	2 X 3-FT	31+60	17.5' LT	INL 1.3	849.91	1.89	12"	846.58	846.46	8	1.50%	-
INL 2.1	NEENAH 3067	4' DIA	29+98.12	17.5' RT	INL 2.2	850.72	2.47	15"	846.81	845.98	166	0.50%	FLAT TOP SLAB W/ 2'X3' OPENING REQ'D
INL 2.2	NEENAH 3067	2 X 3-FT	29+98.13	17.5' LT	INL 2.1	850.72	1.99	12"	847.29	846.81	35	1.37%	-
INL 3.1	NEENAH 3067	4' DIA	28+79	17.5' RT	INL 2.1	851.31	2.43	15"	847.44	846.81	126	0.50%	FLAT TOP SLAB W/ 2'X3' OPENING REQ'D
INL 3.2	NEENAH 3067	2 X 3-FT	28+79	17.5' LT	INL 3.1	851.31	1.96	12"	847.91	847.44	35	1.34%	-
INL 4.1	NEENAH 3067	4' DIA	27+39	17.5' RT	INL 3.1	852.00	2.38	15"	848.18	847.44	148	0.50%	FLAT TOP SLAB W/ 2'X3' OPENING REQ'D
INL 4.2	NEENAH 3067	2 X 3-FT	27+39	17.5' LT	INL 4.1	852.00	2.03	12"	848.53	848.18	35	1.00%	-
ST AEW #1	-	18-IN AEW	31+68	101.7' RT	IN 4.1	-	-	18"	829.51	-	-	-	-



NO.	REVISIONS	DATE:

**STORM SEWER PLAN AND PROFILE**

BUSINESS PARK EXPANSION  
VILLAGE OF FREDONIA  
OSHAUKEE COUNTY, WISCONSIN

JOB NO.  
3844.016

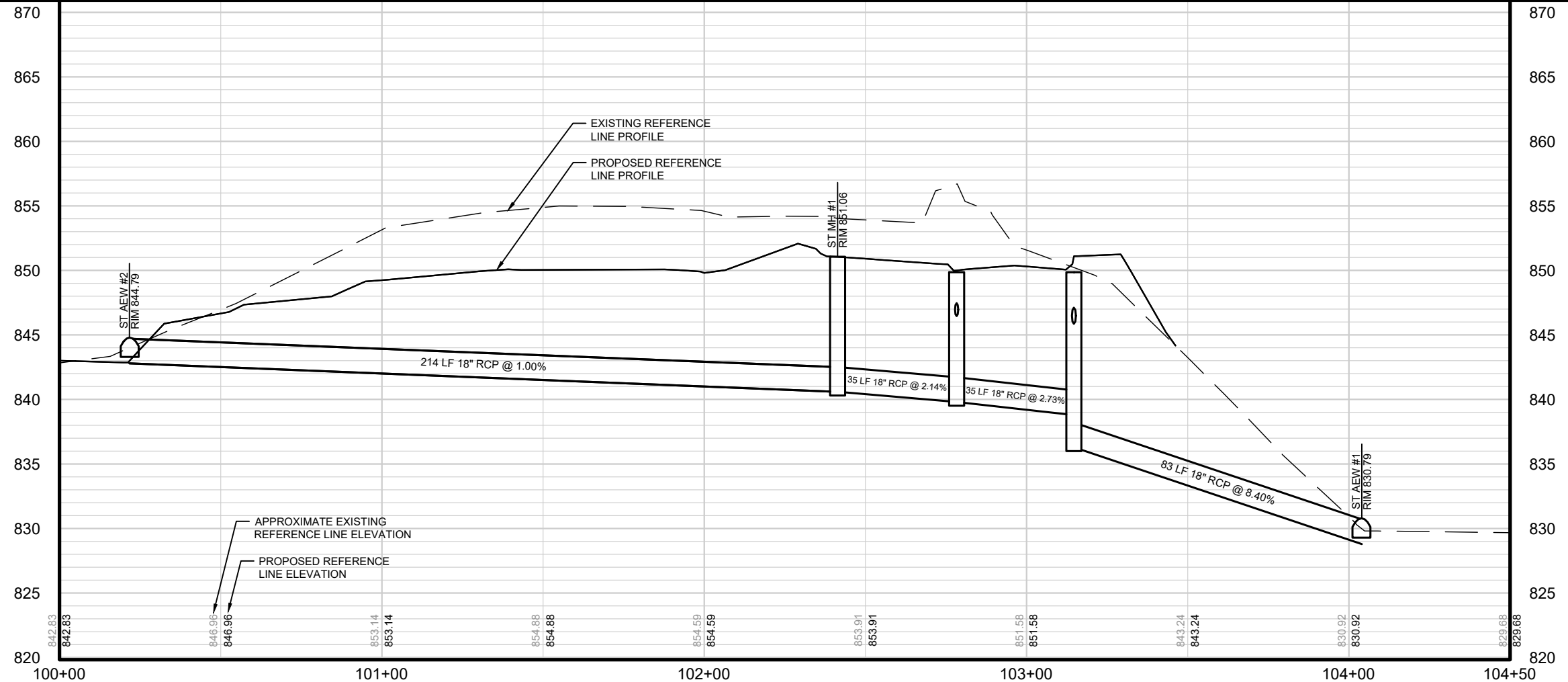
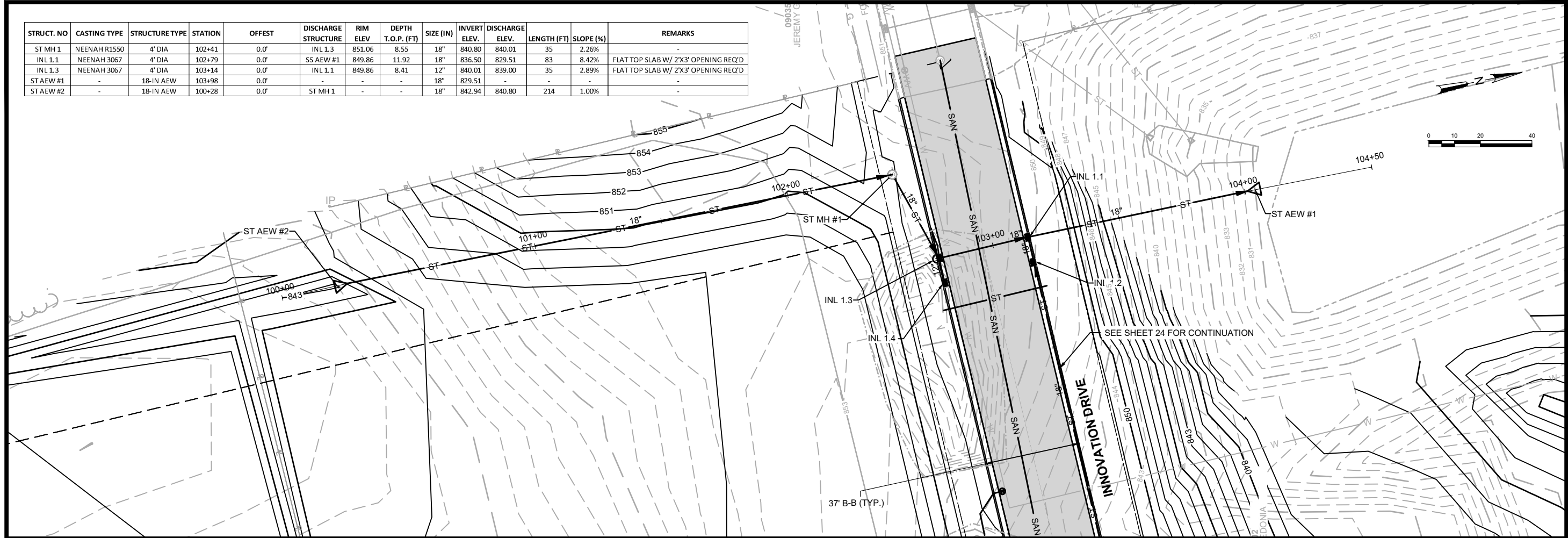
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24



STRUCT. NO	CASTING TYPE	STRUCTURE TYPE	STATION	OFFSET	DISCHARGE STRUCTURE	RIM ELEV.	DEPTH T.O.P. (FT)	SIZE (IN)	INVERT ELEV.	DISCHARGE ELEV.	LENGTH (FT)	SLOPE (%)	REMARKS
ST MH 1	NEENAH R1550	4' DIA	102+41	0.0'	INL 1.3	851.06	8.55	18"	840.80	840.01	35	2.26%	-
INL 1.1	NEENAH 3067	4' DIA	102+79	0.0'	SS AEW #1	849.86	11.92	18"	836.50	829.51	83	8.42%	FLAT TOP SLAB W/ 2'X3' OPENING REQ'D
INL 1.3	NEENAH 3067	4' DIA	103+14	0.0'	INL 1.1	849.86	8.41	12"	840.01	839.00	35	2.89%	FLAT TOP SLAB W/ 2'X3' OPENING REQ'D
ST AEW #1	-	18-IN AEW	103+98	0.0'	-	-	-	18"	829.51	-	-	-	-
ST AEW #2	-	18-IN AEW	100+28	0.0'	ST MH 1	-	-	18"	842.94	840.80	214	1.00%	-



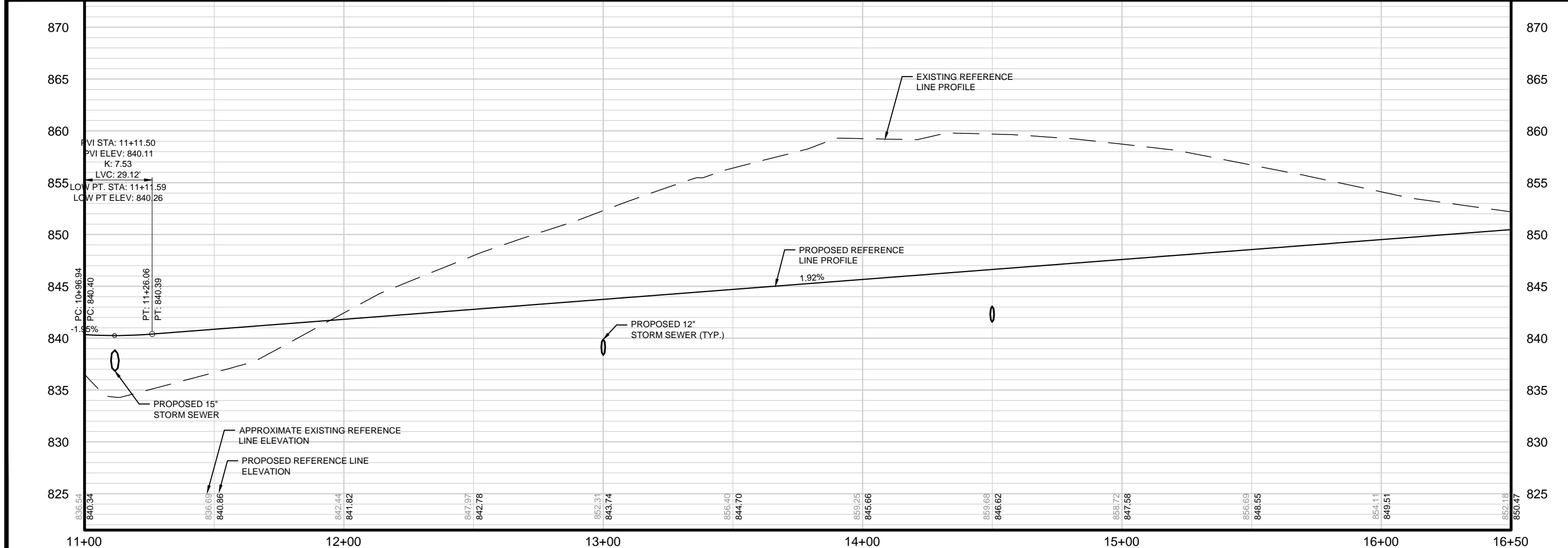
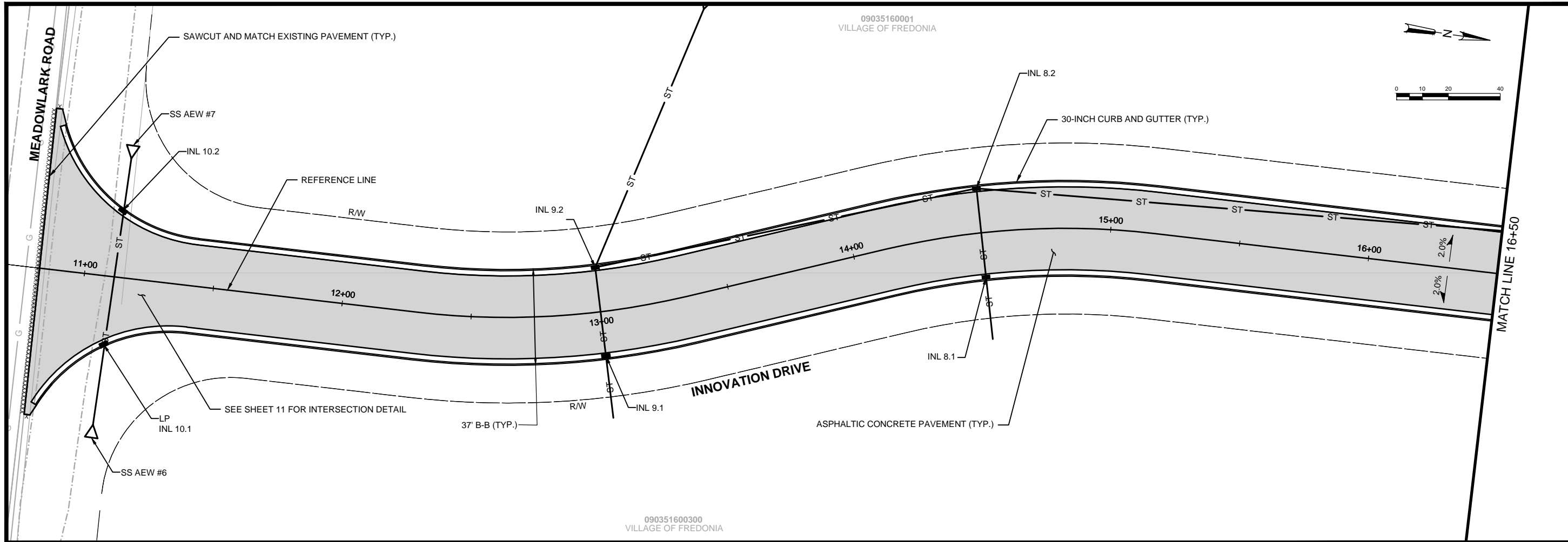
DATE:	NO.	REVISIONS

