

# ALLEGAN COUNTY ROAD COMMISSION

## 108TH AVENUE RECONSTRUCTION PROJECT

### 5,000' EAST OF 15TH STREET TO 6,750' EAST OF 15TH STREET

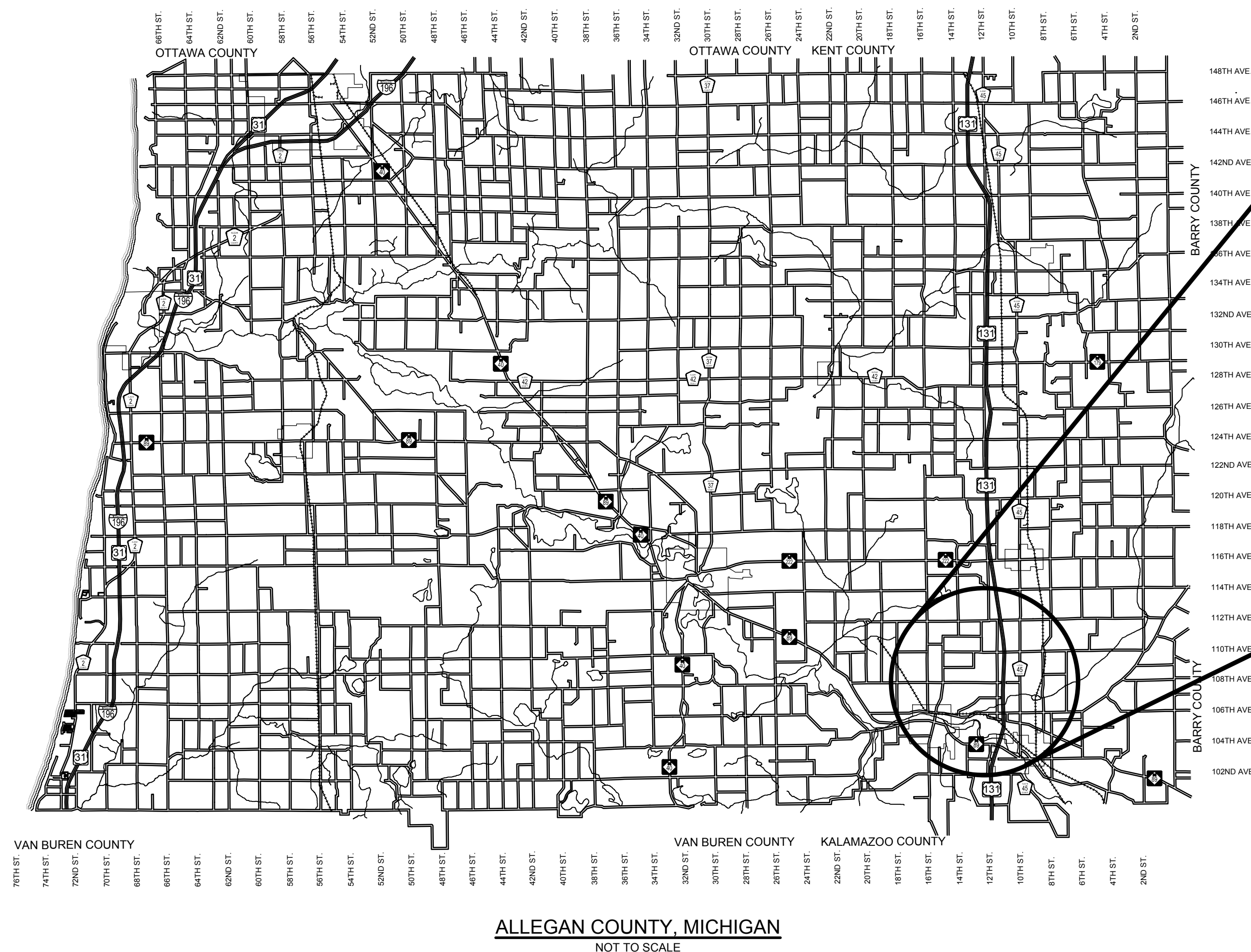
#### NOTES

EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS OR IN THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED THEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2012 MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION.

THE PLACING OF PAVEMENT MARKINGS AND TRAFFIC CONTROL SIGNS SHALL BE DONE IN ACCORDANCE WITH THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS AMENDED.

THE IMPROVEMENTS COVERED BY THESE PLANS ARE IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2011 EDITION; A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS AND WITH THE GUIDELINES FOR GEOMETRIC DESIGN OF VERY LOW-VOLUME LOCAL ROADS (ADT<400), 1ST EDITION.

THE CONTRACTOR SHALL DIAL MISS DIG @ 811 FOR PROTECTION OF UNDER GROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS AND HOLIDAYS PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.



ALLEGAN COUNTY, MICHIGAN  
NOT TO SCALE

#### INDEX OF PLANS

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- 7 - SOIL EROSION & SEDIMENTATION CONTROL PLAN

#### UTILITY CONTACTS

**ELECTRIC**  
CONSUMERS ENERGY  
2500 E. CORK STREET  
KALAMAZOO, MI 49001  
269-337-2338  
MR. BILL BRINDLEY  
wjbrindley@cmsenergy.com

**TELEPHONE**  
AT&T  
2919 MILCORK STREET  
ROOM 101  
KALAMAZOO, MI 49001  
269-384-4436  
MR. TODD SHIBAYAMA  
ts2385@att.com

**CABLE**  
CHARTER COMMUNICATION  
4176 COMMERCIAL AVE  
PORTAGE, MI 49002  
269-2178152  
MARK BURKE  
mark.burke@charter.com

