

ALLEGAN COUNTY ROAD COMMISSION

110TH AVE & 15TH STREET RECONSTRUCTION PROJECT

111TH AVENUE TO GUN PLAIN TOWNSHIP LINE

OTSEGO TOWNSHIP

UTILITY CONTACTS

ELECTRIC
 CONSUMERS ENERGY
 4000 CLAY AVE, SW
 GRAND RAPIDS, MI 49548
 616-530-4185
 MS. KYLEE MAYCROFT
 gracvimp@cmsenergy.com

GREAT LAKES ENERGY
 1049 133RD AVENUE
 WAYLAND, MI 49348
 269-792-0532
 MR. JEFF HICKS
 jhicks@glenergy.com

TELEPHONE
 AT&T
 955 36TH STREET
 GRAND RAPIDS, MI 49508
 269-304-4472
 MS. CARRIE DEMOTT
 cd3249@att.com

GAS TRANSMISSION
 CONSUMERS ENERGY
 2500 E CORK ST
 KALAMAZOO, MI 49001
 989-574-7538
 MR. KEVIN COUTURIER
 kevin.couturier@cmsenergy.com

MISS DIG 811

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

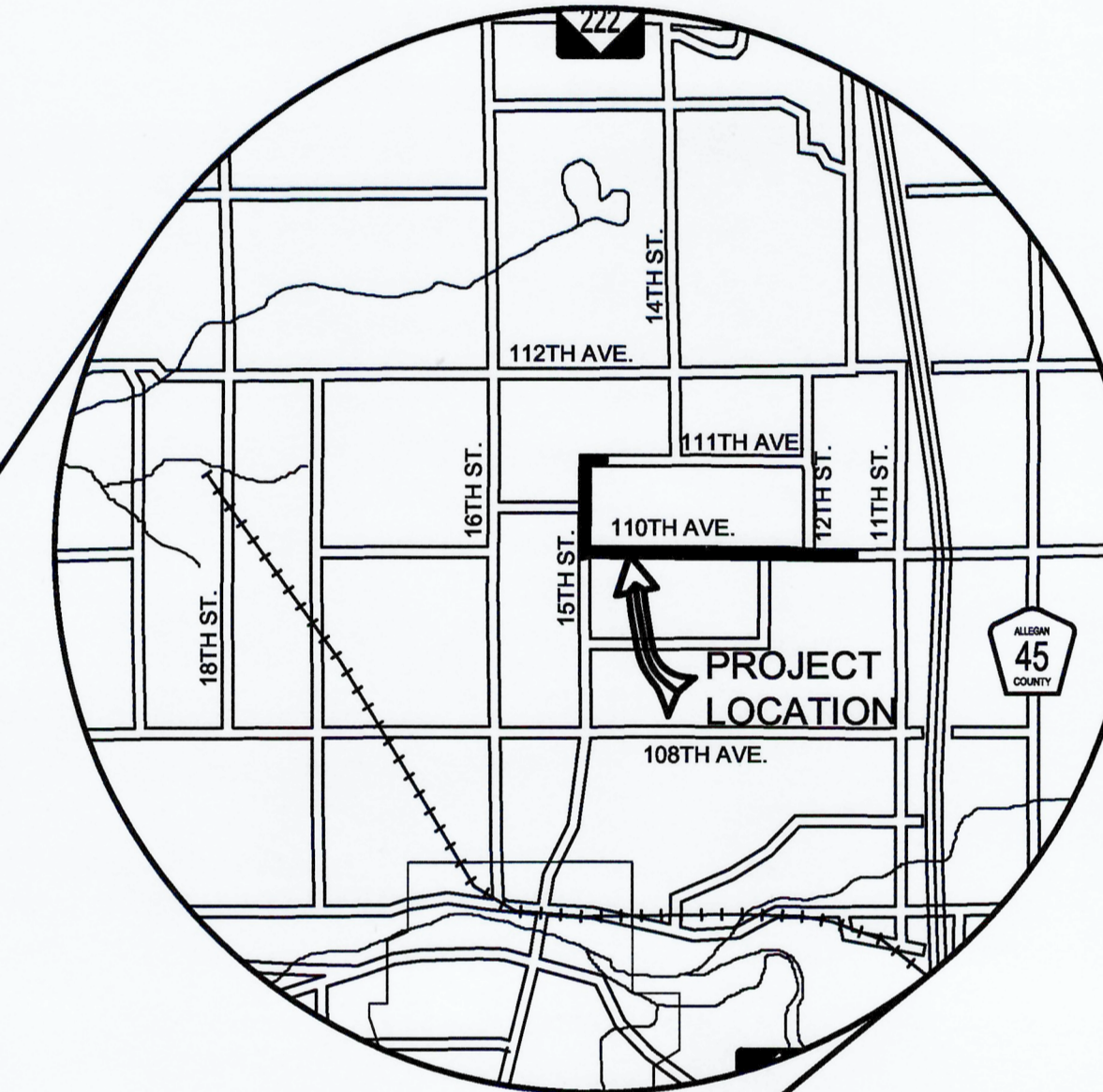
1308 LINCOLN ROAD
 ALLEGAN, MICHIGAN 49010-9762
 TELEPHONE (269) 673-2184 www.alleganroads.org FAX (269) 673-5922

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.

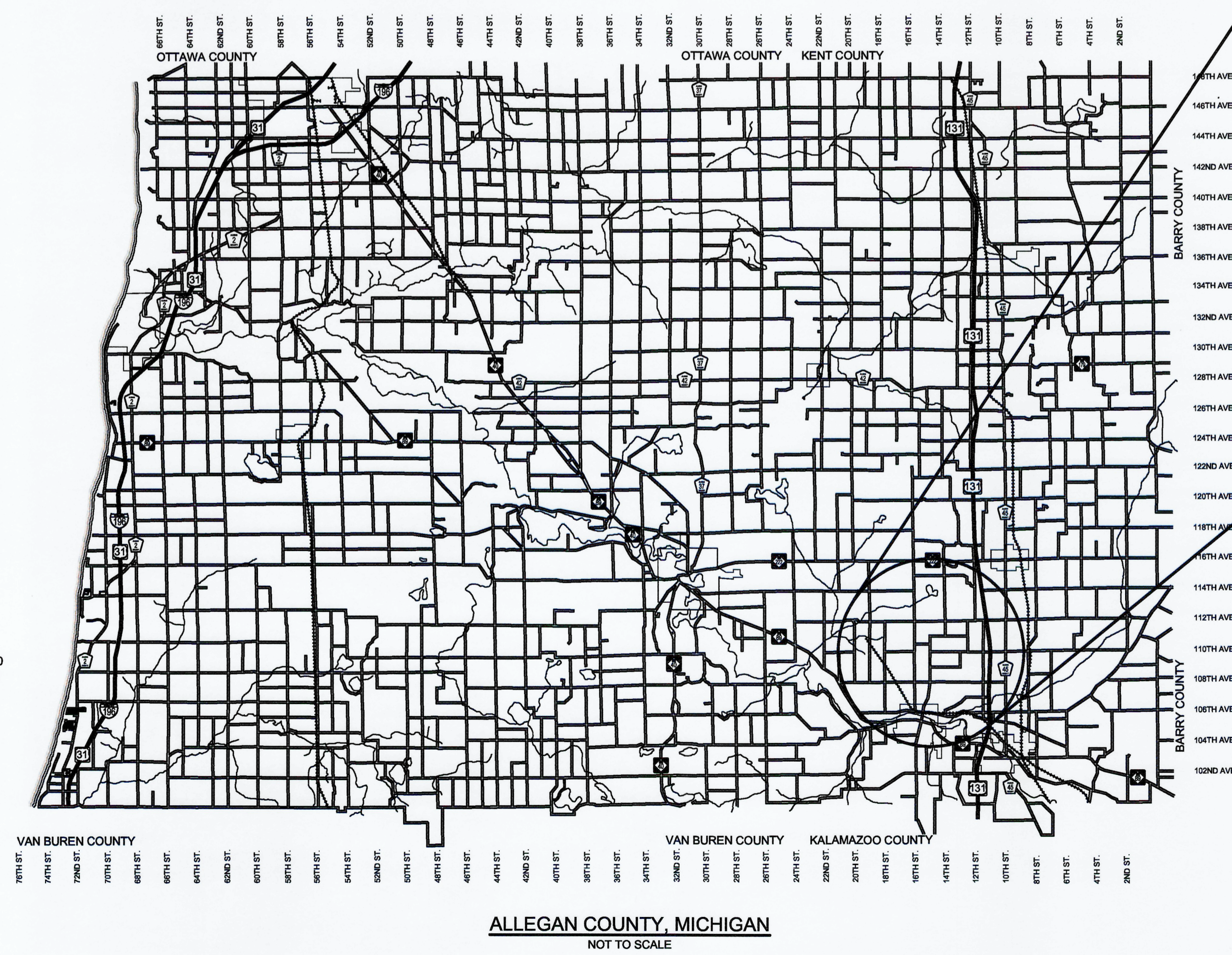
THE PLACING OF PAVEMENT MARKINGS AND TRAFFIC CONTROL SIGNS SHALL BE DONE IN ACCORDANCE WITH THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS AMENDED.