**STORM SEWER PLAN AND PROFILE**  
 BUSINESS PARK EXPANSION  
 VILLAGE OF FREDONIA  
 OZAUKEE COUNTY, WISCONSIN

**JOB NO.**  
 3844.016  
**PROJECT MGR.**  
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**25**



NO.	REVISIONS	DATE:

ROADWAY, WATER MAIN, AND SANITARY SEWER  
PLAN AND PROFILE

BUSINESS PARK EXPANSION  
VILLAGE OF FREDONIA  
OSHAUKEE COUNTY, WISCONSIN

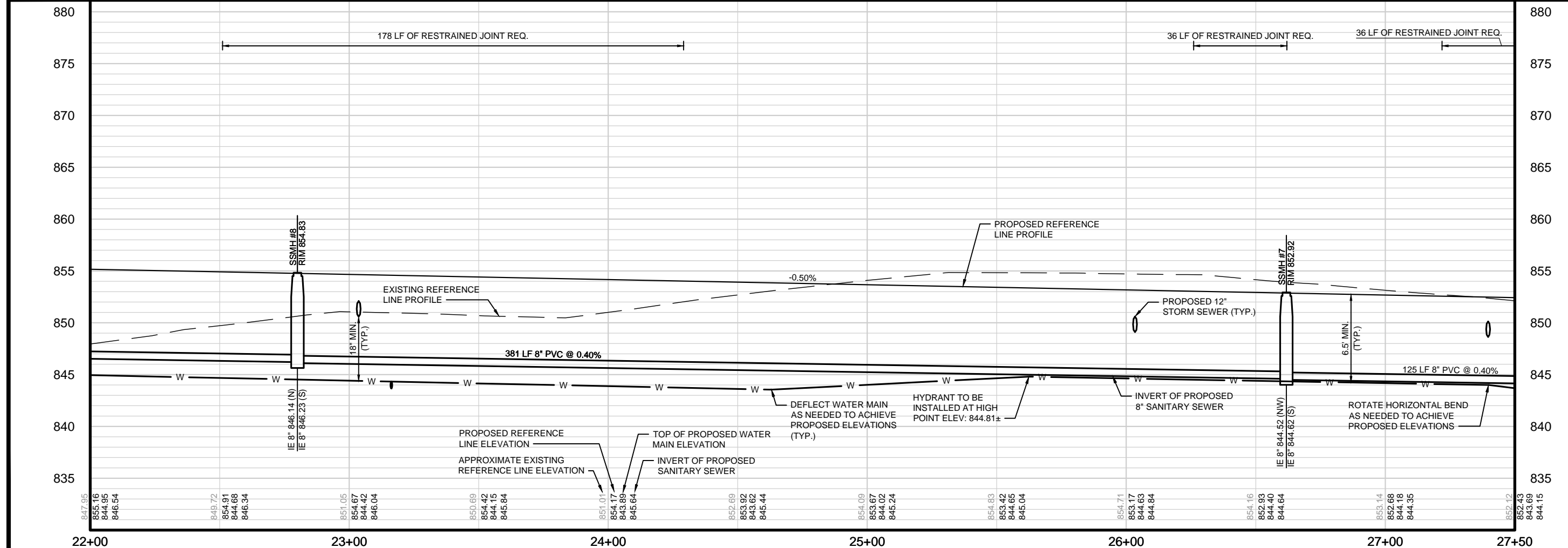
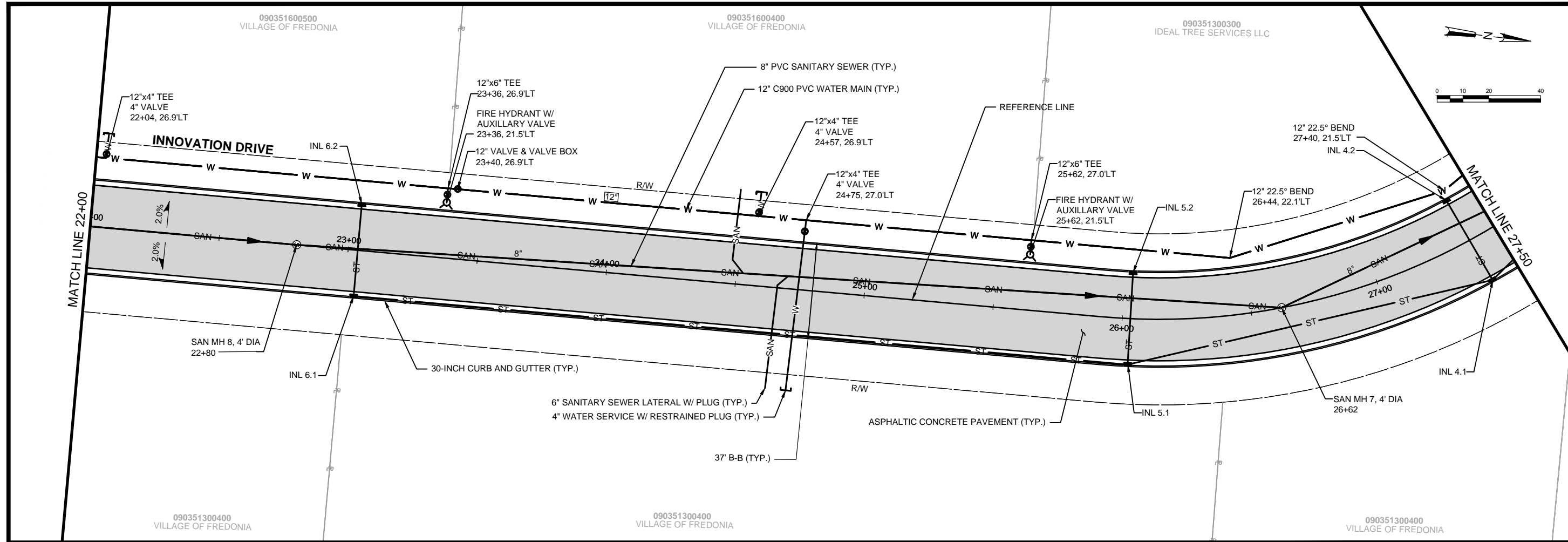
JOB NO.  
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PROJECT MGR.  
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26





NO.	REVISIONS	DATE

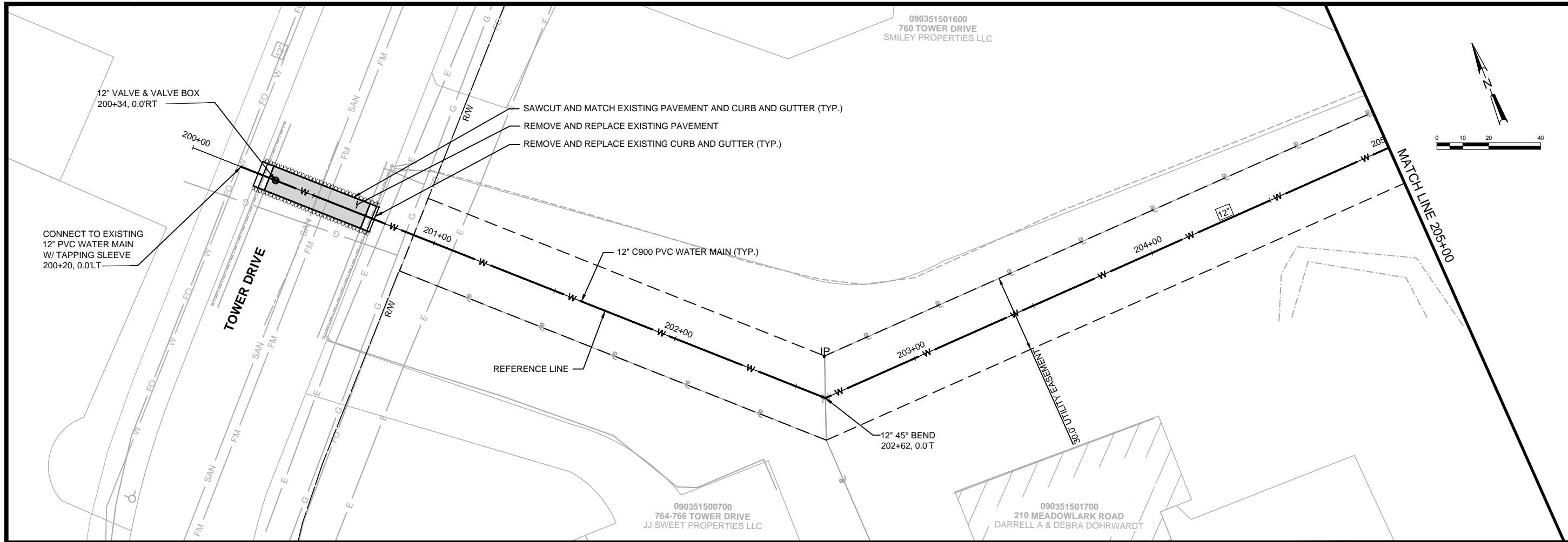
ROADWAY, WATER MAIN, AND SANITARY SEWER  
 PLAN AND PROFILE  
 BUSINESS PARK EXPANSION  
 VILLAGE OF FREDONIA  
 OZAUKEE COUNTY, WISCONSIN

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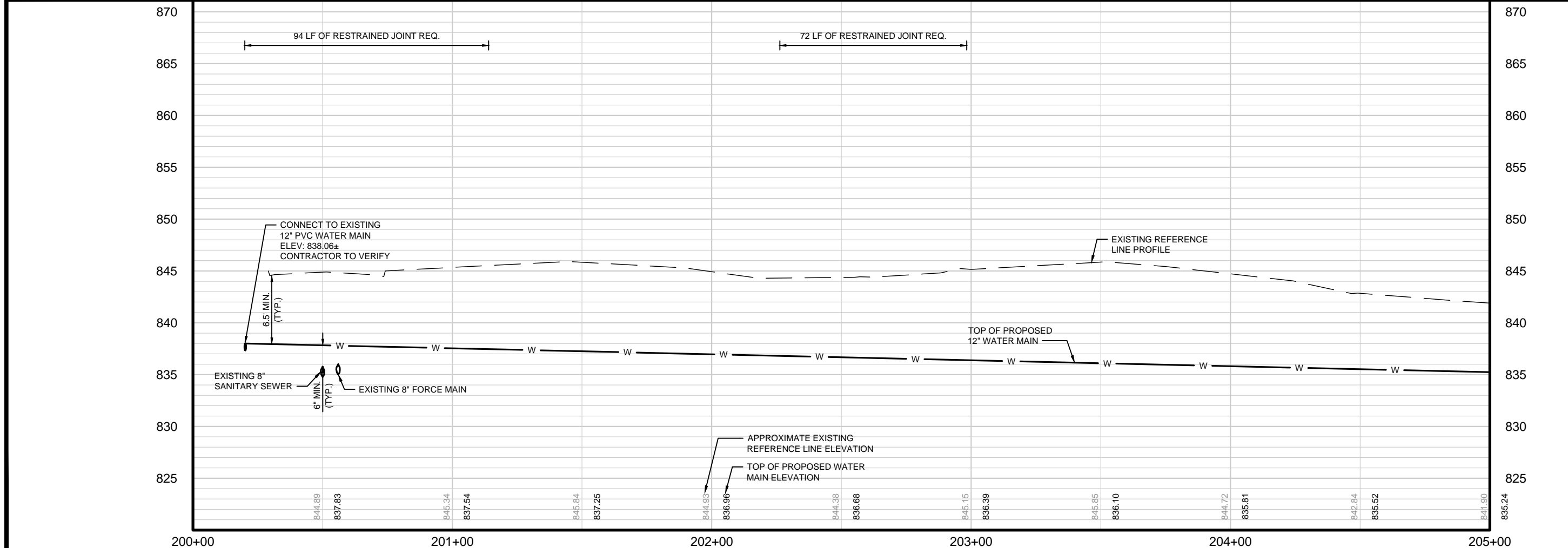