\*MISS DIG\* 811

**Board of County Road Commissioners  
Of Allegan County**

1308 LINCOLN ROAD  
ALLEGAN, MICHIGAN 49010-9762  
TELEPHONE: (269) 673-2184 www.alleganroads.org FAX: (269) 673-5922

REVISIONS

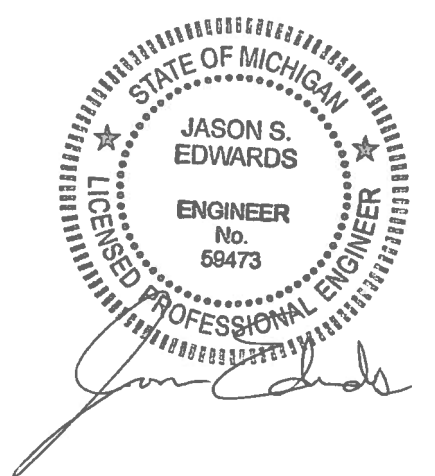
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**108TH AVENUE RECONSTRUCTION PROJECT**  
OTSEGO TWP - 5,000' EAST OF 15TH STREET TO 6,750' EAST OF 16TH STREET

COVER SHEET

**CONTRACT FOR ROAD IMPROVEMENTS**  
0.33 MILES OF ROADWAY RECONSTRUCTION INCLUDING CLEARING, GRADE ESTABLISHMENT, AGGREGATE BASE, AND RESTORATION ON 108TH AVENUE FROM 5,000' EAST OF 15TH STREET TO 6,750' EAST OF 15TH STREET IN OTSEGO TOWNSHIP, ALLEGAN COUNTY.

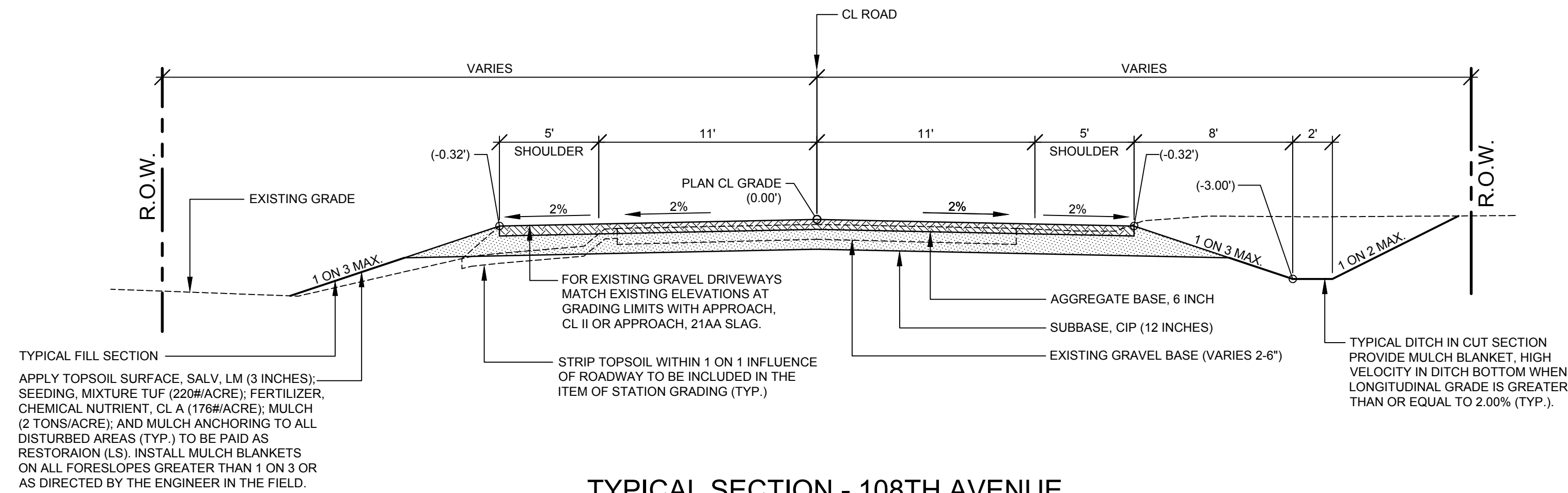
PREPARED UNDER THE SUPERVISION OF:



JASON S. EDWARDS  
REGISTERED PROFESSIONAL ENGINEER No. 59473

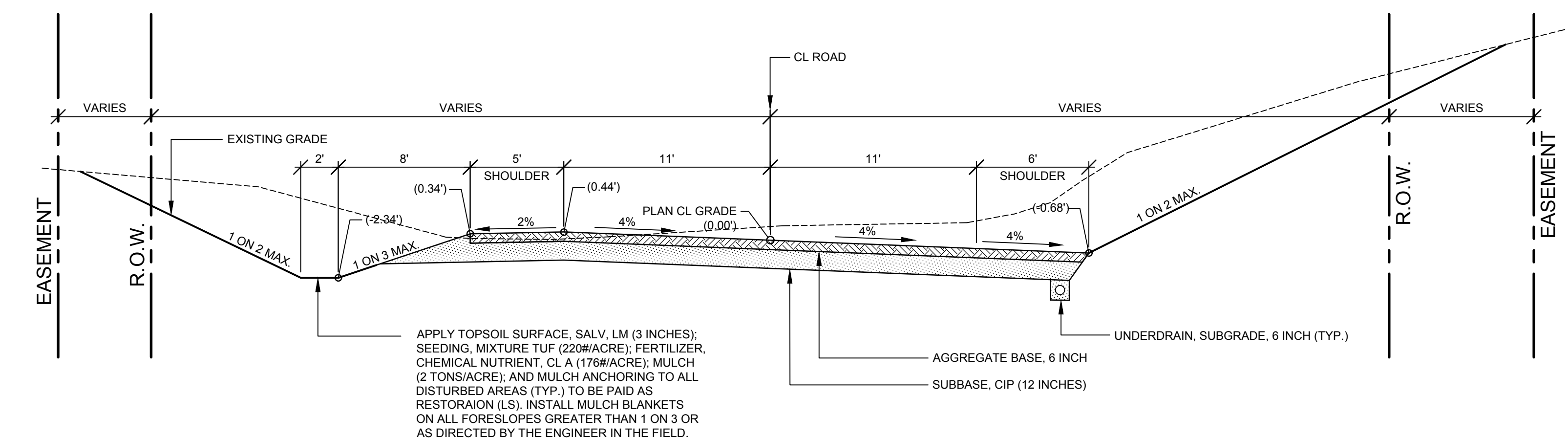
DRAWN BY: J.S.E.  
REVIEWED BY:  
DATE: JUNE, 2017  
SCALE: NONE