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.

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 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.



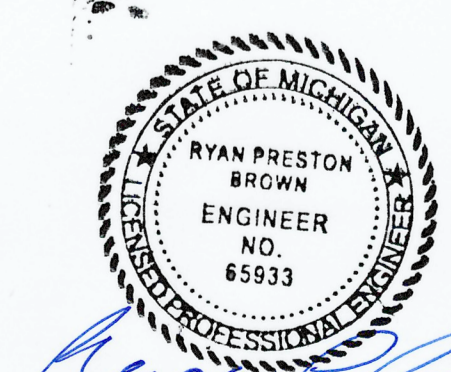
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CONTRACT FOR ROAD IMPROVEMENTS
 2.08 MILES OF ROADWAY RECONSTRUCTION INCLUDING CLEARING, TRENCHING, WIDENING, SAND SUBBASE, AGGREGATE BASE, CULVERT REPLACEMENTS, AND RESTORATION ON 15TH STREET AND 110TH AVENUE FROM 111TH AVENUE TO THE GUN PLAIN TOWNSHIP LINE IN OTSEGO TOWNSHIP, ALLEGAN COUNTY.

PREPARED UNDER THE SUPERVISION OF:

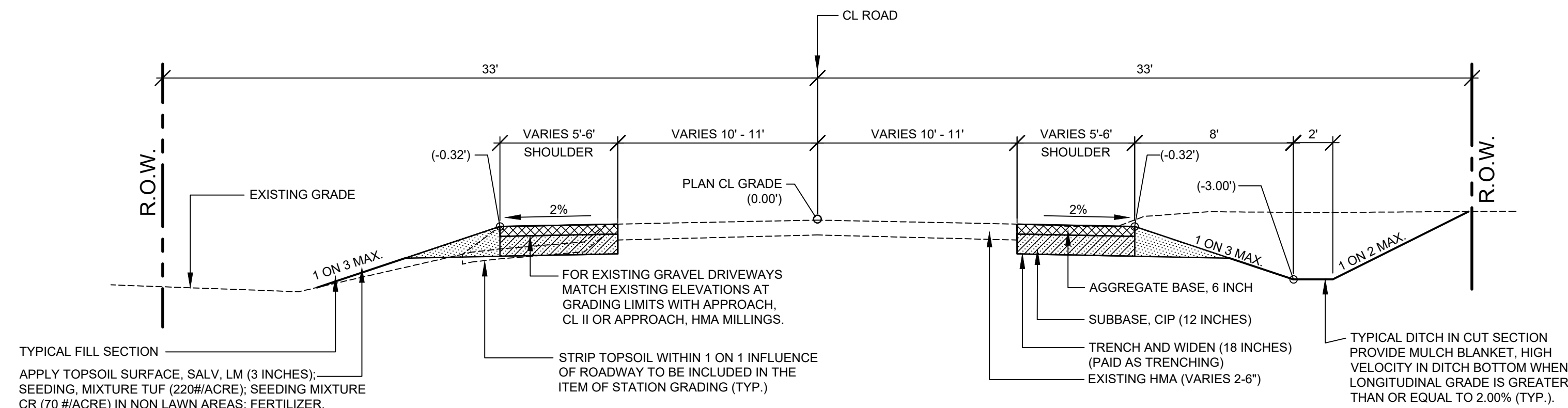


RYAN P. BROWN
 REGISTERED PROFESSIONAL ENGINEER No. 65933

110TH AVE & 15TH ST RECONSTRUCTION PROJECT
 OTSEGO TOWNSHIP - 111TH AVE TO TWP LINE

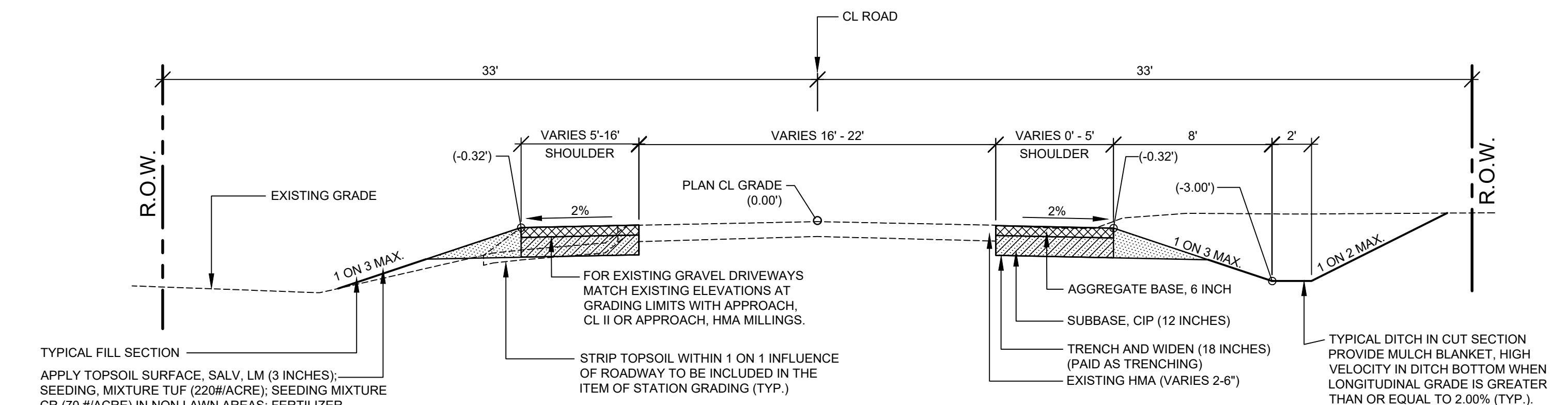
COVER SHEET

DRAWN BY:	RPB
REVIEWED BY:	JSE
DATE:	JULY, 2020
SCALE:	NONE



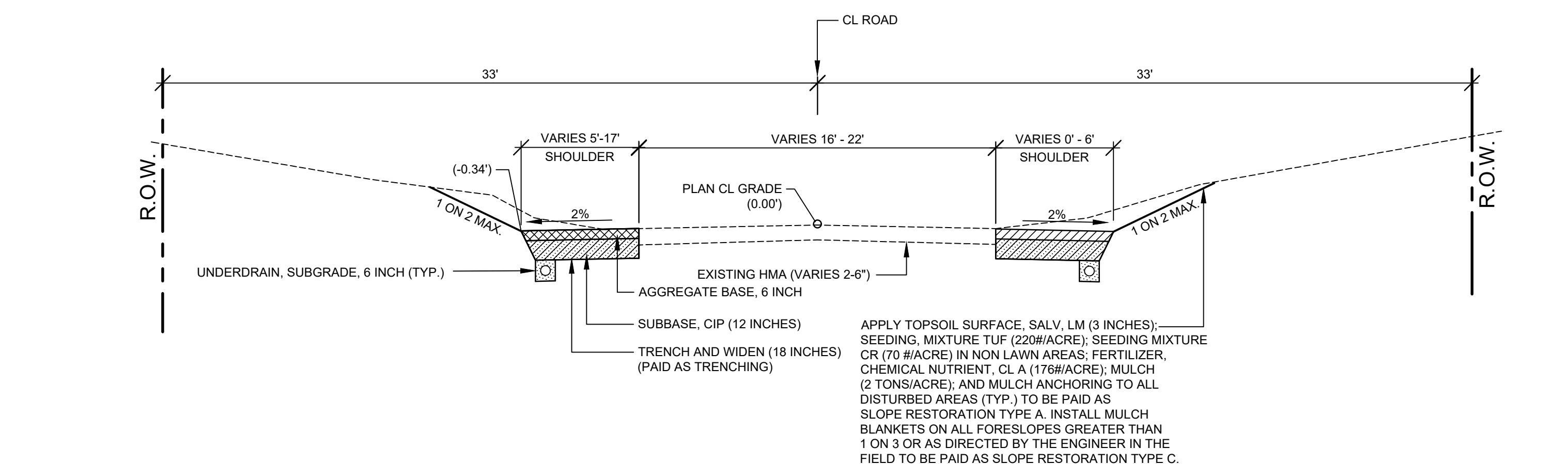
TYPICAL SECTION - 110TH AVENUE

SCALE: 1" = 5'
THIS SECTION APPLIES TO:
P.O.B TO P.O.E.



TYPICAL SECTION - 15TH STREET

SCALE: 1" = 5'
THIS SECTION APPLIES TO:
P.O.B TO P.O.E. EXCEPT AS NOTED BELOW



TYPICAL VALLEY SECTION - 15TH STREET

SCALE: 1" = 5'
THIS SECTION APPLIES TO:
99+10 TO 106+30 LEFT
107+00 TO 113+00 RIGHT
117+70 TO 120+40 RIGHT
121+70 TO 125+00 LEFT

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 MDOOT CLASS II GRANULAR MATERIAL FROM BORROW. EXCESS FILL WILL BE REMOVED FROM SITE BY THE CONTRACTOR. NO BORROW OR SOIL REMOVAL ARRANGEMENTS HAVE BEEN PREARRANGED FOR THIS PROJECT AND WILL BE THE TOTAL RESPONSIBILITY OF THE CONTRACTOR.

THE SOIL BORINGS WERE TAKEN BY GREAT LAKES DRILLING COMPANY, P.O. BOX 51, ALLEGAN, MI 49010 ON DECEMBER 17, 2019. 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 SHEETS FOR SOIL BORING DATA.

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