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DATE:	
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REVISIONS	



**WATER MAIN PLAN AND PROFILE**  
 BUSINESS PARK EXPANSION  
 VILLAGE OF FREDONIA  
 OZAUKEE COUNTY, WISCONSIN

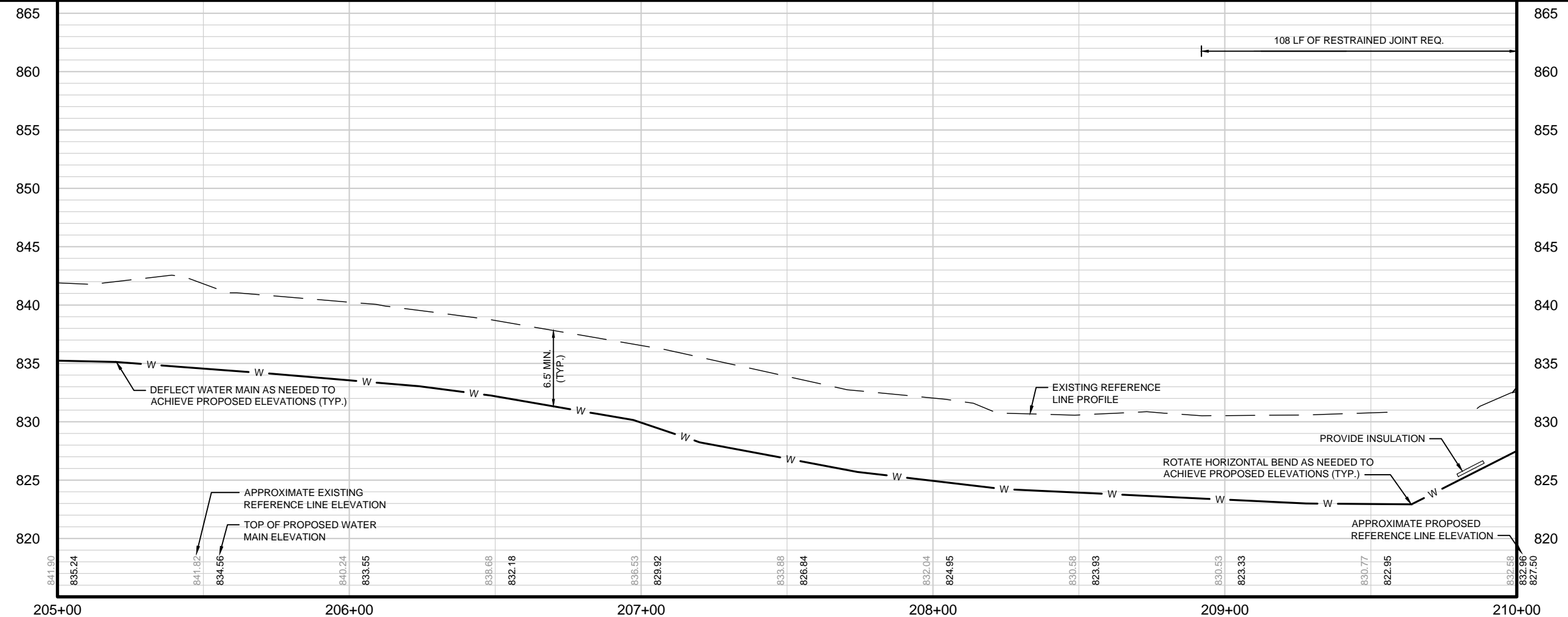
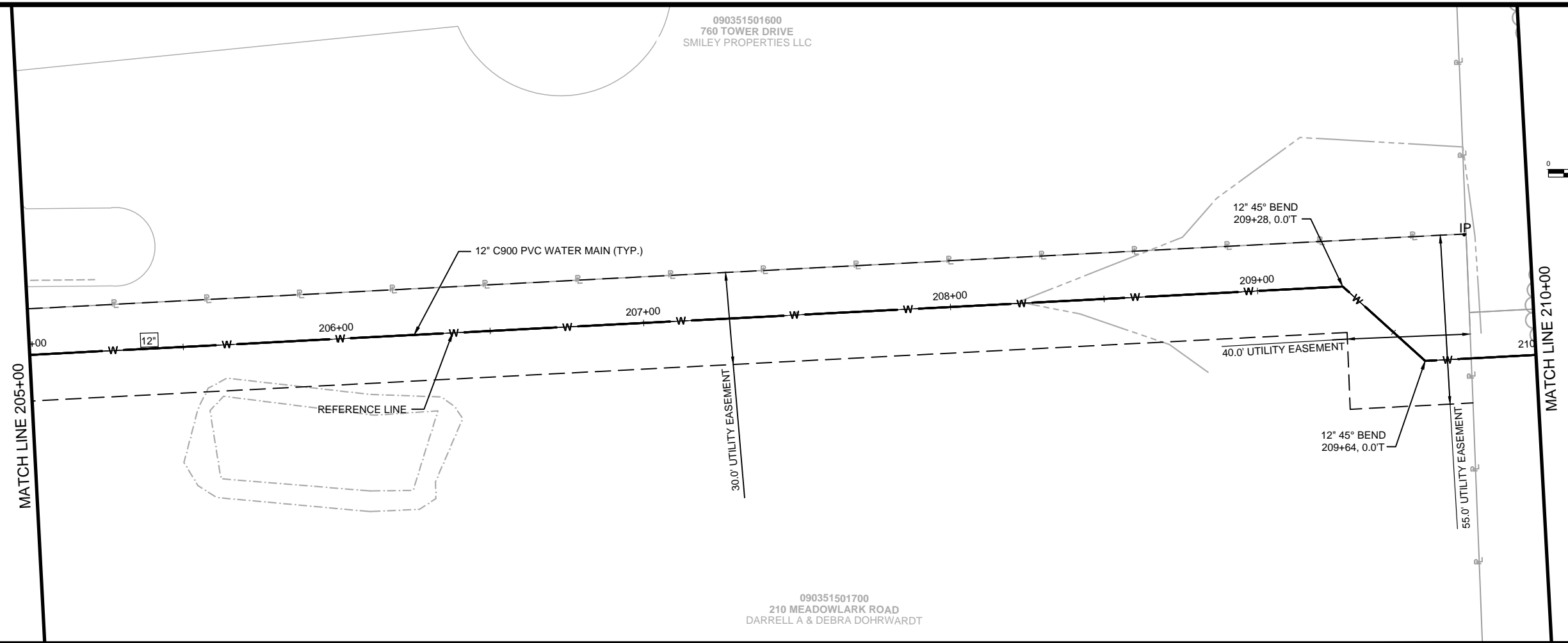
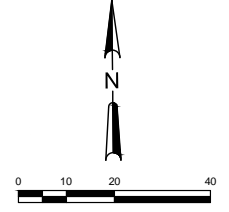
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 3844.016  
 PROJECT MGR.  
 IPF



SHEET  
 30

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760 TOWER DRIVE  
SMILEY PROPERTIES LLC

090351501700  
210 MEADOWLARK ROAD  
DARRELL A & DEBRA DOHRWARDT



NO.	REVISIONS	DATE:

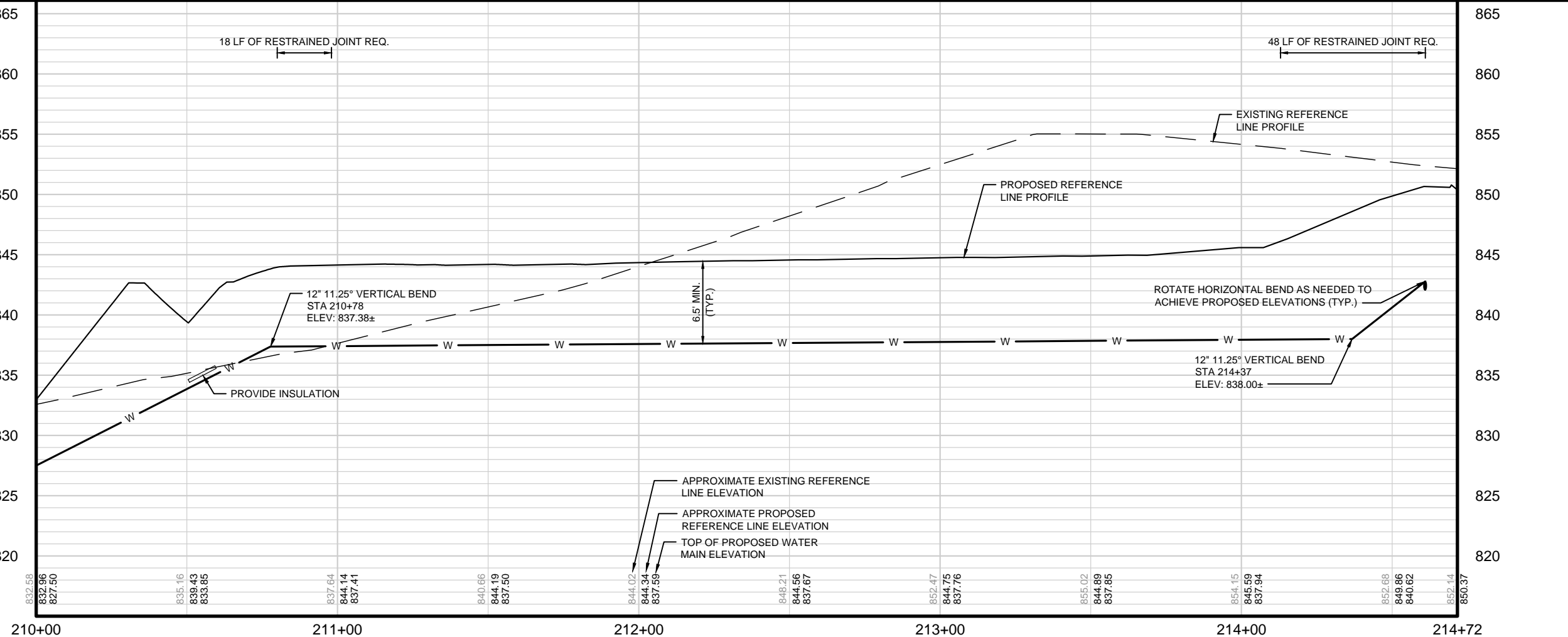
WATER MAIN PLAN AND PROFILE  
BUSINESS PARK EXPANSION  
VILLAGE OF FREDONIA  
OZAUKEE COUNTY, WISCONSIN