LH 4774 1



**TYPICAL SECTION - 108TH AVENUE**

SCALE: 1" = 5'  
THIS SECTION APPLIES TO:  
STA. 15+25 TO 17+50



**TYPICAL SECTION - 4% SUPER ELEVATION**

SCALE: 1" = 5'  
THIS SECTION APPLIES TO:  
STA. 6+00 TO 15+25

**SUPERELEVATION DETAILS**

STATION	CURVE # 1	STATION
(A) 4+64.27	2.0% 2.0%	-
(B) 5+15.27	2.0% 0.0%	-
-	0.0%	(B) 8+66.72
(C) 5+66.27	2.0%	(C) 8+49.06
(D) 6+17.27	4.0%	(D) 8+31.39

STATION	CURVE # 2	STATION
-	2.0% 2.0%	-
-	2.0% 0.0%	-
(B) 8+66.72	0.0%	(B) 14+27.06
(C) 8+84.39	2.0%	(C) 14+07.36
(D) 9+02.05	4.0%	(D) 13+87.66

STATION	CURVE # 3	STATION
-	2.0% 2.0%	(A) 18+85.15
-	2.0% 0.0%	(B) 18+34.15
(B) 14+27.06	0.0%	-
(C) 14+46.76	2.0%	(C) 17+83.15
(D) 14+66.46	3.0%	(D) 17+32.15

**PROJECT NOTES**

THE "2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION" AND "STANDARD PLANS" BY THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) ARE HEREBY INCORPORATED INTO THESE CONTRACT DOCUMENTS. COPIES OF THESE STANDARDS ARE AVAILABLE FOR INSPECTION AT THE OFFICE OF THE ENGINEER.

THE CONTRACTOR WILL BE RESPONSIBLE FOR CONTACTING THE ALLEGAN COUNTY ROAD COMMISSION TO NOTIFY THEM THAT WORK IS COMMENCING.

THE CONTRACTOR SHOULD NOTE THAT STATION GRADING WILL INCLUDE THE REMOVAL OF FENCES, CULVERTS, BRUSH, TREES SMALLER THAN 6", CONCRETE FOUNDATIONS, AND MISCELLANEOUS ITEMS AS REQUIRED AND WILL ALSO INCLUDE ALL EARTH EXCAVATION, EMBANKMENT, AND ALL OTHER OPERATIONS NECESSARY TO DEVELOP THE DESIRED CROSS SECTION. ALL TOPSOIL AND OTHER UNSUITABLE MATERIAL LOCATED BENEATH THE PROPOSED PAVEMENT SECTION WILL BE REMOVED TO THE SUBGRADE ELEVATION AS PART OF STATION GRADING. ALL TOPSOIL REMOVED MAY BE STOCKPILED AND REUSED AS TOPSOIL SURFACE, SALV. LM.

ALL FILL FOR THIS PROJECT MUST BE OBTAINED AND FURNISHED BY THE CONTRACTOR. ALL REQUIRED FILL SHALL BE SELECTED EXCAVATED MATERIAL FROM THE SITE APPROVED BY THE ENGINEER, OR MDOT CLASS II GRANULAR MATERIAL FROM BORROW. EXCESS FILL WILL BE REMOVED FROM SITE BY THE CONTRACTOR.

THE SOIL BORINGS WERE TAKEN BY GREAT LAKES DRILLING COMPANY, P.O. BOX 51, ALLEGAN, MI 49010 ON FEBRUARY 05, 2016. THE TEST BORINGS REPRESENT POINT INFORMATION AND MAY NOT HAVE ENCOUNTERED ALL THE TYPES AND MATERIALS WHICH ARE PRESENT AT THE SITE. THESE BORING LOGS DO NOT CONSTITUTE A GUARANTEE OF THE SOIL OR GROUNDWATER CONDITIONS, OR THAT THE TEST BORINGS ARE AN EXACT REPRESENTATION OF THE SOIL OR GROUNDWATER CONDITIONS AT ALL POINTS ON THE SITE.

SEE PLAN AND PROFILE SHEETS FOR SOIL BORING DATA.

DRIVE REPLACEMENT WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER IN THE FIELD.

AS PART OF THIS PROJECT THE CONTRACTOR WILL COORDINATE WITH THE ALLEGAN COUNTY ROAD COMMISSION TO PRESERVE AND RESET ALL GOVERNMENT CORNERS WITHIN THE PROJECT LIMITS.

CONTRACTOR WILL RELOCATE ALL MAILBOXES TO A TEMPORARY CENTRAL LOCATION APPROVED BY THE POSTAL SERVICE PRIOR TO CONSTRUCTION. CONTRACTOR SHALL INSTALL A 1" x 3" STAKE WITH THE RESPECTIVE PROPERTY ADDRESS WRITTEN ON IT IN THE FRONT YARD OF EACH RESIDENCE TO ASSIST WITH IDENTIFICATION FOR EMERGENCY VEHICLES. PAYMENT FOR RELOCATION WILL BE INCLUDED IN THE ITEM OF PROJECT CLEANUP. AT THE COMPLETION OF THE PROJECT SAID MAILBOXES SHALL BE RESET AT THEIR APPROPRIATE LOCATIONS.

ALL DISTURBED AREAS NOT TO BE PAVED WILL BE RESTORED WITH TOPSOIL SURFACE, SALV. LM (3 INCHES), MDOT SEED MIXTURE TUF (220#/ACRE); FERTILIZER, CHEMICAL NUTRIENT, CL A (176#/ACRE); AND MULCH AND MULCH ANCHORING (2 TON/ACRE). TO BE PAID AS RESTORATION (LUMP SUM).

ADEQUATE DUST CONTROL MEASURES WILL BE MAINTAINED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER IN THE FIELD, TO BE INCLUDED IN THE VARIOUS ITEMS OF WORK.