THE ITEM OF SUBBASE, CIP WILL BE PAID FOR AT PLAN QUANTITY EXCEPT IN THE CASE OF A DESIGN CHANGE OR DEMONSTRATED ERROR.

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), MDOOT SEED MIXTURE TUF (220#/ACRE); SEEDING MIXTURE CR (70 #/ACRE) IN NON LAWN AREAS; FERTILIZER, CHEMICAL NUTRIENT, CL A (176#/ACRE); AND MULCH AND MULCH ANCHORING (2 TON/ACRE) TO BE PAID AS SLOPE RESTORATION TYPE A. SEE SESC PLAN FOR AREAS TO USE HIGH VELOCITY MULCH BLANKET, TO BE PAID AS SLOPE RESTORATION TYPE C.

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.

MULCH BLANKET, HIGH VELOCITY WILL BE PLACED ON THE BOTTOM OF ALL DITCHES WHEN THE LONGITUDINAL GRADE IS GREATER THAN OR EQUAL TO 2.00% UNLESS OTHERWISE NOTED, OR AS DIRECTED BY THE ENGINEER IN THE FIELD TO BE PAID AS SLOPE RESTORATION TYPE C.

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.

DATUM REFERS TO NAVD88 DATUM.

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

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 THIS 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.

PRELIMINARY UTILITY COORDINATION WAS PERFORMED AND ALL UTILITIES HAVE VERIFIED LOCATIONS. CONSUMERS GAS HAS TWO LARGE TRANSMISSION MAINS WITHIN THE PROJECT LIMITS. NEITHER MAIN IS IN CONFLICT WITH PROPOSED WORK. CONTACT JAMES HENNING 48 HOURS IN ADVANCE OF EXCAVATIONS NEAR GAS MAINS. CONSUMERS ELECTRIC HAS STATED THEY ARE NOT IN CONFLICT WITH PROJECT. GREAT LAKES ENERGY WILL BE RELOCATING POLES IN CONFLICT.

MISCELLANEOUS QUANTITIES

DESCRIPTION	QUANTITY	UNIT
SUBGRADE UNDERCUTTING, TYPE II	775	CYD
AGGREGATE, 6A	50	TON
GEOTEXTILE STABILIZATION	1500	SYD
RIPRAP, PLAIN	75	SYD
EROSION CONTROL, SILT FENCE	300	FT
EROSION CONTROL, CHECK DAM	350	FT
APPROACH, CL II	75	TON
CULV, CL F, 12 INCH	40	FT
CULV END SECT, CONC, 18 INCH	2	EA
CULV, CL F, 18 INCH	160	FT
CULV, CL F, 18 INCH	80	FT