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MATCH LINE 210+00



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WATER MAIN PLAN AND PROFILE

BUSINESS PARK EXPANSION  
VILLAGE OF FREDONIA  
OSHAUKEE COUNTY, WISCONSIN

JOB NO.  
3844.016

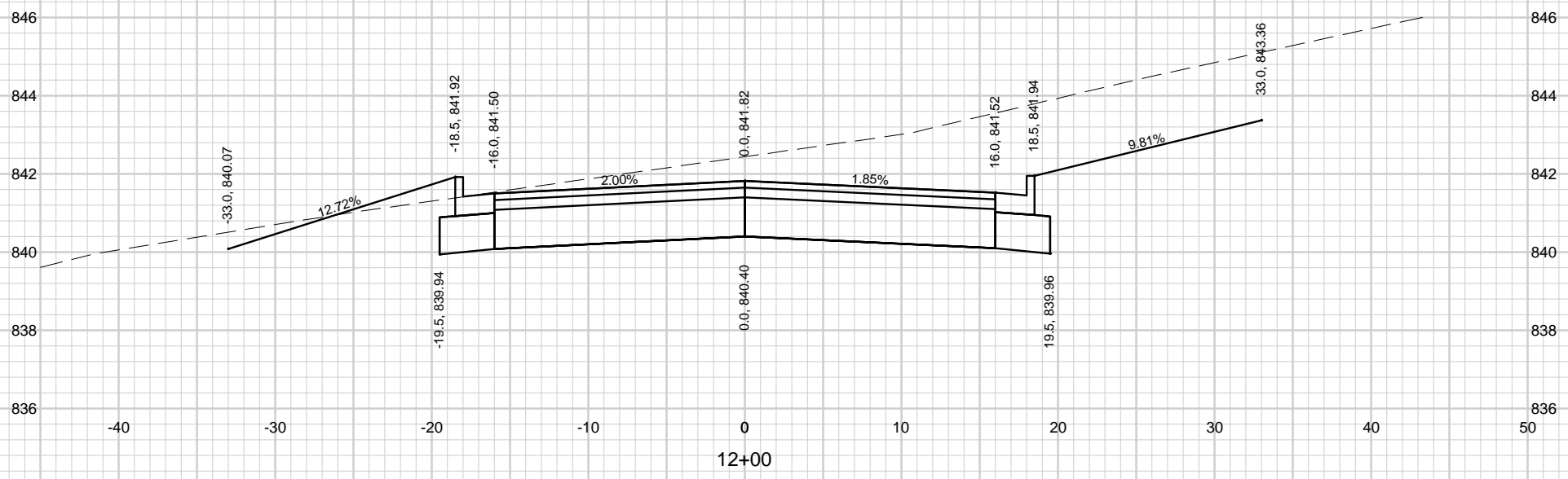
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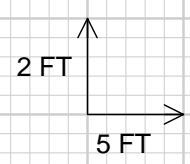
SHEET  
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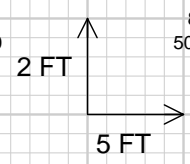
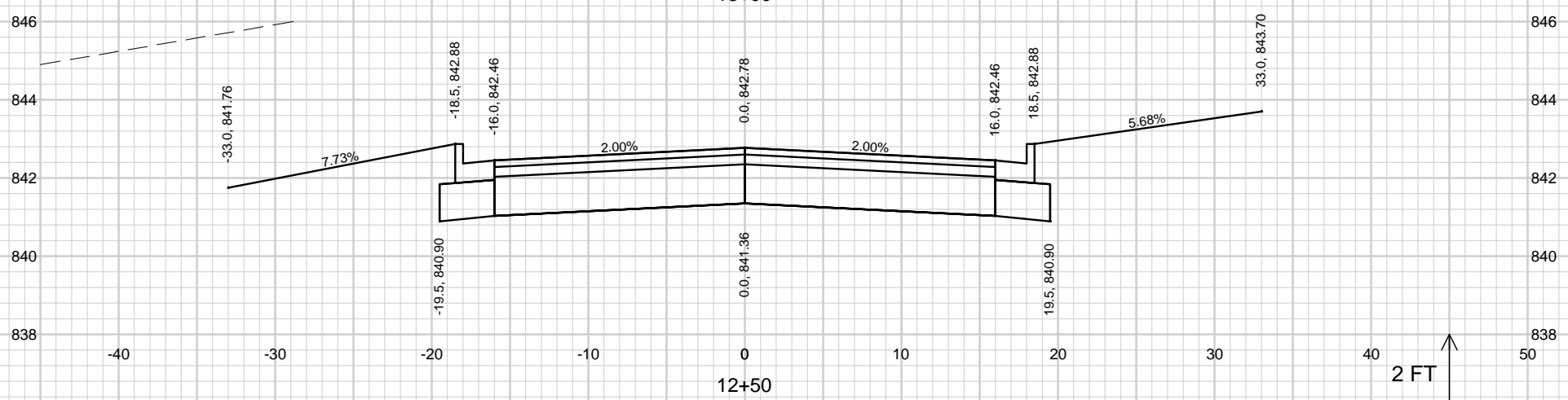
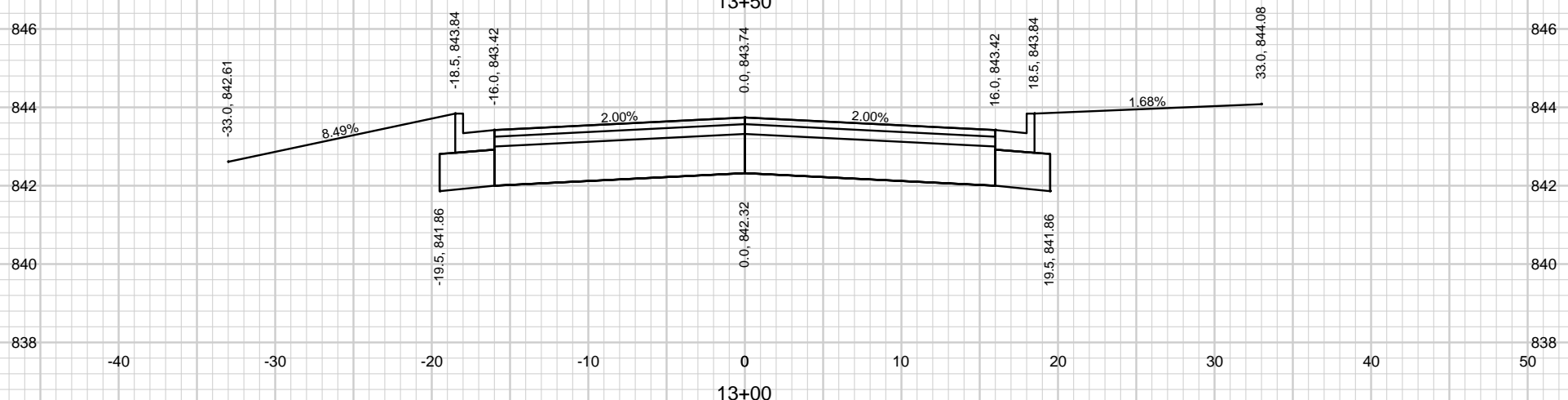
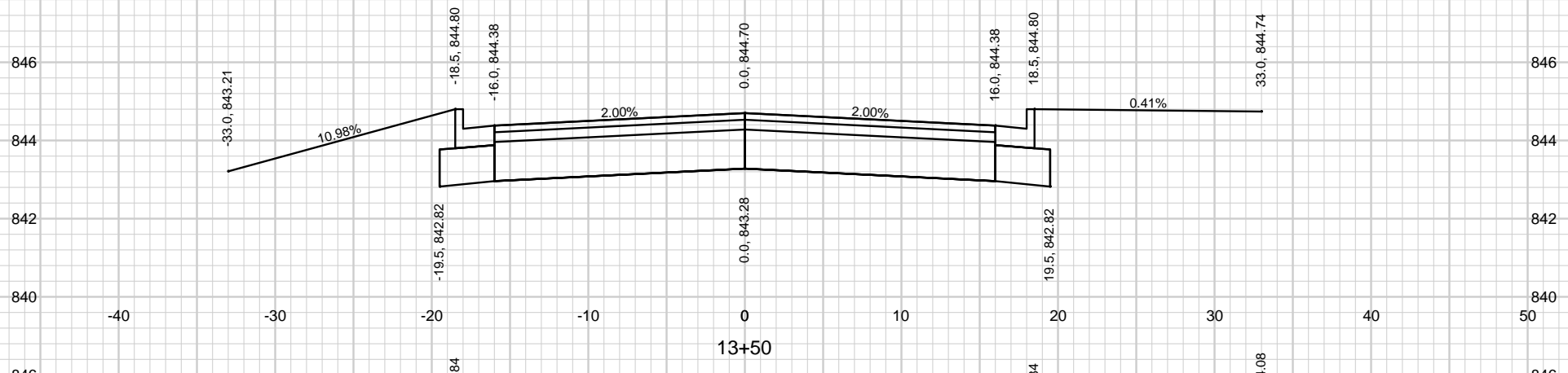
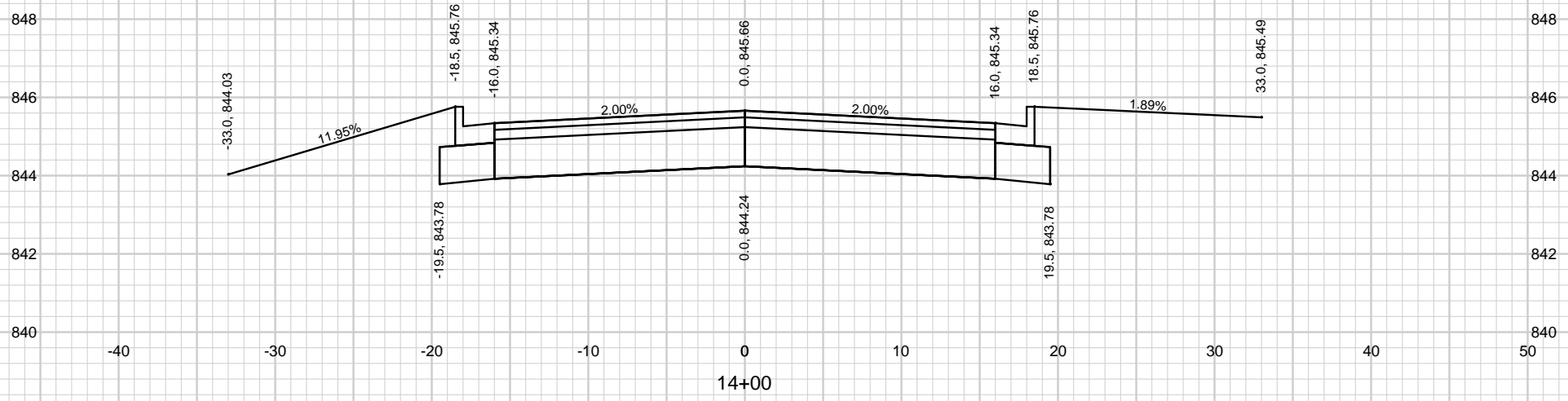
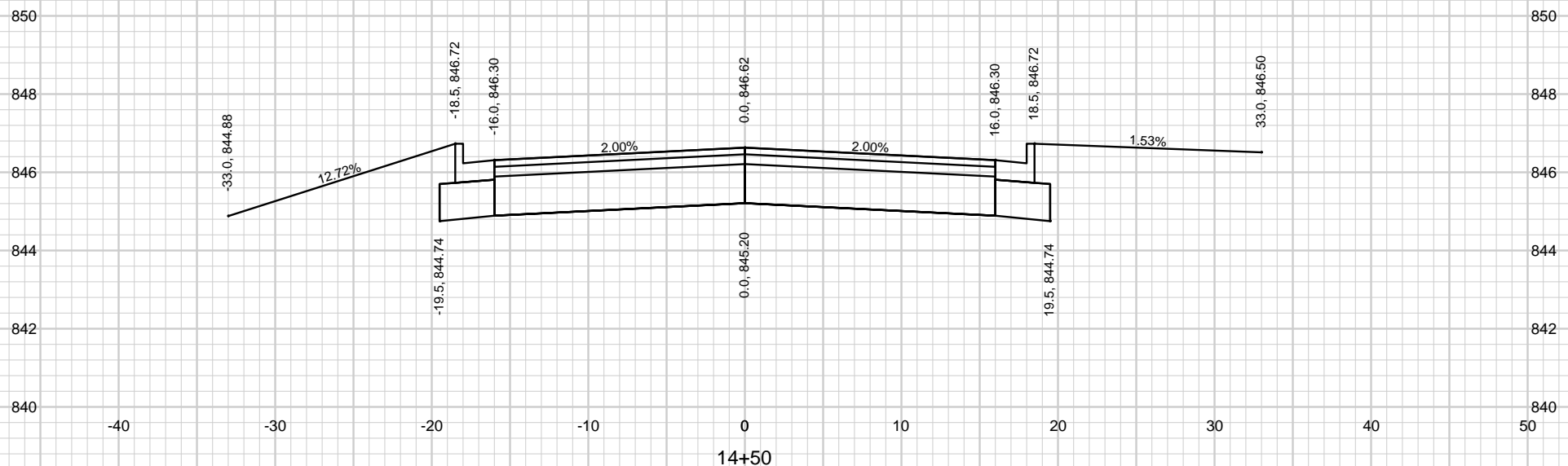


SEE SHEET 11 FOR INTERSECTION DETAIL STA 12+00 - 10+84



	<b>ROADWAY CROSS SECTIONS</b>	BUSINESS PARK EXPANSION VILLAGE OF FREDONIA OZAUKEE COUNTY, WISCONSIN	JOB NO. 3844 016	PROJECT MGR. IPF	NO.      REVISIONS      DATE:
	SHEET 33				

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### ROADWAY CROSS SECTIONS

BUSINESS PARK EXPANSION  
 VILLAGE OF FREDONIA  
 OZAUKEE COUNTY, WISCONSIN

NO.	REVISIONS	DATE:

**STRAND ASSOCIATES**  
 SHEET 34

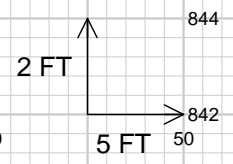
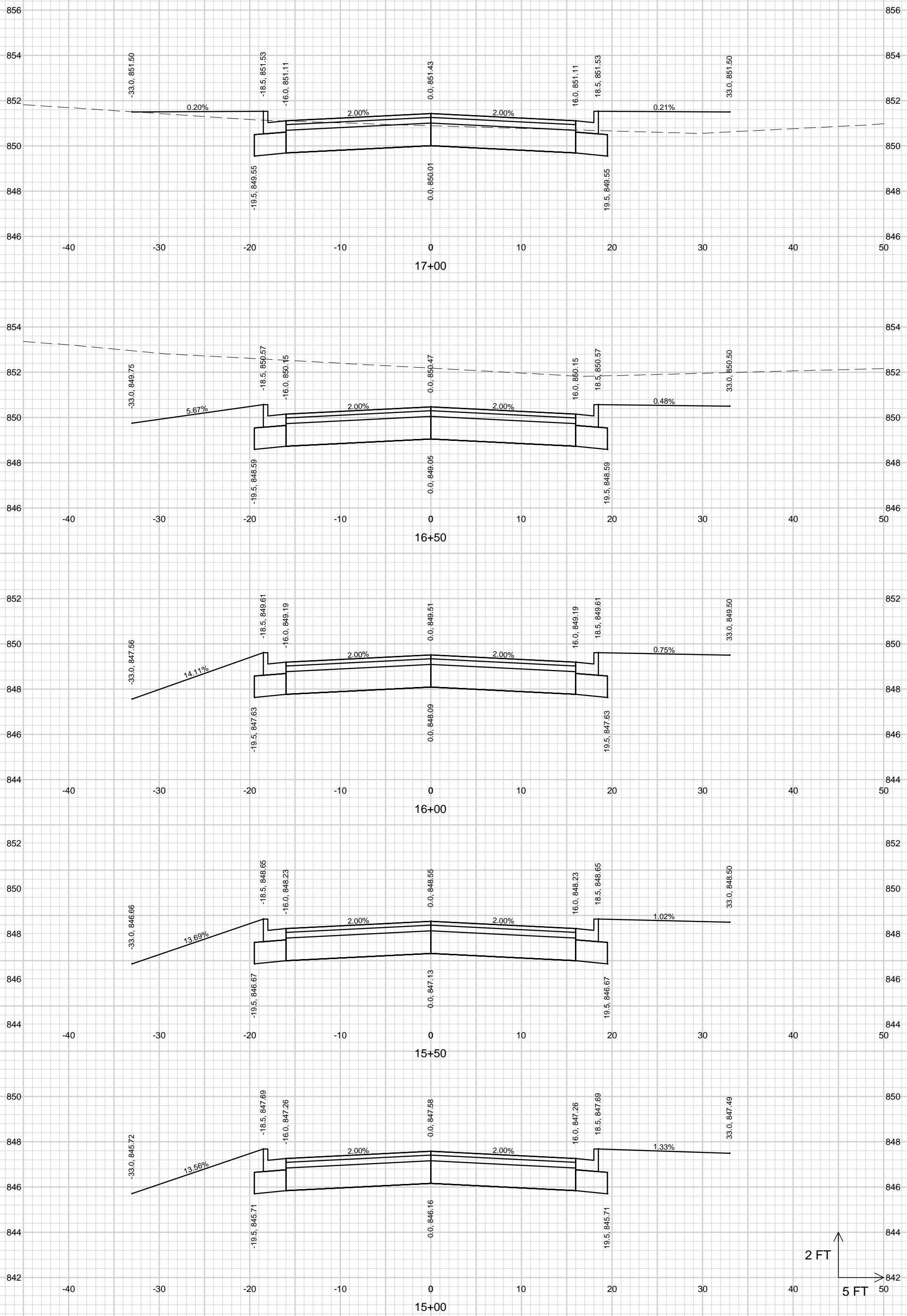
PROJECT MGR

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JOB NO.

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**ROADWAY CROSS SECTIONS**

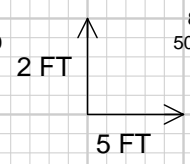
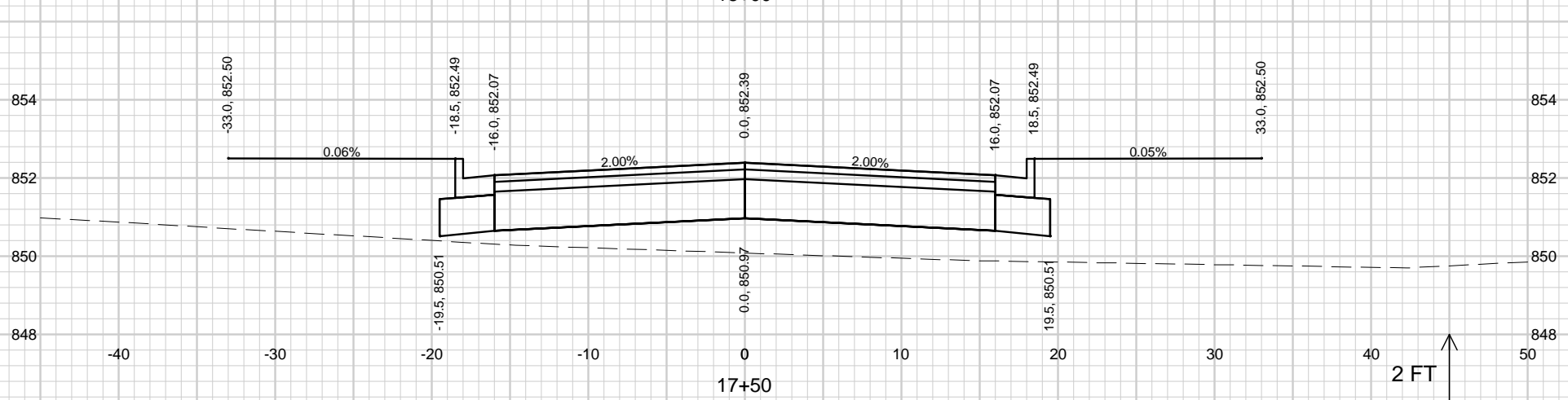
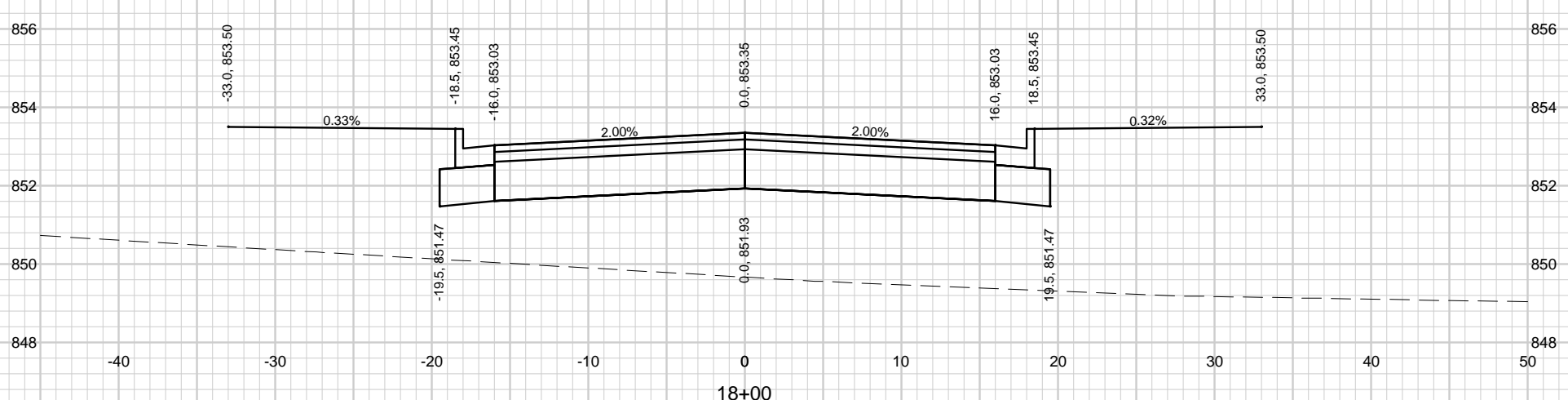
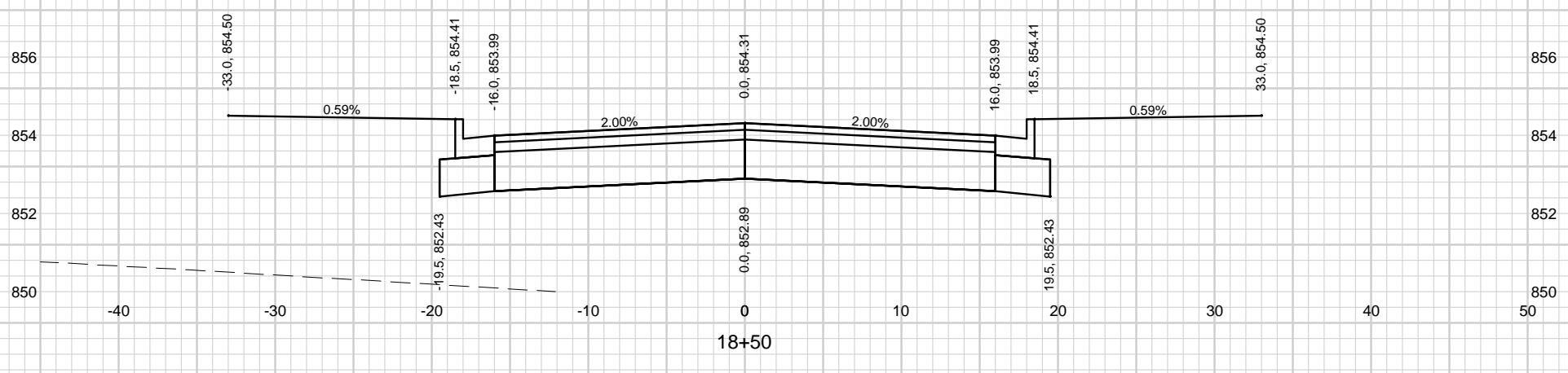
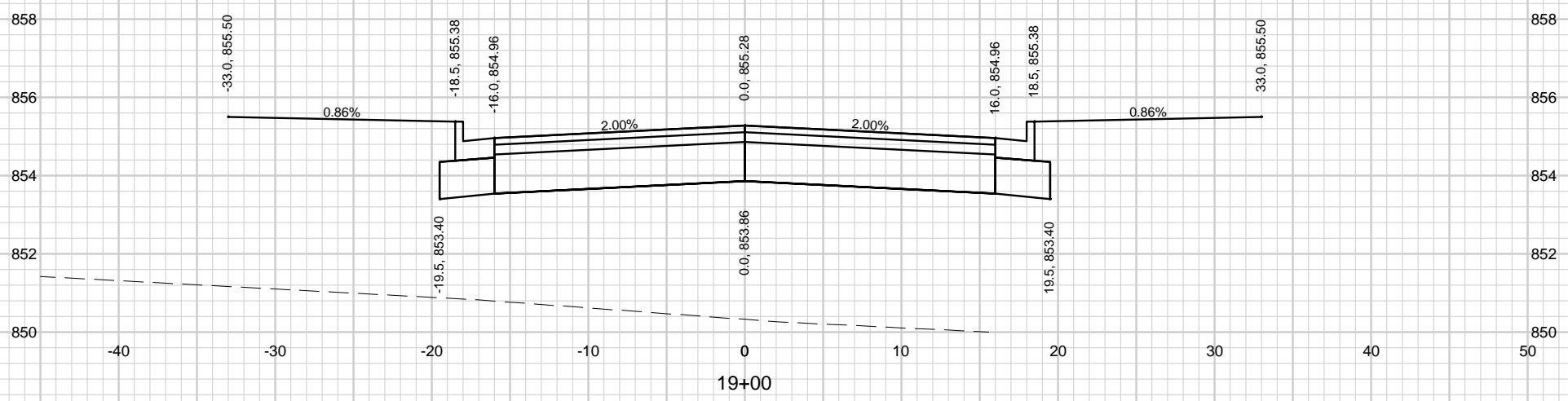
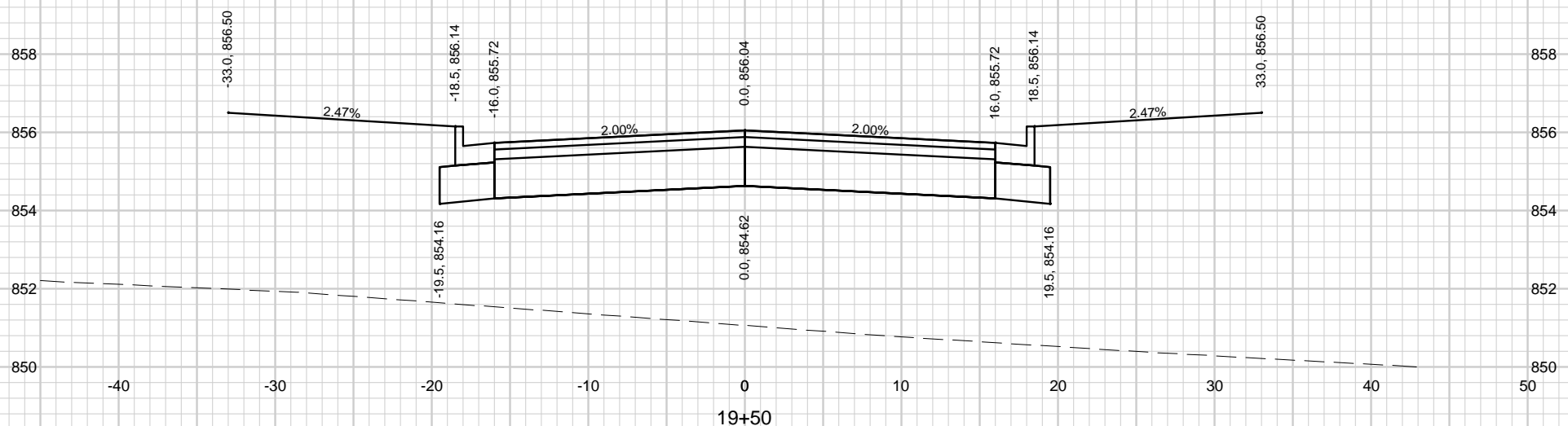
BUSINESS PARK EXPANSION  
 VILLAGE OF FREDONIA  
 OZAUKEE COUNTY, WISCONSIN

NO.	REVISIONS	DATE:

**STRAND ASSOCIATES**  
 SHEET 35

JOB NO.  
 3844 016  
 PROJECT MGR  
 IPF

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### ROADWAY CROSS SECTIONS

BUSINESS PARK EXPANSION  
 VILLAGE OF FREDONIA  
 OZAUKEE COUNTY, WISCONSIN

NO.	REVISIONS	DATE:

**STRAND ASSOCIATES**  
 SHEET 36

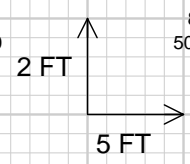
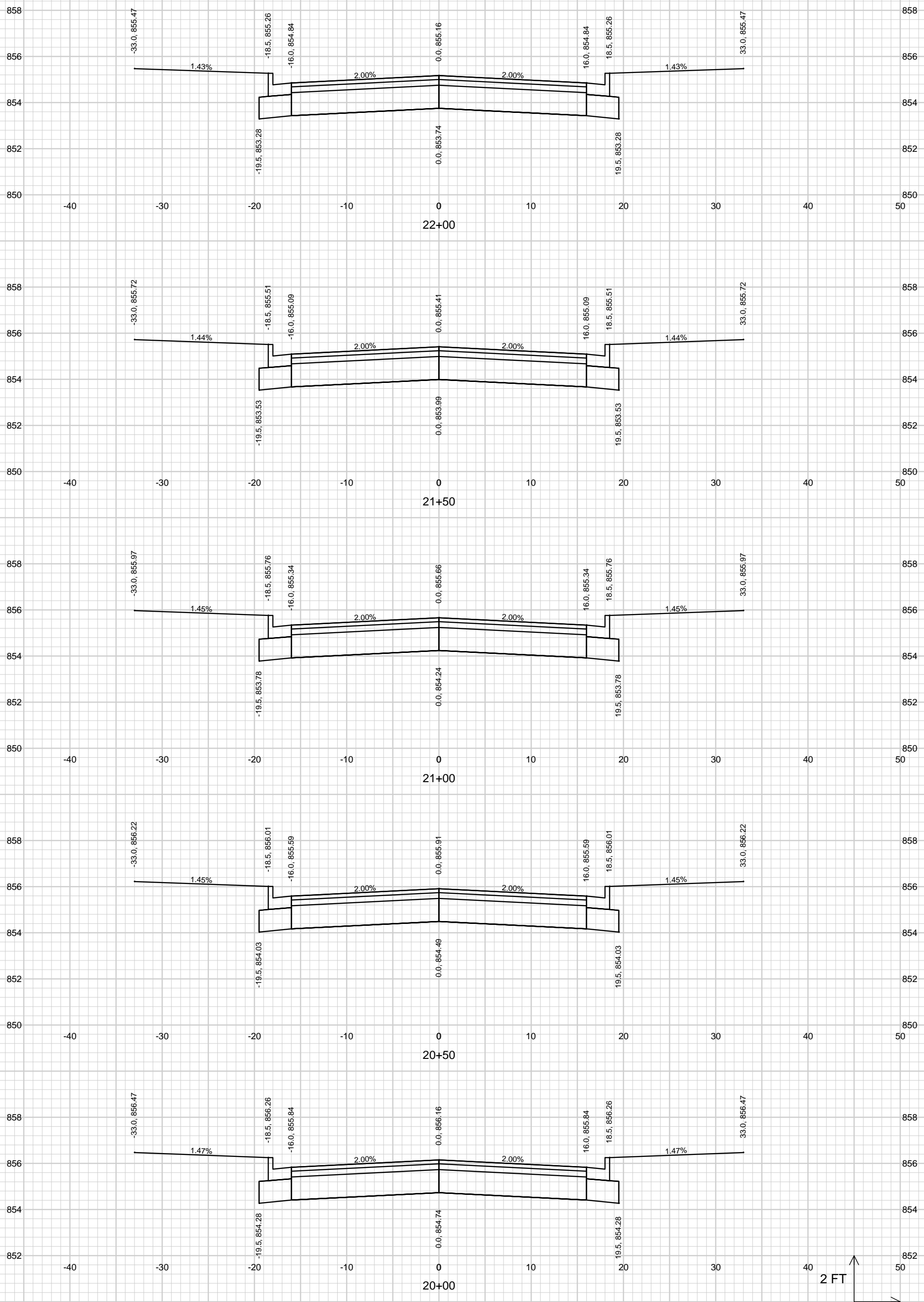
PROJECT MGR

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JOB NO.

3844 016

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**ROADWAY CROSS SECTIONS**

BUSINESS PARK EXPANSION  
 VILLAGE OF FREDONIA  
 OZAUKEE COUNTY, WISCONSIN

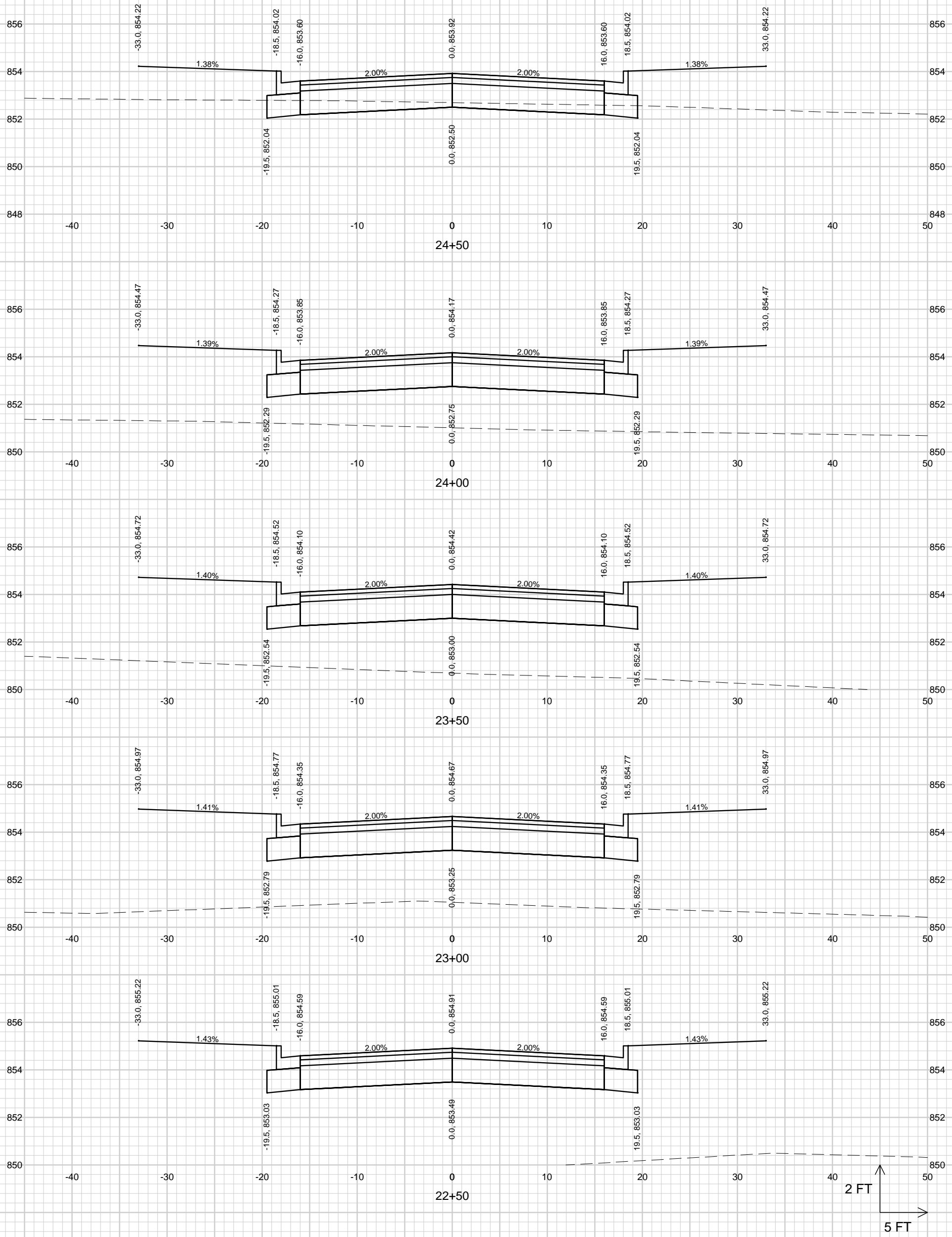
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**STRAND ASSOCIATES**  
 SHEET 37

PROJECT MGR  
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JOB NO.  
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ROADWAY CROSS SECTIONS