WHEN FIELD DRAIN TILES ARE ENCOUNTERED IN THE EXISTING DITCHES, THE CONTRACTOR WILL EXTEND THEM AS REQUIRED WITH UNDERDRAIN, SUBGRADE 4" OR 6" AND ADJUST THE DITCH GRADES AS NECESSARY TO PROVIDE POSITIVE DRAINAGE AS DIRECTED BY THE ENGINEER IN THE FIELD. THE COST OF THE CONNECTION WILL BE INCLUDED IN THE NEW PIPE ITEM, IF THE ENGINEER DETERMINES THAT AN EXISTING TILE IS TOO LONG THE CONTRACTOR WILL REMOVE THE TILE AS NECESSARY, TO BE INCLUDED IN THE ITEM OF STATION GRADING.

THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING EXISTING DRAINAGE PATTERNS, AND WILL RESOLVE ANY DRAINAGE PROBLEMS ON ADJACENT PROPERTIES WHICH MAY RESULT FROM THE CONTRACTOR'S ACTIVITIES.

DIMENSIONS TAKE PRECEDENCE OVER SCALE. CONTRACTOR TO VERIFY ALL DIMENSIONS IN FIELD.

DATUM REFERS TO NAVD88 DATUM.

THE JONES GRAVEL PIT LOCATED ON THE SOUTH SIDE OF THE PROJECT HAS EXPRESSED INTEREST IN THE EXCESS CUT MATERIAL. CONTACT R. SMITH AND SONS, INC. AT 269-673-4665 TO MAKE ARRANGEMENTS.

**UTILITY NOTES**

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR WILL CONTACT "MISS DIG" AT 811, A MINIMUM OF 72 HOURS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE CONTRACTOR WILL LOCATE ALL ACTIVE UNDERGROUND UTILITIES PRIOR TO STARTING WORK AND WILL CONDUCT HIS OPERATIONS IN A MANNER AS TO ENSURE THAT THOSE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.

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1308 LINCOLN ROAD  
ALLEGAN, MICHIGAN 49010-9762  
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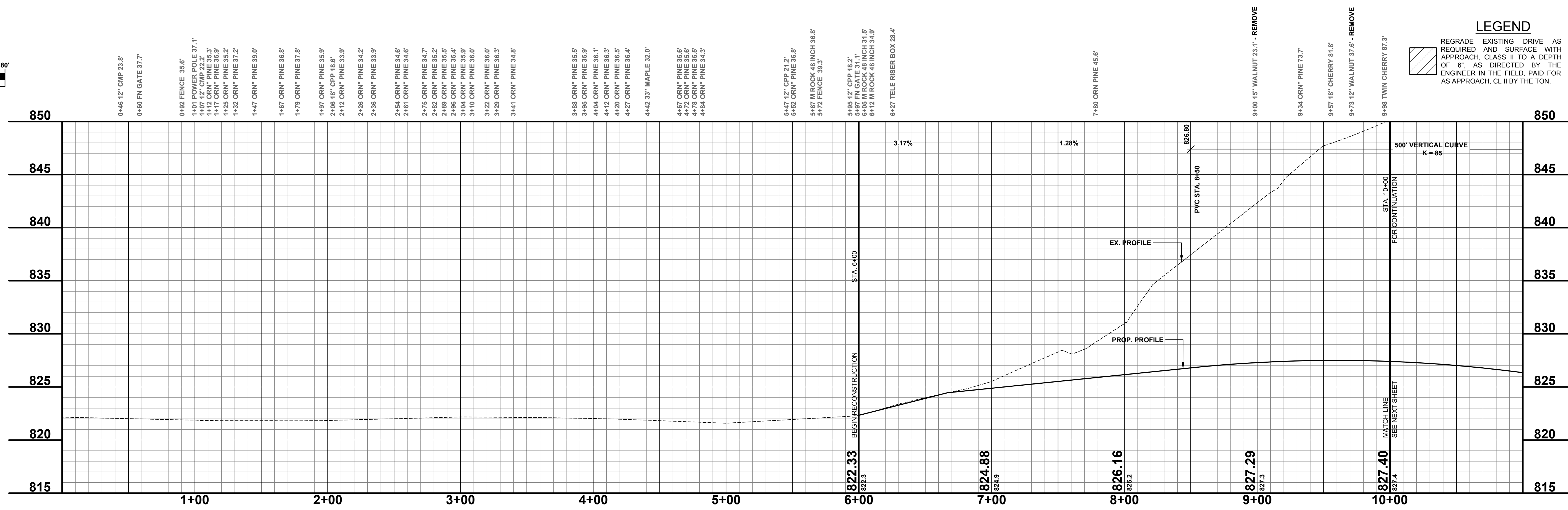
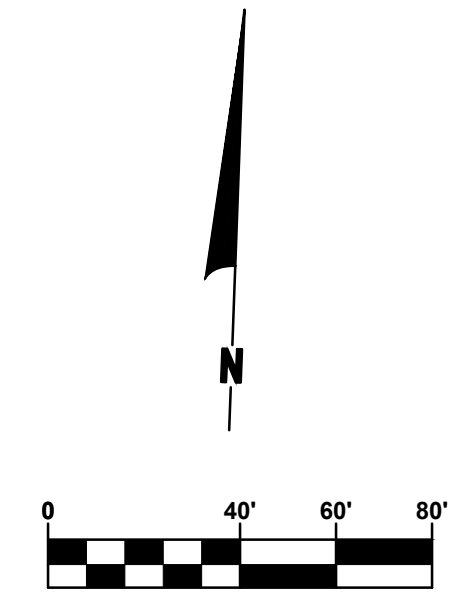
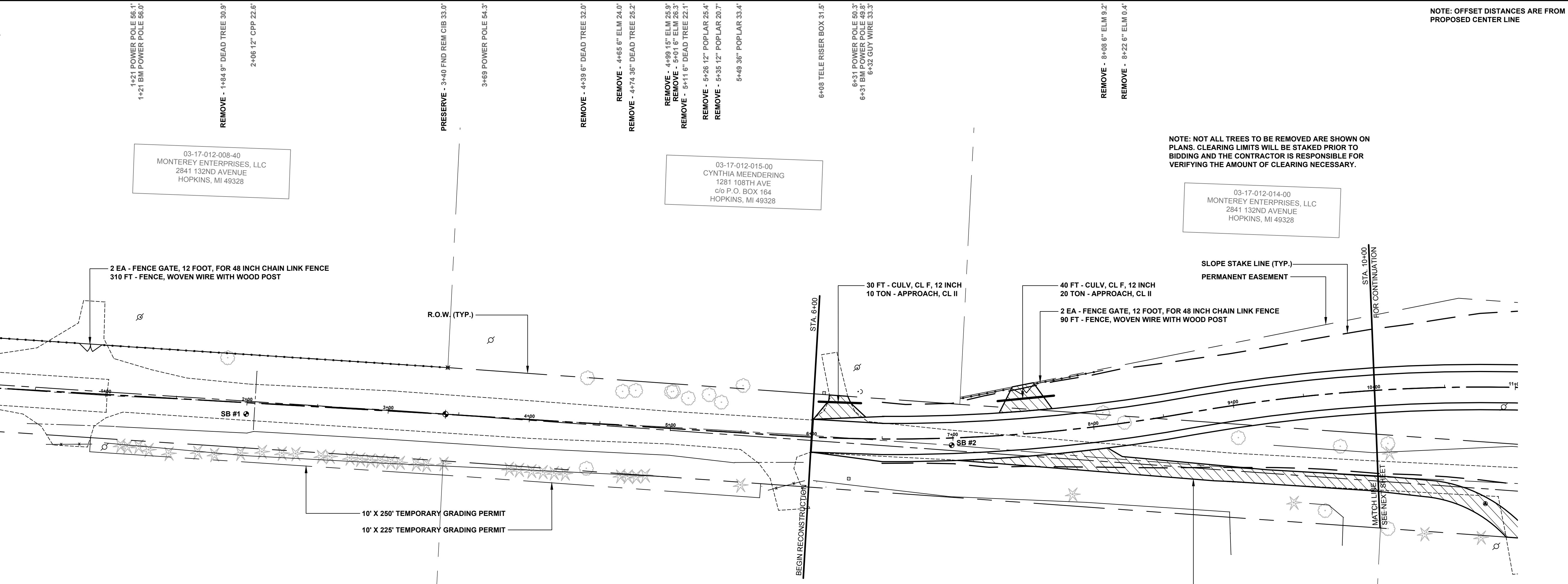
**108TH AVENUE RECONSTRUCTION PROJECT**  
OTSEGO TWP - 5,000' EAST OF 15TH STREET TO 6,750' EAST OF 15TH STREET