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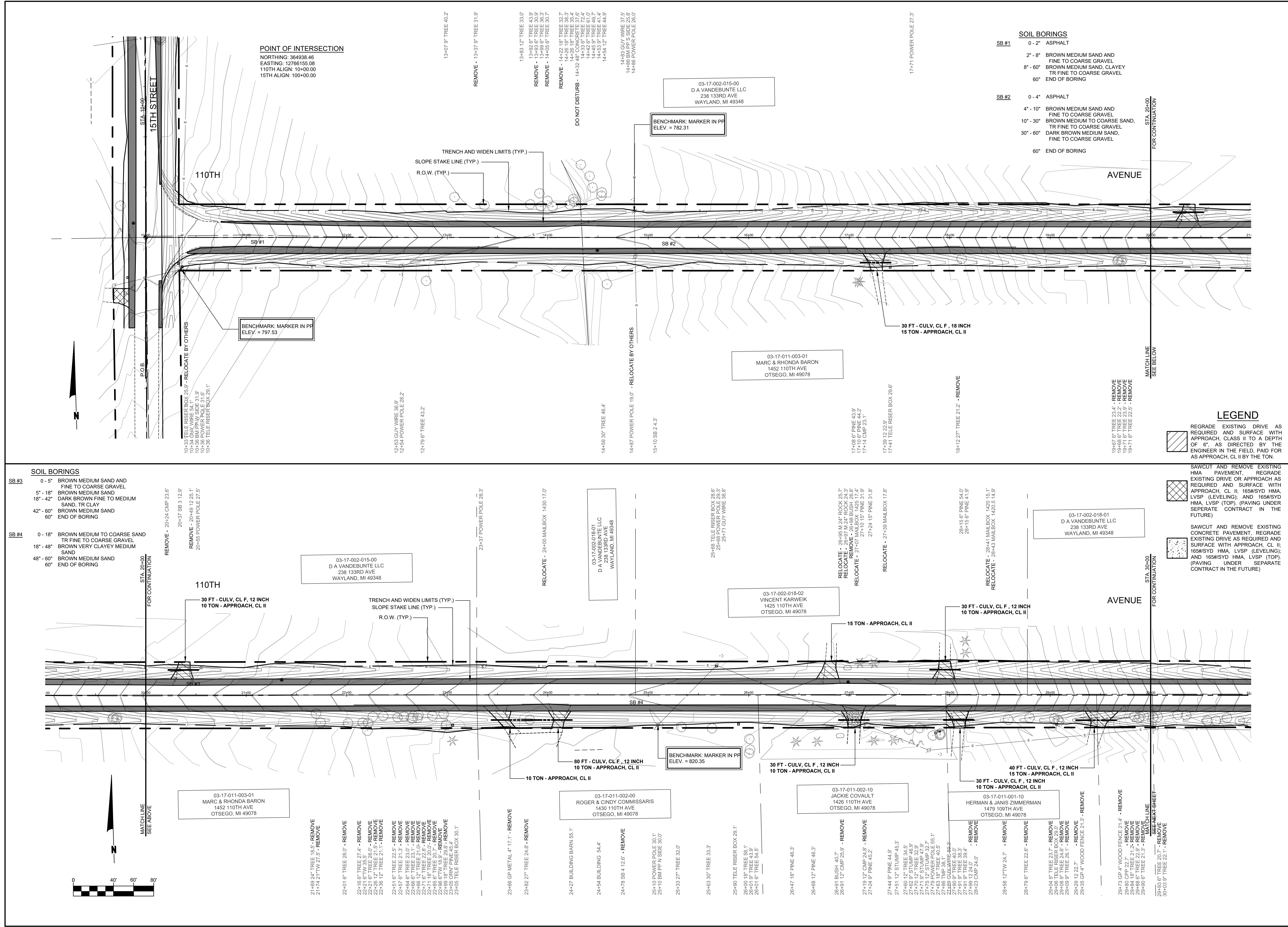
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110TH AVE & 15TH ST RECONSTRUCTION PROJECT
OTSEGO TOWNSHIP - 111TH AVENUE TO TWP LINE

DRAWN BY: RPB
REVIEWED BY: JSE
DATE: JULY, 2020
SCALE: AS NOTED

LH 400012 2

TYPICAL SECTIONS, DETAILS, & NOTES



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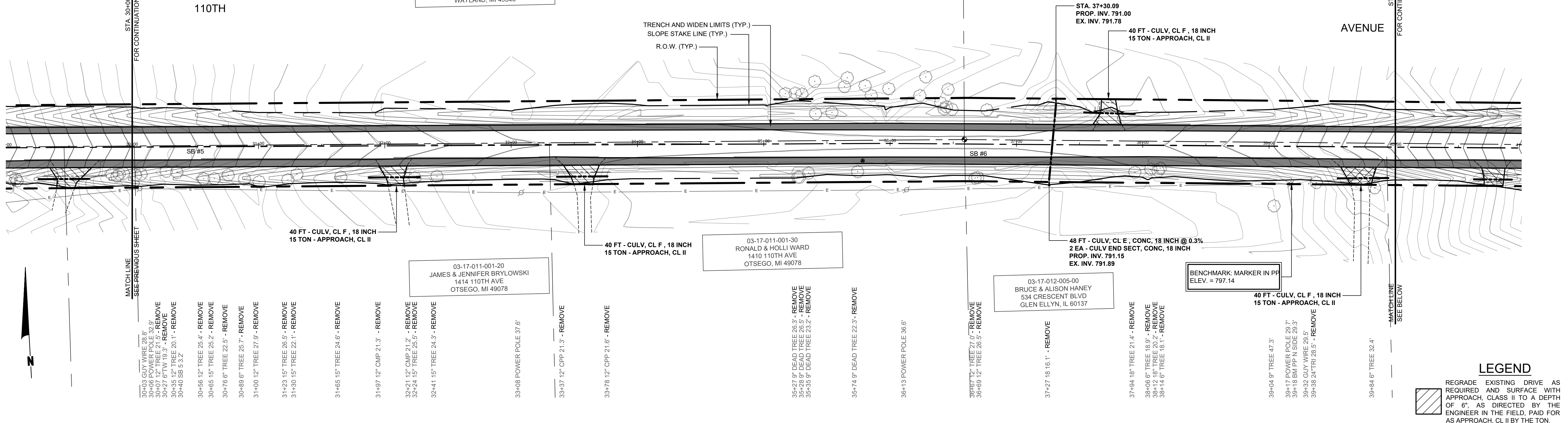
110TH AVE & 15TH ST RECONSTRUCTION PROJECT
 OTSEGO TOWNSHIP - 111TH AVE TO TWP LINE

110TH PLAN - STA. 10+00 TO STA. 30+00

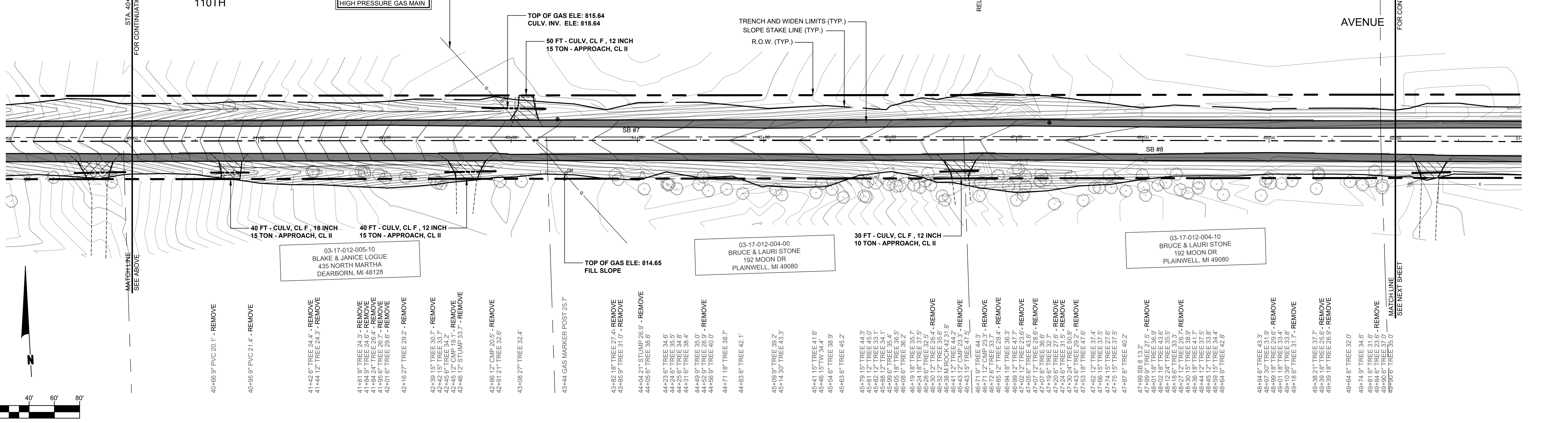
DRAWN BY: RPB
REVIEWED BY: JSE
DATE: JUNE, 2020
SCALE: 1" = 40'