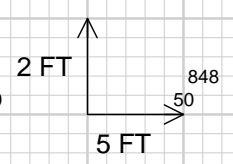
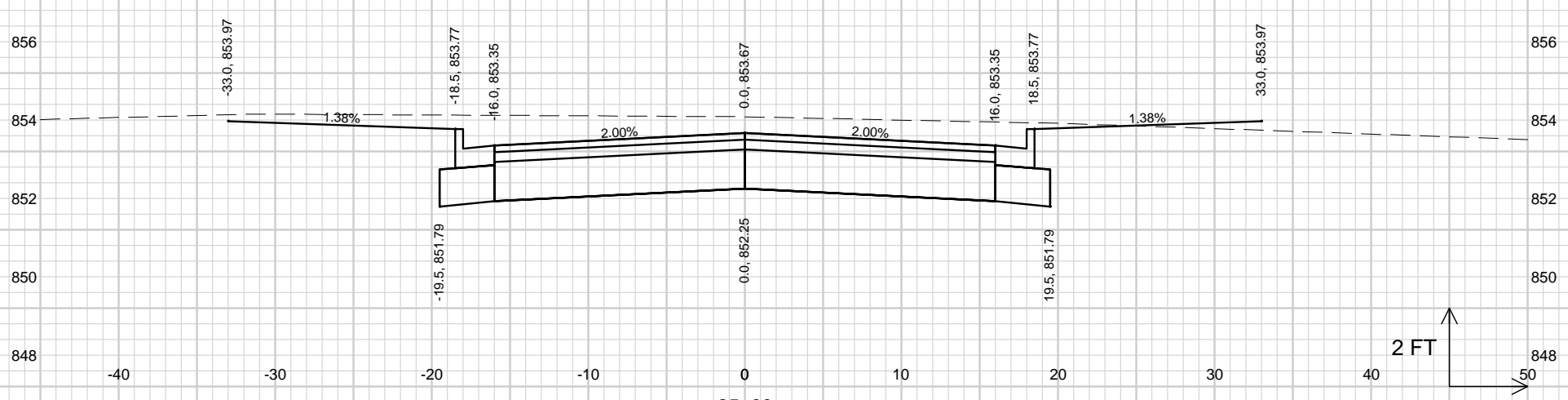
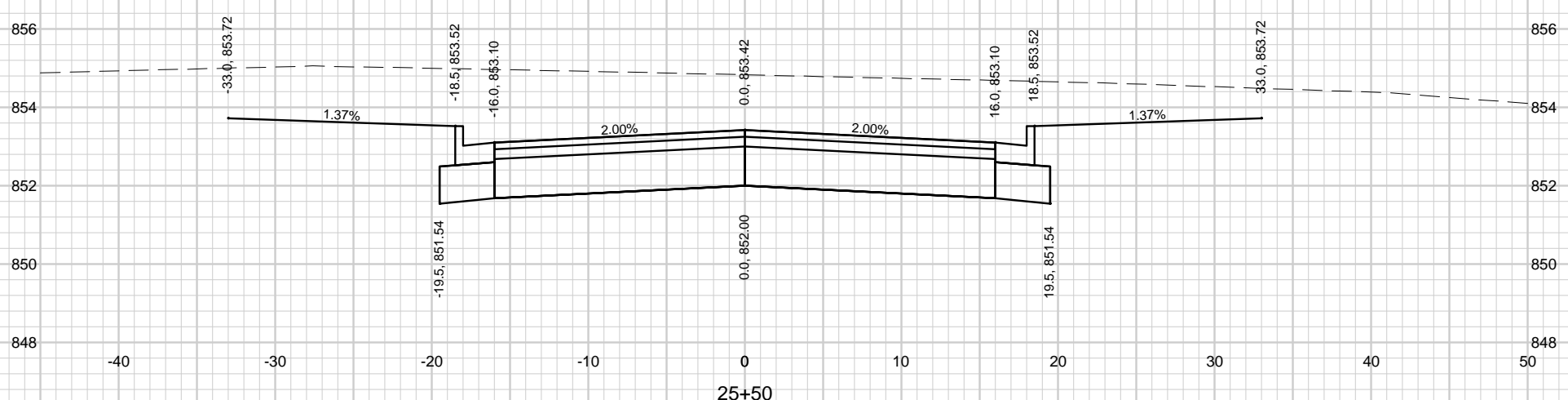
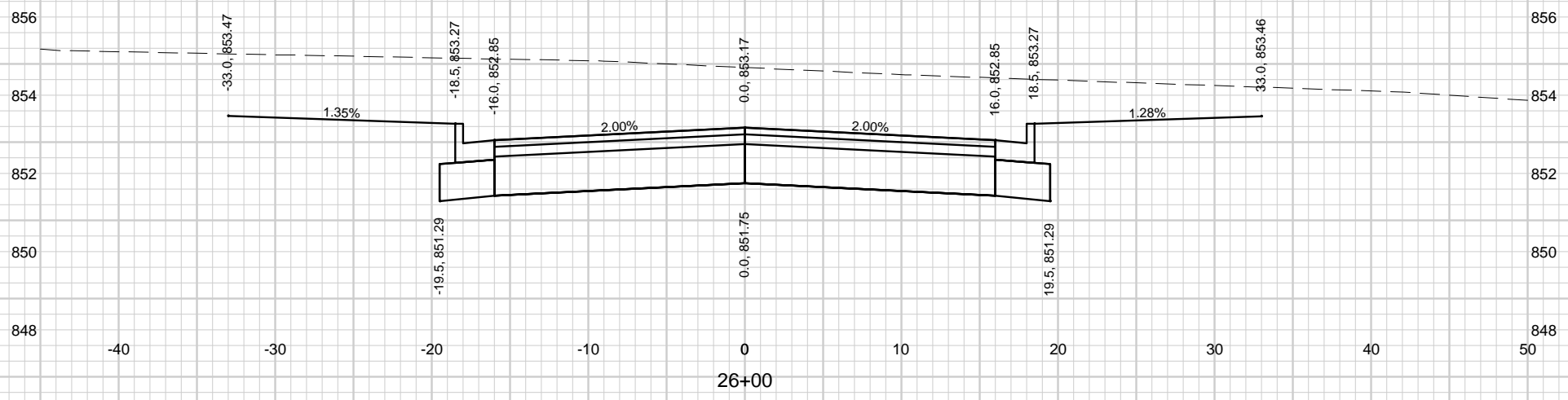
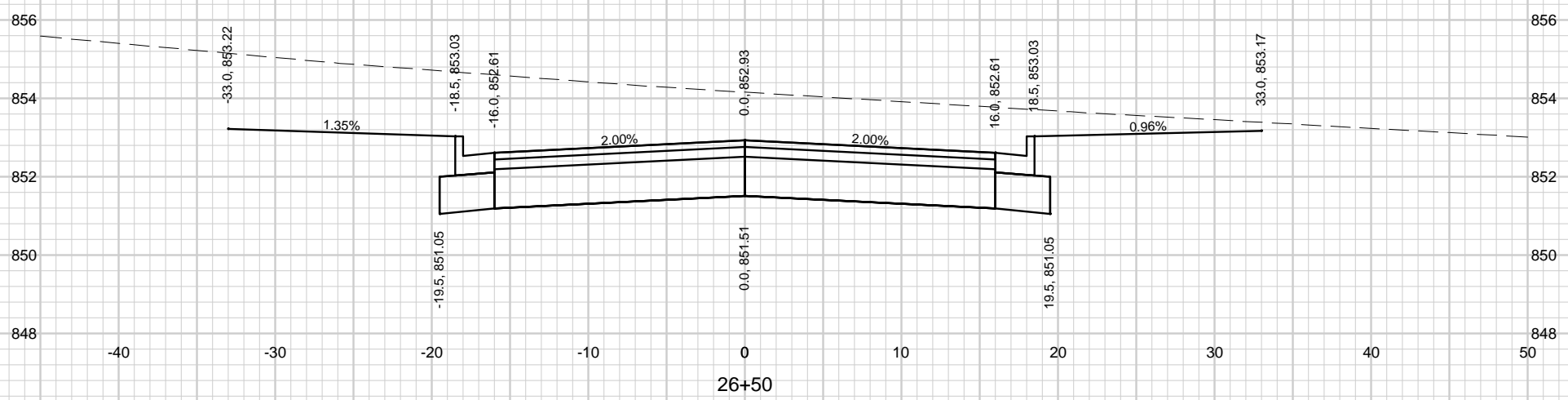
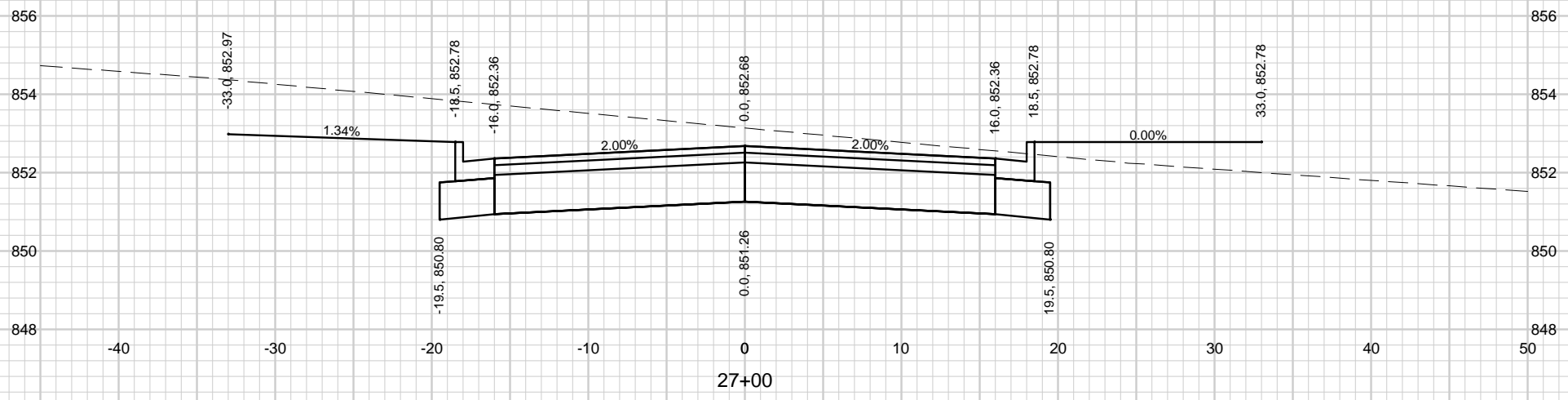
BUSINESS PARK EXPANSION  
 VILLAGE OF FREDONIA  
 OZAUKEE COUNTY, WISCONSIN

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**STRAND ASSOCIATES**  
 SHEET 38

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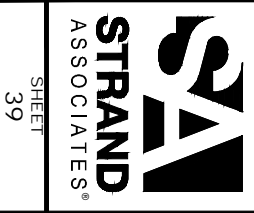