TYPICAL SECTIONS, DETAILS, & NOTES

DRAWN BY: J.S.E.  
REVIEWED BY:  
DATE: JUNE, 2017  
SCALE: AS NOTED

**SOIL BORINGS**

<b>SB #1</b>	0 - 1.2' BROWN FINE TO MEDIUM SAND AND GRAVEL
	1.2' - 2.3' BROWN FINE TO MED SAND, TR FINE GRAVEL
	2.3' - 5' GRAY SILTY CLAY
	5' END OF BORING
<b>SB #2</b>	0 - 2.8' BROWN FINE TO MEDIUM SAND AND GRAVEL
	2.8' - 5' BROWN AND DARK BROWN FINE TO MED SAND, TR FINE GRAVEL
	5' END OF BORING



**LEGEND**

REGRADE EXISTING DRIVE AS REQUIRED AND SURFACE WITH APPROACH, CLASS II TO A DEPTH OF 6". AS DIRECTED BY THE ENGINEER IN THE FIELD, PAID FOR AS APPROACH, CL II BY THE TON.

NOTE: NOT ALL TREES TO BE REMOVED ARE SHOWN ON PLANS. CLEARING LIMITS WILL BE STAKED PRIOR TO BIDDING AND THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE AMOUNT OF CLEARING NECESSARY.

NOTE: OFFSET DISTANCES ARE FROM PROPOSED CENTER LINE

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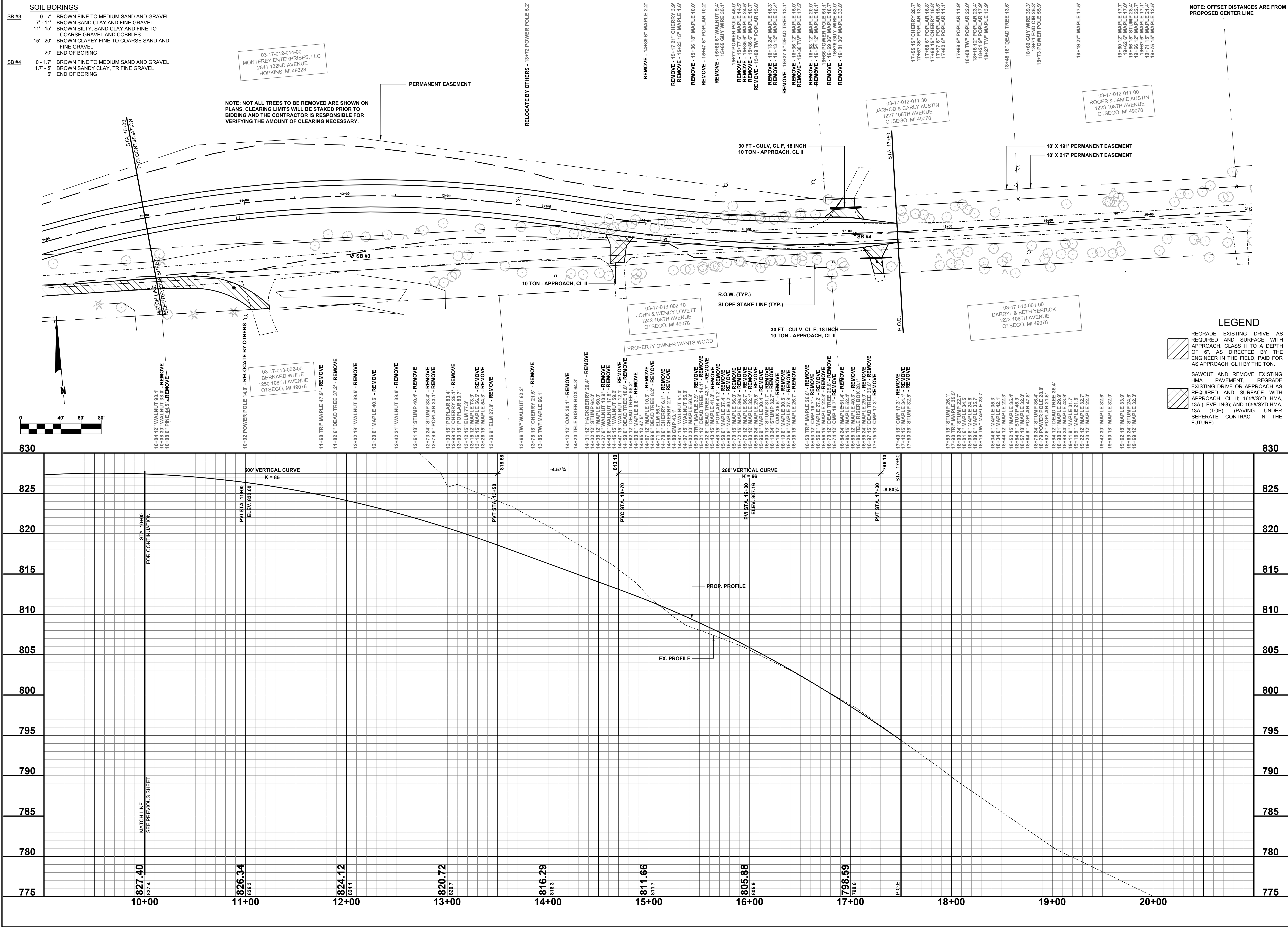
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**108TH AVENUE RECONSTRUCTION PROJECT**  
OTSEGO TWP - 5,000' EAST OF 16TH STREET TO 6,750' EAST OF 16TH STREET