LH 400012 3

- SOIL BORINGS**
- SB #5**
- 0 - 2" ASPHALT
 - 2" - 6" BROWN MEDIUM SAND AND FINE TO COARSE GRAVEL
 - 6" - 24" BROWN MEDIUM SAND, TR COARSE GRAVEL
 - 24" - 36" DARK BROWN CLAYEY MEDIUM SAND
 - 36" - 60" BROWN SANDY, SILTY CLAY
 - 60" END OF BORING
- SB #6**
- 0 - 2" DARK BROWN CLAYEY TOPSOIL
 - 2" - 24" BROWN MEDIUM TO COARSE SAND, TR FINE TO COARSE GRAVEL
 - 24" - 60" DARK BROWN TO BLACK CLAYEY FINE SAND, TR TOPSOIL
 - 60" - 120" BROWN FINE TO COARSE SAND
 - 120" END OF BORING



- SOIL BORINGS**
- SB #7**
- 0 - 2" ASPHALT
 - 2" - 6" BROWN MEDIUM SAND AND FINE TO COARSE GRAVEL
 - 6" - 30" BROWN MEDIUM SAND,
 - 30" - 60" DARK BROWN VERY CLAYEY MEDIUM SAND, FINE TO COARSE GRAVEL
 - 60" END OF BORING
- SB #8**
- 0 - 2" DARK BROWN MEDIUM SAND
 - 2" - 8" BROWN MEDIUM TO COARSE SAND, TR FINE TO COARSE GRAVEL
 - 8" - 36" BROWN MEDIUM SAND
 - 36" - 60" BROWN CLAYEY MEDIUM SAND, TR FINE GRAVEL
 - 60" 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.
 - SAWCUT AND REMOVE EXISTING HMA PAVEMENT, REGRADE EXISTING DRIVE OR APPROACH AS REQUIRED AND SURFACE WITH APPROACH, CL II; 165#/SYD HMA, LVSP (LEVELING); AND 165#/SYD HMA, LVSP (TOP); (PAVING UNDER SEPARATE CONTRACT IN THE FUTURE)
 - SAWCUT AND REMOVE EXISTING CONCRETE PAVEMENT, REGRADE EXISTING DRIVE AS REQUIRED AND SURFACE WITH APPROACH, CL II; 165#/SYD HMA, LVSP (LEVELING); AND 165#/SYD HMA, LVSP (TOP); (PAVING UNDER SEPARATE CONTRACT IN THE FUTURE)

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110TH AVE & 15TH ST RECONSTRUCTION PROJECT
OTSEGO TOWNSHIP - 111TH AVE TO TWP LINE

110TH PLAN - STA. 30+00 TO STA. 50+00

DRAWN BY: RPB
REVIEWED BY: JSE
DATE: JUNE, 2020
SCALE: 1" = 40'

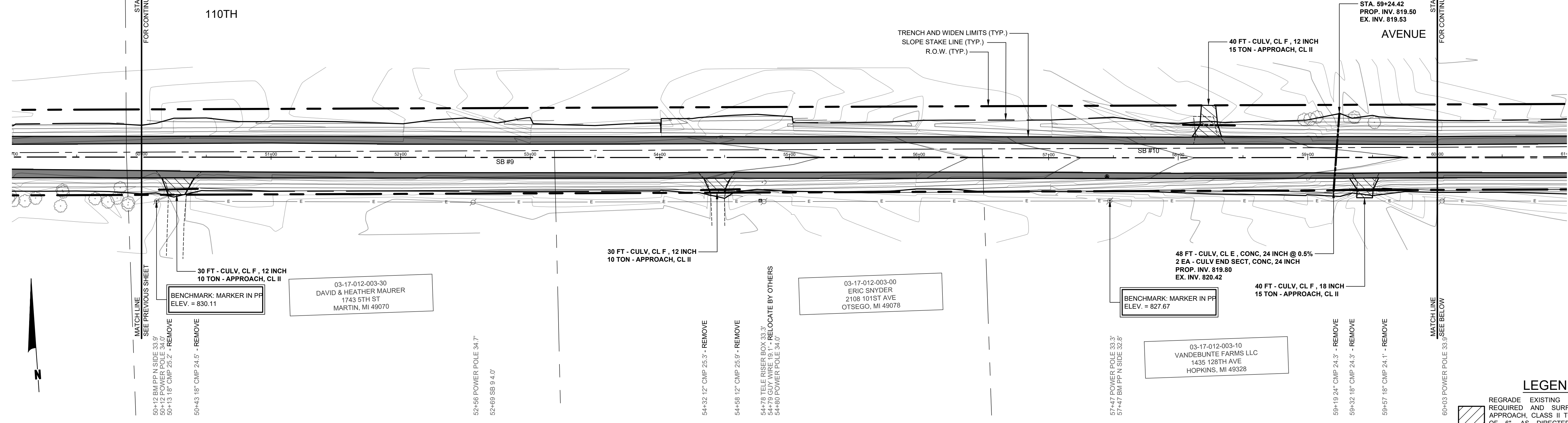
LH 400012 4

- SOIL BORINGS**
- SB #9**
- 0 - 2" ASPHALT
 - 2" - 6" BROWN MEDIUM SAND AND FINE TO COARSE GRAVEL
 - 6" - 18" BROWN MEDIUM SAND TR FINE TO COARSE GRAVEL
 - 18" - 36" DARK BROWN FINE TO MEDIUM SAND
 - 36" - 60" BROWN SILTY FINE SAND
 - 60" END OF BORING
- SB #10**
- 0 - 3" ASPHALT
 - 3" - 6" BROWN MEDIUM SAND AND FINE TO COARSE GRAVEL
 - 6" - 24" BROWN MEDIUM SAND
 - 24" - 60" BROWN VERY SANDY CLAY
 - 60" END OF BORING