### ROADWAY CROSS SECTIONS

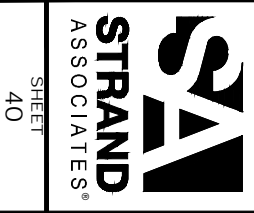
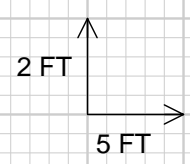
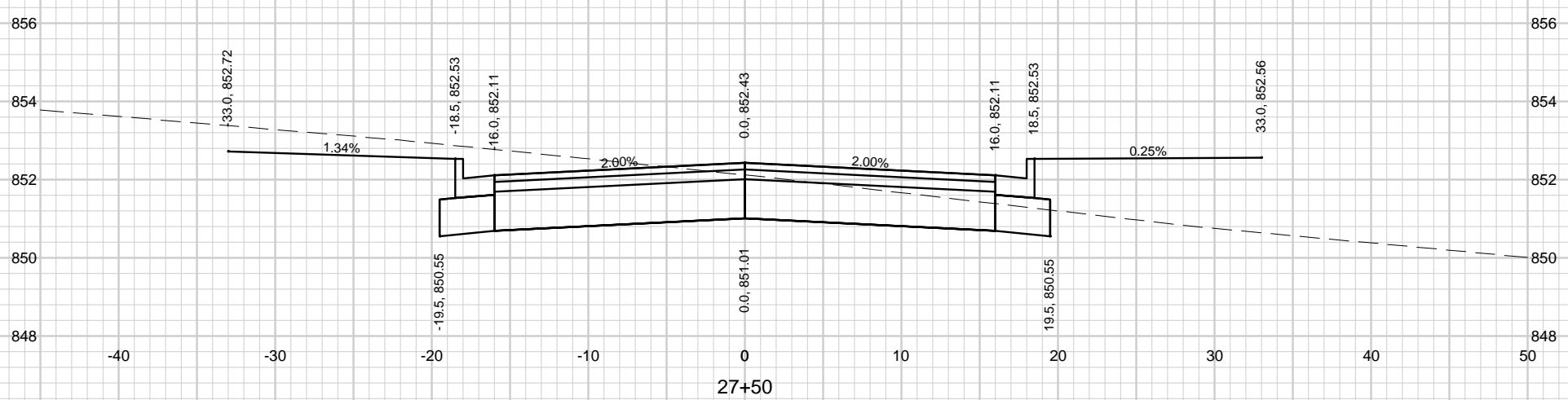
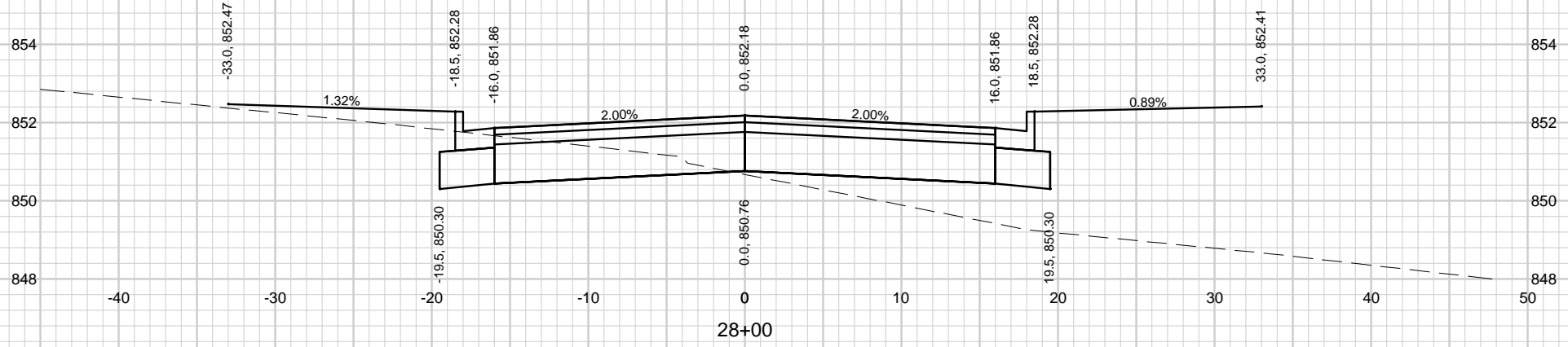
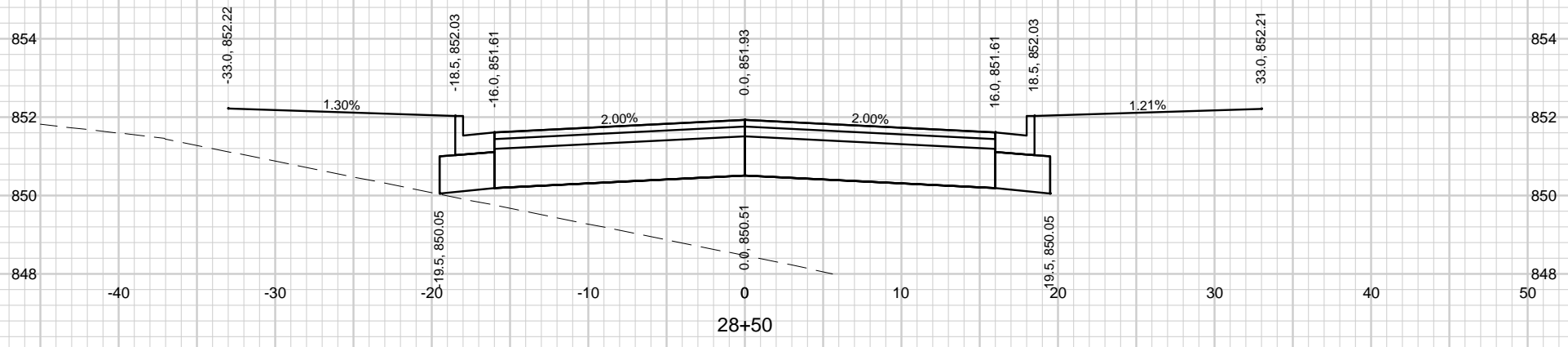
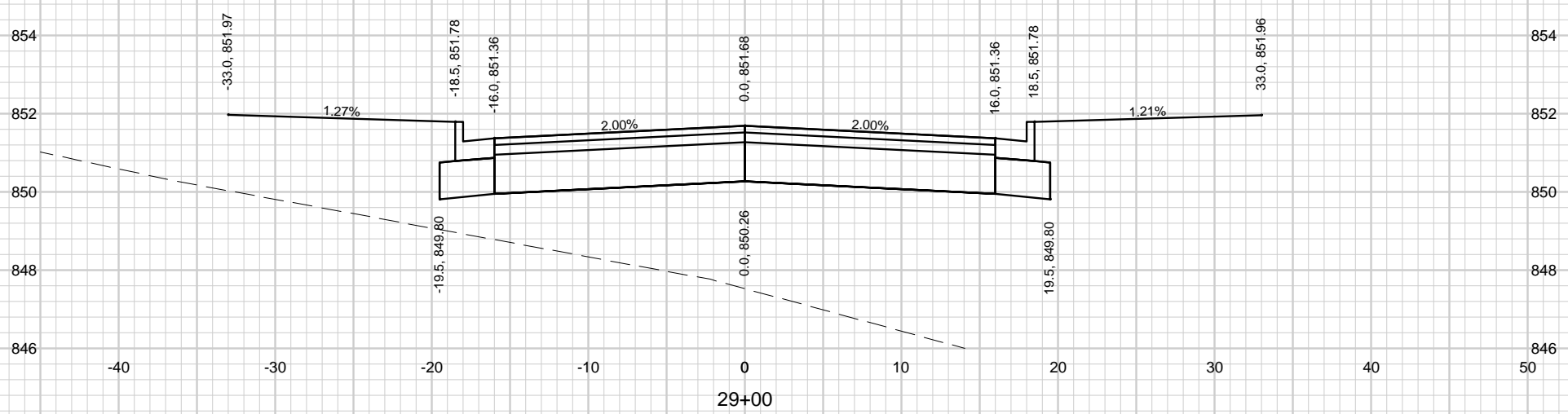
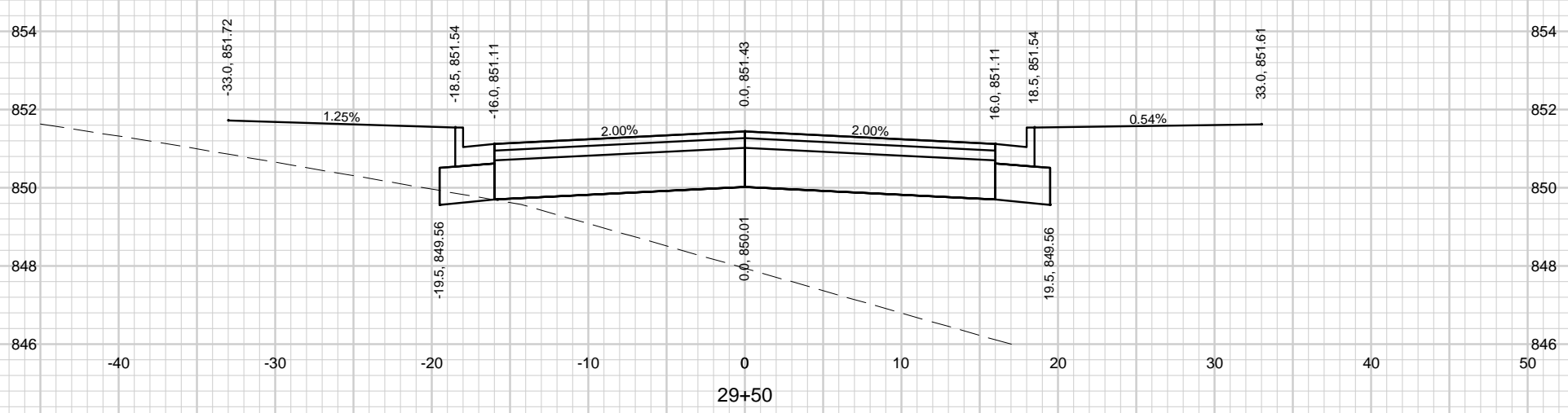
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 3844 016  
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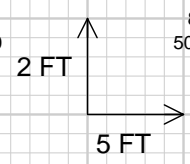
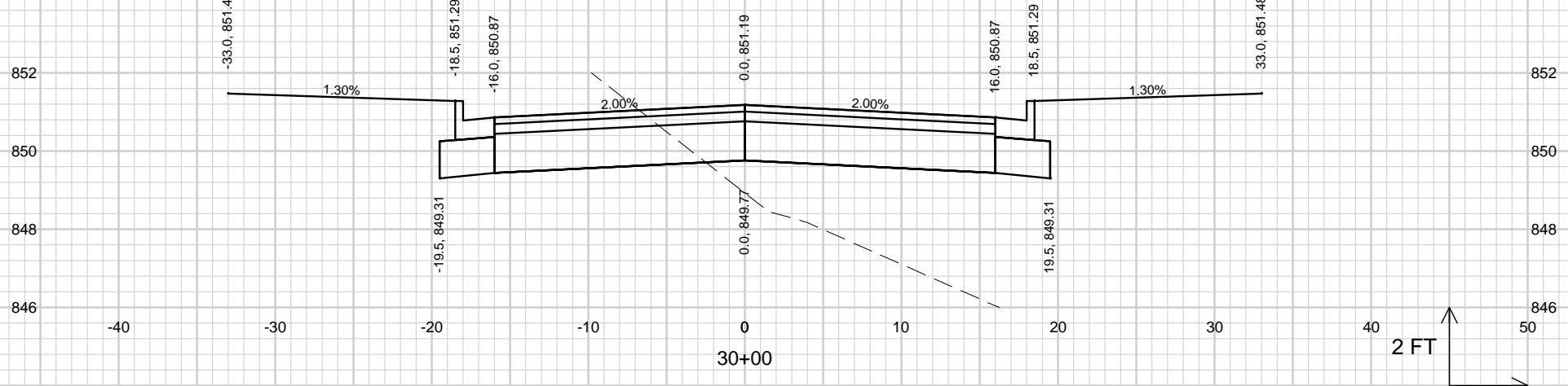
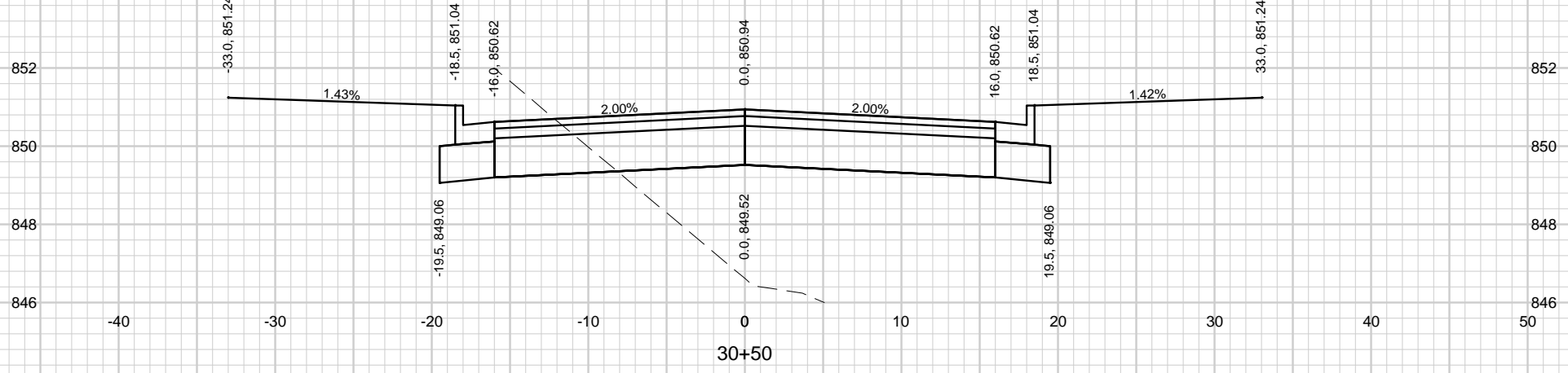
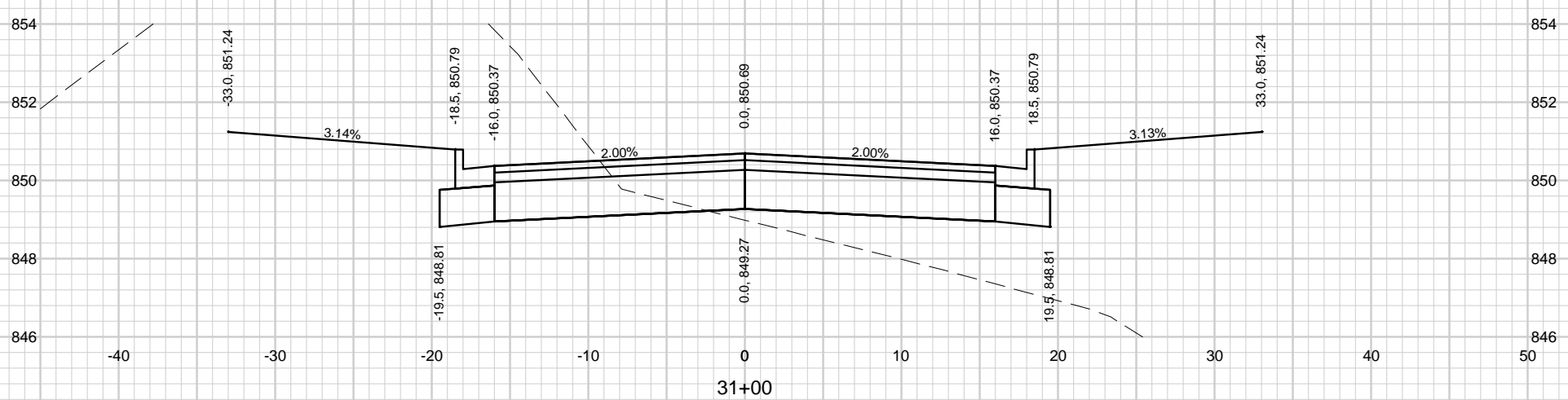
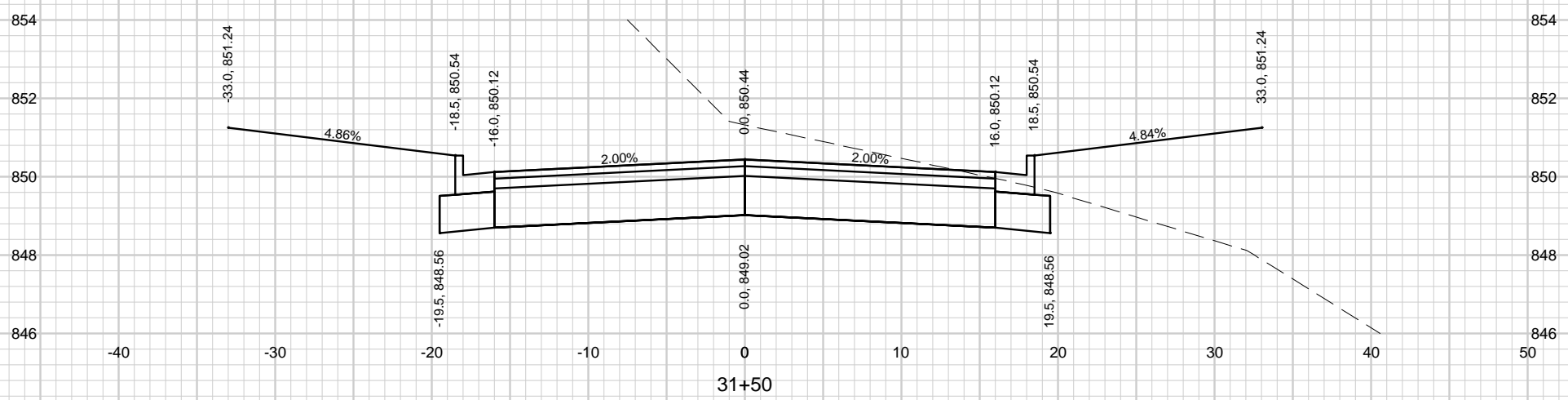
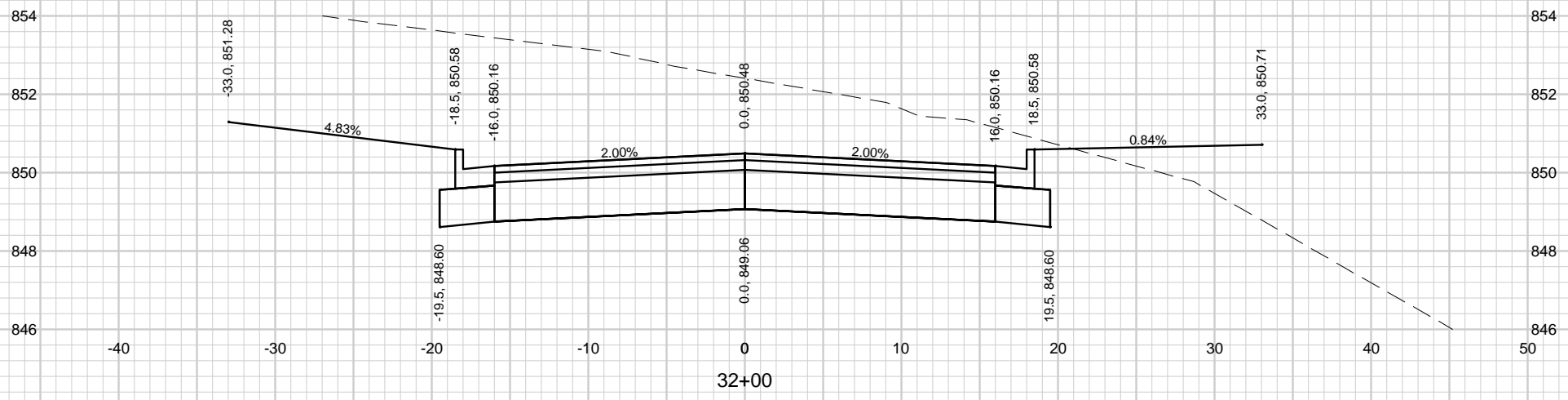
ROADWAY CROSS SECTIONS

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