PLAN & PROFILE - STA. P.O.B. TO STA. 10+00

DRAWN BY: J.S.E.  
REVIEWED BY:  
DATE: JUNE, 2017  
SCALE: 1" = 40'H, 5'V





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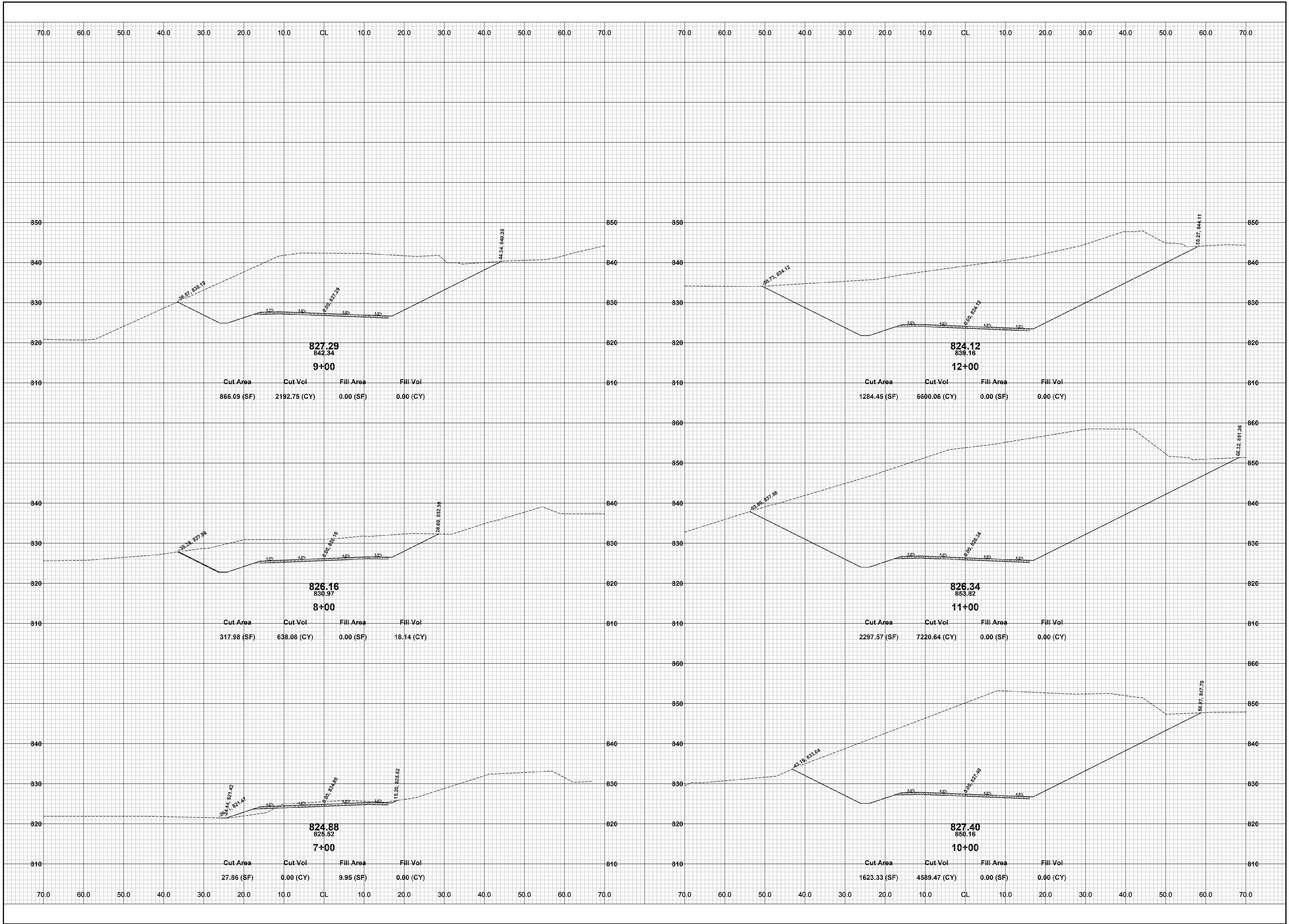
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 PLAN & PROFILE - STA. 10+00 TO STA. P.O.E.