RELOCATE - 50+35 MAILBOX 1340 14.2

03-17-001-017-01
VANDEBUNTE FARMS LLC
1435 128TH AVE
HOPKINS, MI 49328

RELOCATE - 54+45 MAILBOX 1330 14.8



- 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.
 - SAWCUT AND REMOVE EXISTING HMA PAVEMENT, REGRADE EXISTING DRIVE OR APPROACH AS REQUIRED AND SURFACE WITH APPROACH, CL II; 165#/SYD HMA, LVSP (LEVELING); AND 165#/SYD HMA, LVSP (TOP); (PAVING UNDER SEPARATE CONTRACT IN THE FUTURE)
 - SAWCUT AND REMOVE EXISTING CONCRETE PAVEMENT, REGRADE EXISTING DRIVE AS REQUIRED AND SURFACE WITH APPROACH, CL II; 165#/SYD HMA, LVSP (LEVELING); AND 165#/SYD HMA, LVSP (TOP); (PAVING UNDER SEPARATE CONTRACT IN THE FUTURE)

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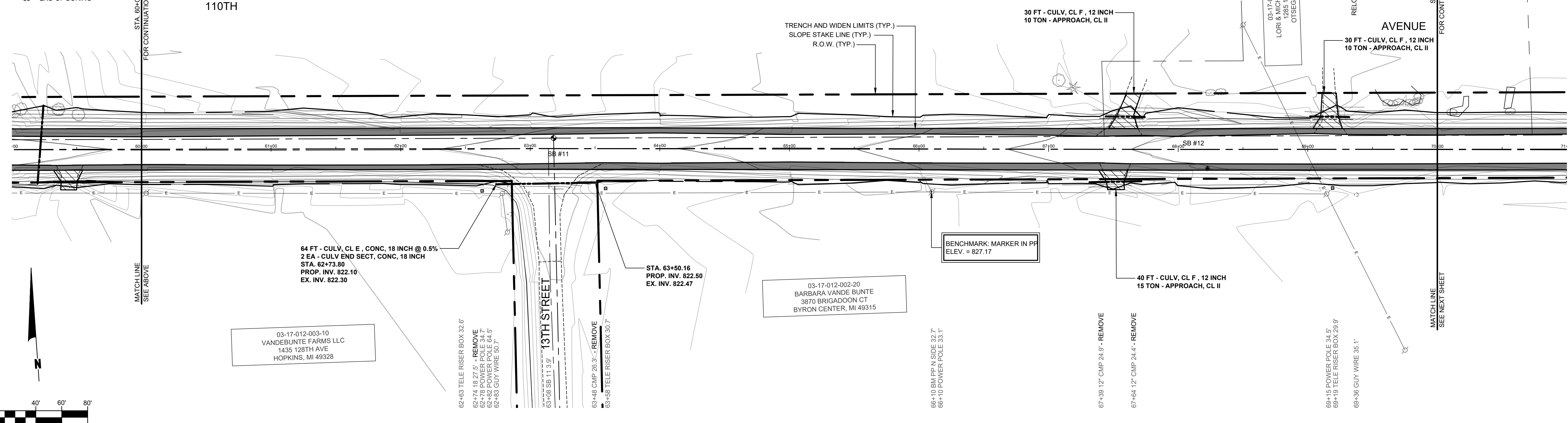
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- SOIL BORINGS**
- SB #11**
- 0 - 3" ASPHALT
 - 3" - 10" BROWN MEDIUM SAND AND FINE TO COARSE GRAVEL
 - 10" - 24" BROWN FINE TO MEDIUM SAND
 - 24" - 60" DARK GREYCLAYEY MEDIUM SAND TR FINE TO COARSE GRAVEL
 - 60" END OF BORING
- SB #12**
- 0 - 3" ASPHALT
 - 3" - 10" BROWN MEDIUM SAND AND FINE TO COARSE GRAVEL
 - 10" - 18" BROWN MEDIUM SAND
 - 18" - 30" DARK BROWN CLAYEY MEDIUM SAND TR COARSE GRAVEL
 - 30" - 60" BROWN SILTY SANDY CLAY
 - 60" END OF BORING

RELOCATE - 69+34 MAILBOX 1285 15.5

03-17-001-017-01
VANDEBUNTE FARMS LLC
1435 128TH AVE
HOPKINS, MI 49328



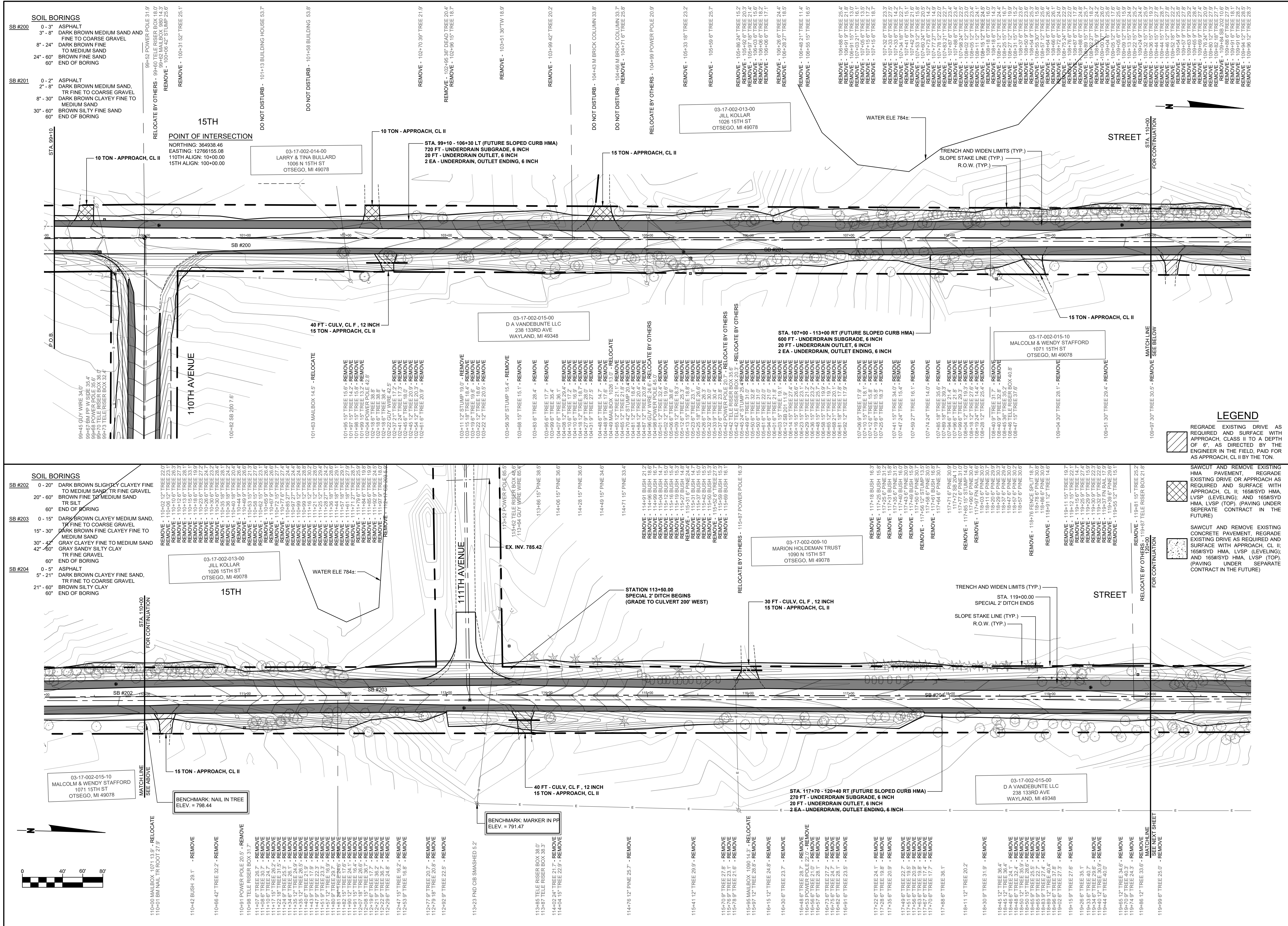
- LEGEND**
- REGRADE EXISTING DRIVE AS REQUIRED AND SURFACE WITH APPROACH, CLASS II TO A DEPTH OF 6", AS DIRECTED BY THE ENGINEER IN THE FIELD, PAID FOR AS APPROACH, CL II BY THE TON.
 - SAWCUT AND REMOVE EXISTING HMA PAVEMENT, REGRADE EXISTING DRIVE OR APPROACH AS REQUIRED AND SURFACE WITH APPROACH, CL II; 165#/SYD HMA, LVSP (LEVELING); AND 165#/SYD HMA, LVSP (TOP); (PAVING UNDER SEPARATE CONTRACT IN THE FUTURE)
 - SAWCUT AND REMOVE EXISTING CONCRETE PAVEMENT, REGRADE EXISTING DRIVE AS REQUIRED AND SURFACE WITH APPROACH, CL II; 165#/SYD HMA, LVSP (LEVELING); AND 165#/SYD HMA, LVSP (TOP); (PAVING UNDER SEPARATE CONTRACT IN THE FUTURE)