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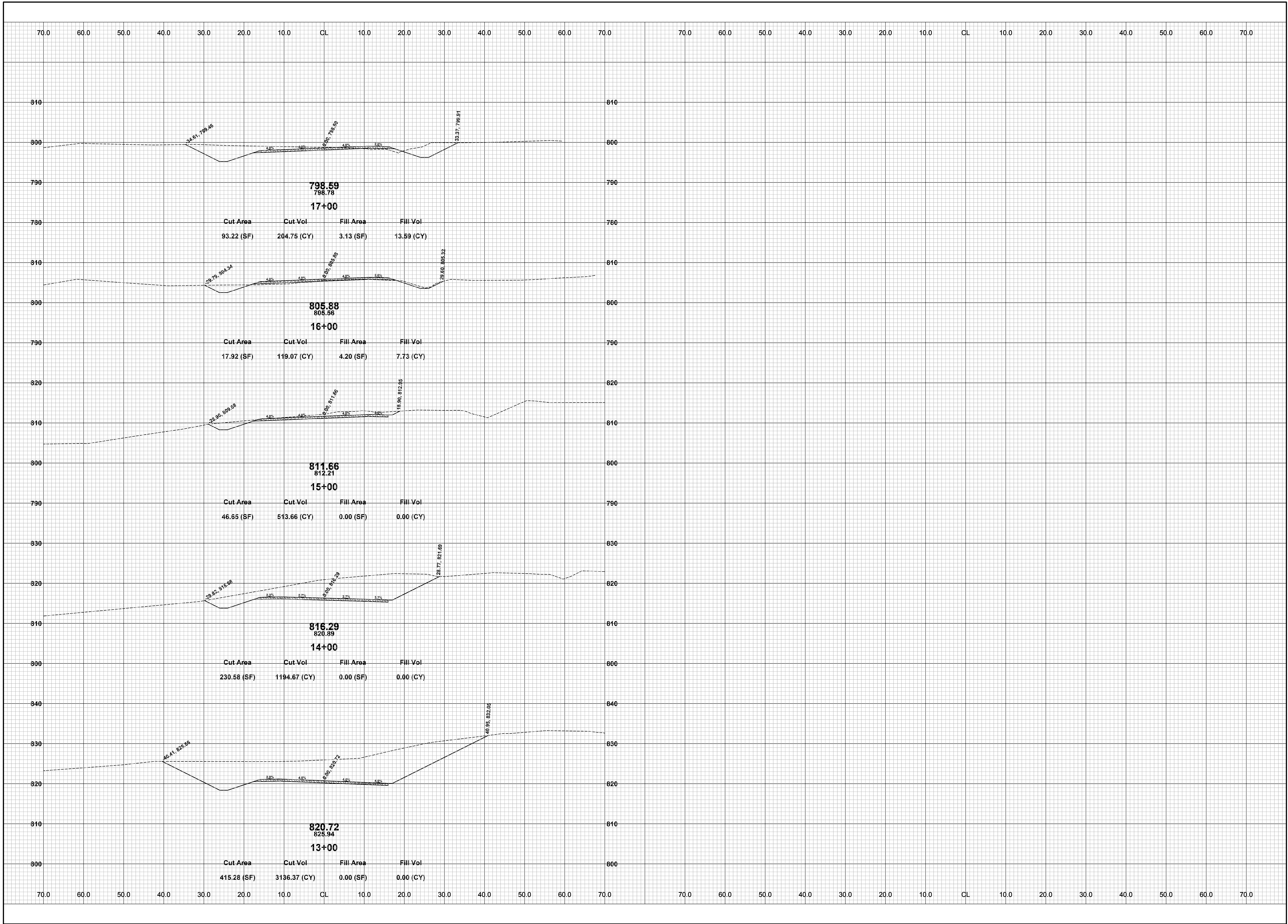
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**108TH AVENUE RECONSTRUCTION PROJECT**  
 OTSEGO TWP - 5,000' EAST OF 15TH STREET TO 6,750' EAST OF 15TH STREET  
 CROSS SECTIONS - STA. 7+00 TO STA. 12+00

DRAWN BY: J.S.E.  
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 SCALE: 1" = 10'



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CROSS SECTIONS - STA. 13+00 TO STA. 17+00

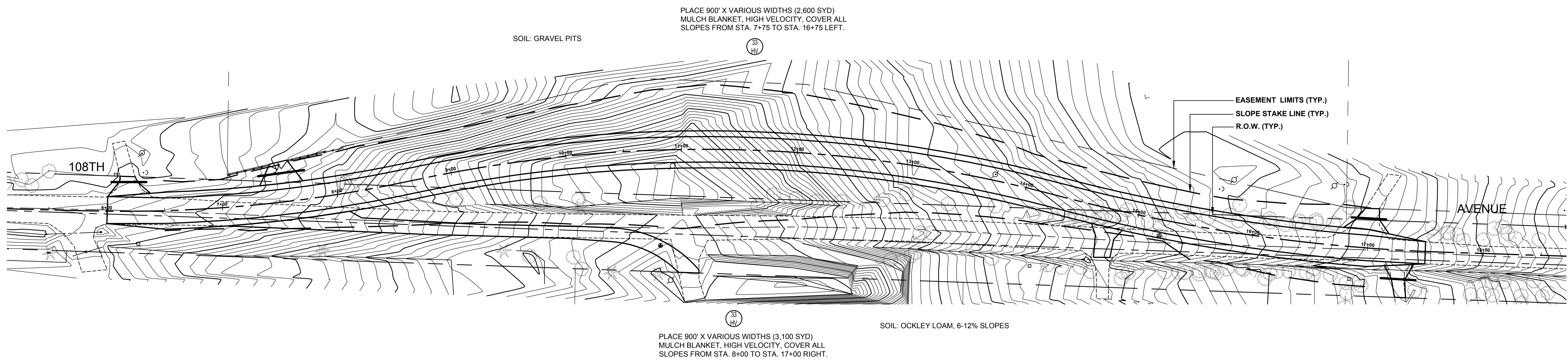
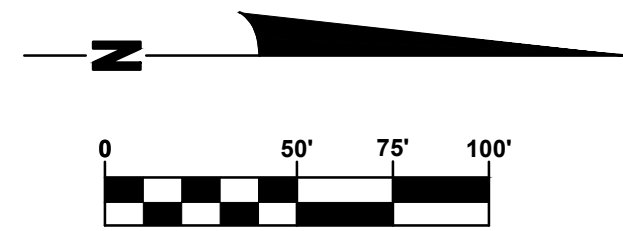
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**108TH AVENUE RECONSTRUCTION PROJECT**  
OTSEGO TWP - 5,000' EAST OF 15TH STREET TO 6,750' EAST OF 16TH STREET

**SOIL EROSION & SEDIMENTATION CONTROL PLAN**

**DRAWN BY:** J.S.E.  
**REVIEWED BY:**  
**DATE:** JUNE, 2017  
**SCALE:** 1" = 50'



**SOIL EROSION & SEDIMENTATION CONTROL NOTES**

- ALL CONSTRUCTION METHODS WILL BE DONE IN COMPLIANCE WITH THE MICHIGAN SOIL EROSION AND SEDIMENTATION CONTROL ACT. THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING A "SOIL EROSION PERMIT" FROM THE COUNTY AND/OR A "PERMIT BY RULE/NOTICE OF COVERAGE" FROM THE MDOT PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR COMPLYING WITH ALL REQUIREMENTS OF THE COUNTY SOIL EROSION PERMIT AND FOR ALL CERTIFIED STORM WATER INSPECTION SERVICE REQUIRED BY THE "PERMIT BY RULE." EROSION CONTROL MEASURES SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS AND WILL NOT RELIEVE THE CONTRACTOR'S RESPONSIBILITY FOR PROVIDING ALL REQUIRED EROSION CONTROL MEASURES.
  - AVOID UNNECESSARY DISTURBING OR REMOVING OF EXISTING VEGETATED TOPSOIL OR EARTH COVER. THESE COVER AREAS ACT AS SEDIMENT FILTERS.
  - ALL TEMPORARY SOIL EROSION PROTECTION WILL REMAIN IN PLACE UNTIL REMOVAL IS REQUIRED FOR FINAL CLEAN UP AND APPROVAL.
  - GEOTEXTILE SILT FENCE WILL BE INSTALLED AS REQUIRED WHEN CROSSING CREEKS OR WHEN ADJACENT TO WETLANDS OR SURFACE WATER BODIES TO PREVENT SILTATION AND ELSEWHERE AS DIRECTED BY THE ENGINEER. SEEDING AND/OR SODDING WILL BE INSTALLED ON CREEK BANKS IMMEDIATELY AFTER CONSTRUCTION TO PREVENT EROSION.
  - MAINTENANCE, CLEANING, AND REMOVAL OF THE VARIOUS SEDIMENT CONTROL MEASURES WILL BE INCLUDED IN THE VARIOUS EROSION CONTROL ITEMS.
  - SOIL TYPE LOCATIONS ARE APPROXIMATED FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE'S WEB SOIL SURVEY MAPS. DETAILED PROPERTIES FOR EACH SOIL TYPE CAN BE FOUND ON THEIR WEBSITE: [WEBSOILSURVEY.NRCS.USDA.GOV](http://WEBSOILSURVEY.NRCS.USDA.GOV)
- NUMBER IN CIRCLE REFERS TO NUMBERED DETAILS ON MDOT STANDARD PLAN R-96 SERIES, SOIL EROSION & SEDIMENTATION CONTROL MEASURES. "P" DENOTES PERMANENT MEASURE AND "T" DENOTES TEMPORARY MEASURE. SOIL EROSION CONTROL PLANS DENOTE MINIMUM EROSION MEASURES REQUIRED AS DESCRIBED BELOW.
- ALL DISTURBED AREAS NOT PAVED OR GRAVELED SHALL BE RESTORED UNDER THE PAY ITEM RESTORATION (LUMP SUM). THIS PAY ITEM INCLUDES PLACING MDOT SEEDING, MIXTURE TUF APPLIED AT A RATE OF 220 LB/ACRE, FERTILIZER, CHEMICAL NUTRIENT, CL A APPLIED AT A RATE OF 176 LB/ACRE, MULCH AT A RATE OF 2 TON/ACRE AND MULCH ANCHORING.
  - TEMPORARY SEEDING WILL BE PLACED AT LOCATIONS DETERMINED BY THE ENGINEER IN THE FIELD AND WILL INCLUDE SEEDING MIXTURE, OR APPLIED AT A RATE OF 70 LB/ACRE AND MULCH.
  - DUST CONTROL MAY BE REQUIRED ON THE SUBGRADE CONSTRUCTION AND WILL INCLUDE APPLYING FRESH WATER TO BE INCLUDED IN THE ITEM OF EMBANKMENT. DUST CONTROL ON THE AGGREGATE BASE COURSE WILL BE ACCOMPLISHED BY APPLYING FRESH WATER (INCLUDED IN THE ITEM OF AGGREGATE BASE, 6 INCH) AS DIRECTED BY THE PROJECT ENGINEER.
  - SILT FENCE WILL BE INSTALLED AT CREEK CROSSINGS, ADJACENT TO ALL WETLANDS AND SURFACE WATERS, AND OTHER LOCATIONS AS DIRECTED BY THE ENGINEER. EACH SILT FENCE WILL BE INSTALLED GENERALLY ALONG THE SAME CONTOUR ELEVATION.
  - CONTRACTOR WILL PROVIDE DOZER TRACKING PERPENDICULAR TO THE SLOPE TO REDUCE WATER AND WIND EROSION. THIS WILL BE PERFORMED AT LOCATIONS SHOWN OR AS DIRECTED BY THE ENGINEER IN THE FIELD, TO BE INCLUDED IN THE ITEM OF EMBANKMENT.
  - HIGH VELOCITY MULCH BLANKETS WILL BE USED ON STEEP BANKS. PROVIDE MULCH BLANKET, HIGH VELOCITY CENTERED ON ALL DITCH BOTTOMS WITH A LONGITUDINAL GRADE OF 2.00% OR GREATER AND AT OTHER LOCATIONS AS DIRECTED BY THE ENGINEER IN THE FIELD.
  - CHECK DAMS WILL BE INSTALLED AT THE LOCATIONS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER IN THE FIELD.