110TH AVE & 15TH ST RECONSTRUCTION PROJECT
OTSEGO TOWNSHIP - 111TH AVE TO TWP LINE

110TH PLAN - STA. 50+00 TO STA. 70+00

DRAWN BY: RPB
REVIEWED BY: JSE
DATE: JUNE, 2020
SCALE: 1"= 40'

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SOIL BORINGS

SB #200

- 0 - 3" ASPHALT
- 3 - 8" DARK BROWN MEDIUM SAND AND FINE TO COARSE GRAVEL
- 8 - 24" DARK BROWN FINE TO MEDIUM SAND
- 24 - 60" BROWN FINE SAND
- 60" END OF BORING

SB #201

- 0 - 2" ASPHALT
- 2 - 8" DARK BROWN MEDIUM SAND, TR FINE TO COARSE GRAVEL
- 8 - 30" DARK BROWN CLAY FINE TO MEDIUM SAND
- 30 - 60" BROWN SILTY FINE SAND
- 60" END OF BORING

SOIL BORINGS

SB #202

- 0 - 20" DARK BROWN SLIGHTLY CLAYEY FINE TO MEDIUM SAND, TR FINE GRAVEL
- 20 - 60" BROWN FINE TO MEDIUM SAND
- 60" TR SILT
- 60" END OF BORING

SB #203

- 0 - 15" DARK BROWN CLAYEY MEDIUM SAND, TR FINE TO COARSE GRAVEL
- 15 - 30" DARK BROWN FINE CLAYEY FINE TO MEDIUM SAND
- 30 - 42" GRAY CLAYEY FINE TO MEDIUM SAND
- 42 - 60" TR FINE GRAVEL
- 60" END OF BORING

SB #204

- 0 - 5" ASPHALT
- 5 - 21" DARK BROWN CLAYEY FINE SAND, TR FINE TO COARSE GRAVEL
- 21 - 60" BROWN SILTY CLAY
- 60" END OF BORING

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OTSEGO TOWNSHIP - 111TH AVE TO TWP LINE

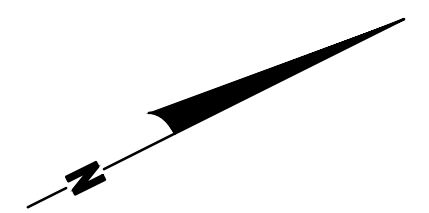
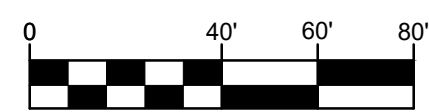
15TH PLAN - P.O.B. TO STA. 120+00

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.
- SAWCUT AND REMOVE EXISTING HMA PAVEMENT, REGRADE EXISTING DRIVE OR APPROACH AS REQUIRED AND SURFACE WITH APPROACH, CL II; 165#/SYD HMA, LVSP (LEVELING), AND 165#/SYD HMA, LVSP (TOP); (PAVING UNDER SEPARATE CONTRACT IN THE FUTURE)
- SAWCUT AND REMOVE EXISTING CONCRETE PAVEMENT, REGRADE EXISTING DRIVE AS REQUIRED AND SURFACE WITH APPROACH, CL II; 165#/SYD HMA, LVSP (LEVELING), AND 165#/SYD HMA, LVSP (TOP); (PAVING UNDER SEPARATE CONTRACT IN THE FUTURE)

DRAWN BY: RJB
REVIEWED BY: JPB
DATE: JUNE, 2020
SCALE: 1" = 40'

LH 40012 7



SOIL BORINGS

SB #205	0 - 5"	ASPHALT
	5" - 21"	DARK BROWN CLAYEY FINE TO MEDIUM SAND, TR FINE GRAVEL
	21" - 60"	BROWNISH GRAY SILT CLAY
	60"	END OF BORING
SB #206	0 - 5"	ASPHALT
	5" - 11"	BROWN CLAYEY MEDIUM SAND, TR FINE TO COARSE GRAVEL
	11" - 20"	DARK BROWN SILTY FINE SAND, TR FINE GRAVEL
	20" - 60"	BROWN SILTY CLAY
	60"	END OF BORING

120+04.67 TREE 38.8'
 120+08.67 TREE 35.9'
 120+21.67 TREE 28.4' - REMOVE
 120+25.67 TREE 31.6' - REMOVE
 120+33.15' TREE 35.7'
 120+37.67 TREE 33.1' - REMOVE
 120+40.15' TREE 30.8' - REMOVE
 120+48.15' TREE 33.2' - REMOVE
 120+70.12' TREE 29.3' - REMOVE
 120+75.12' TREE 42.8'
 120+79.67 TREE 36.6'
 120+84.12' TREE 41.6'
 120+88.12' TREE 34.6'
 120+89.12' TREE 29.6' - REMOVE
 120+98.12' TREE 33.3'
 121+20.67 TREE 27.8' - REMOVE
 121+25.67 TREE 38.8'
 121+33.67 TREE 29.5' - REMOVE
 121+36.21' TREE 32.8' - REMOVE
 121+43.67 TREE 34.3' - REMOVE
 121+55.67 TREE 24.5' - REMOVE
 121+71.16' TREE 29.6' - REMOVE
 121+72.17' TREE 31.8' - REMOVE
 121+78.67 TREE 34.5'

122+10.97 TREE 31.8' - REMOVE

122+25.97 TREE 25.1' - REMOVE

122+33.97 TREE 28.9' - REMOVE

122+37.67 TREE 39.4'

122+45.18' TREE 48.2'

122+68.67 TREE 38.0'

122+88.67 TREE 35.8'

123+15.15' TREE 33.9'

123+41.97 TREE 36.1'

123+47.97 TREE 36.7'

123+67.67 TREE 36.6'

123+73.18' TREE 32.1' - REMOVE

124+04 MAILBOX 1092 17.5' - REMOVE

124+20.15' TREE 39.6'

124+23.15' TREE 38.8'

124+46.67 TREE 33.8' - REMOVE

124+67.15' TREE 33.4'

124+69.67 TREE 33.1'

124+82.15' TREE 35.0'

125+05.97 TREE 38.1'

125+08.15' TREE 38.1'

125+47.21' TREE 45.3'

125+55.18' CMP 24.6' - REMOVE

125+66.67 TREE 44.7'

125+88.21' TREE 47.7'

125+85.15' TREE 38.5'

125+88.67 TREE 35.6'

126+01.67 TREE 31.9' - REMOVE

126+07.67 TREE 28.9' - REMOVE

126+08.67 TREE 33.2' - REMOVE

126+09.67 TREE 44.8'

126+46.67 TREE 21.0' - REMOVE

126+50.67 TREE 21.3' - REMOVE

126+60.15' TREE 29.0' - REMOVE

126+71.12' TREE 32.7' - REMOVE

126+87.15' TREE 31.9' - REMOVE

127+32.67 TREE 25.2' - REMOVE

127+34.67 TREE 27.7' - REMOVE

127+36.67 TREE 24.1' - REMOVE

127+49.15' TREE 23.6' - REMOVE

127+57.15' TREE 31.7' - REMOVE

127+64.97 TREE 30.9' - REMOVE

127+68.97 TREE 30.8' - REMOVE

REMOVE - 120+03.39' TREE 21.5'
 REMOVE - 120+23.15' TREE 12.0'
 REMOVE - 120+28.15' TREE 13.8'
 REMOVE - 120+39.15' TREE 22.5'
 REMOVE - 120+41.97' TREE 10.9'
 REMOVE - 120+42.97' TREE 21.7'
 REMOVE - 120+52.67' TREE 16.4'
 REMOVE - 120+69.67' TREE 20.7'
 REMOVE - 120+70.67' TREE 17.0'
 REMOVE - 120+98.67' TREE 15.2'
 REMOVE - 121+12.67' TREE 19.7'
 REMOVE - 121+33.12' TREE 20.3'
 REMOVE - 121+46.12' TREE 28.8'
 REMOVE - 121+48.67' TREE 21.3'
 REMOVE - 121+67.15' TREE 21.1'
 REMOVE - 121+80.97' TREE 12.1'

REMOVE - 122+09.97' TREE 18.8'
 REMOVE - 122+15.97' TREE 13.7'
 REMOVE - 122+27.67' TREE 17.1'
 REMOVE - 122+61.15' TREE 14.6'
 REMOVE - 122+61.97' TREE 13.7'
 REMOVE - 122+68.97' TREE 13.9'
 REMOVE - 122+76.16' TREE 10.3'
 REMOVE - 123+09.67' TREE 21.9'
 REMOVE - 123+15.15' TREE 9.6'
 REMOVE - 123+17.67' TREE 14.5'
 REMOVE - 123+20.67' TREE 10.3'
 REMOVE - 123+32.12' TREE 26.2'
 REMOVE - 123+48.12' TREE 22.7'
 123+61 POWER POLE 37.9'

REMOVE - 123+73.67' TREE 16.3'
 REMOVE - 123+83.12' TREE 19.9'
 REMOVE - 123+94.12' TREE 11.9'
 REMOVE - 123+99.67' TREE 14.4'

REMOVE - 124+67.67' TREE 14.1'
 REMOVE - 124+70.15' TREE 23.9'
 REMOVE - 124+87.67' TREE 17.4'
 REMOVE - 124+91.12' TREE 25.9'
 REMOVE - 124+93.15' TREE 32.0'
 REMOVE - 124+93.18' TREE 30.0'
 REMOVE - 125+09.67' TREE 22.0'
 REMOVE - 125+26.30' TREE 24.1'
 125+33.15' TREE 38.6'
 125+44.15' STUMP 40.8'
 125+54.18' CMP 20.3'

125+73.67' TREE 41.0'
 125+76.15' TREE 32.7'
 125+76.15' TREE 39.2'
 125+76.15' TREE 40.0'
 125+85.15' TREE 27.9'

REMOVE - 126+12.12' CMP 31.0'
 126+16.67' TREE 33.6'
 126+16.67' TREE 33.6'
 126+18 FND 12' IRON FENCE 52.7'
 126+25.21' TREE 54.7'
 126+26.15' TREE 40.0'
 126+42.67' TREE 35.7'
 126+51.12' TREE 30.1'

REMOVE - 126+70.21' TREE 35.5'
 REMOVE - 126+84.12' TRI 33.8'
 REMOVE - 126+96.12' TREE 22.1'

127+11 TELE RISER BOX 30.1'
 127+11 POWER POLE 32.0'
 REMOVE - 127+22.67' TREE 18.1'
 REMOVE - 127+29.67' TREE 28.3'
 REMOVE - 127+34.97' TREE 21.8'

REMOVE - 127+50.67' TREE 24.4'
 127+52.97' TREE 33.3'
 127+54.97' TREE 24.4'
 REMOVE - 127+64.97' TREE 23.1'
 REMOVE - 127+66.97' TREE 21.2'

03-17-002-009-00
 GREGORY & RENEE BOND
 1092 15TH ST
 OTSEGO, MI 49078

03-17-002-009-20
 LANCELOT BOND
 1092 15TH ST
 OTSEGO, MI 49078

STA. 125+53.80
 PROP. INV. 802.60
 EX. INV. 801.37

17-002-019-00
 JEFFREY CHERRINGTON
 1478 11TH AVENUE
 OTSEGO, MI 49078

BENCHMARK MARKER IN PP
 ELEV. = 816.39

40 FT - CULV, CL E, CONC, 18 INCH @ 3.8%
 2 EA - CULV END SECT, CONC, 18 INCH
 15 SYD - RIPRAP, PLAIN
 STA. 125+53.50
 PROP. INV. 806.60
 EX. INV. 799.61

TRENCH AND WIDEN LIMITS (TYP.)
 SLOPE STAKE LINE (TYP.)
 R.O.W. (TYP.)

STA. 121+70 - 125+00 LT (FUTURE SLOPED CURB HMA)
 330 FT - UNDERDRAIN SUBGRADE, 6 INCH
 20 FT - UNDERDRAIN OUTLET, 6 INCH
 2 EA - UNDERDRAIN, OUTLET ENDING, 6 INCH

10 TON - APPROACH, CL II

40 FT - CULV, CL F, 18 INCH
 15 TON - APPROACH, CL II

03-17-002-015-00
 D A VANDEBUNTE LLC
 238 133RD AVE
 WAYLAND, MI 49348

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.
- SAWCUT AND REMOVE EXISTING HMA PAVEMENT. REGRADE EXISTING DRIVE OR APPROACH AS REQUIRED AND SURFACE WITH APPROACH, CL II. 165#/SYD HMA, LVSP (LEVELING); AND 165#/SYD HMA, LVSP (TOP). (PAVING UNDER SEPARATE CONTRACT IN THE FUTURE)
- SAWCUT AND REMOVE EXISTING CONCRETE PAVEMENT. REGRADE EXISTING DRIVE AS REQUIRED AND SURFACE WITH APPROACH, CL II. 165#/SYD HMA, LVSP (LEVELING); AND 165#/SYD HMA, LVSP (TOP). (PAVING UNDER SEPARATE CONTRACT IN THE FUTURE)

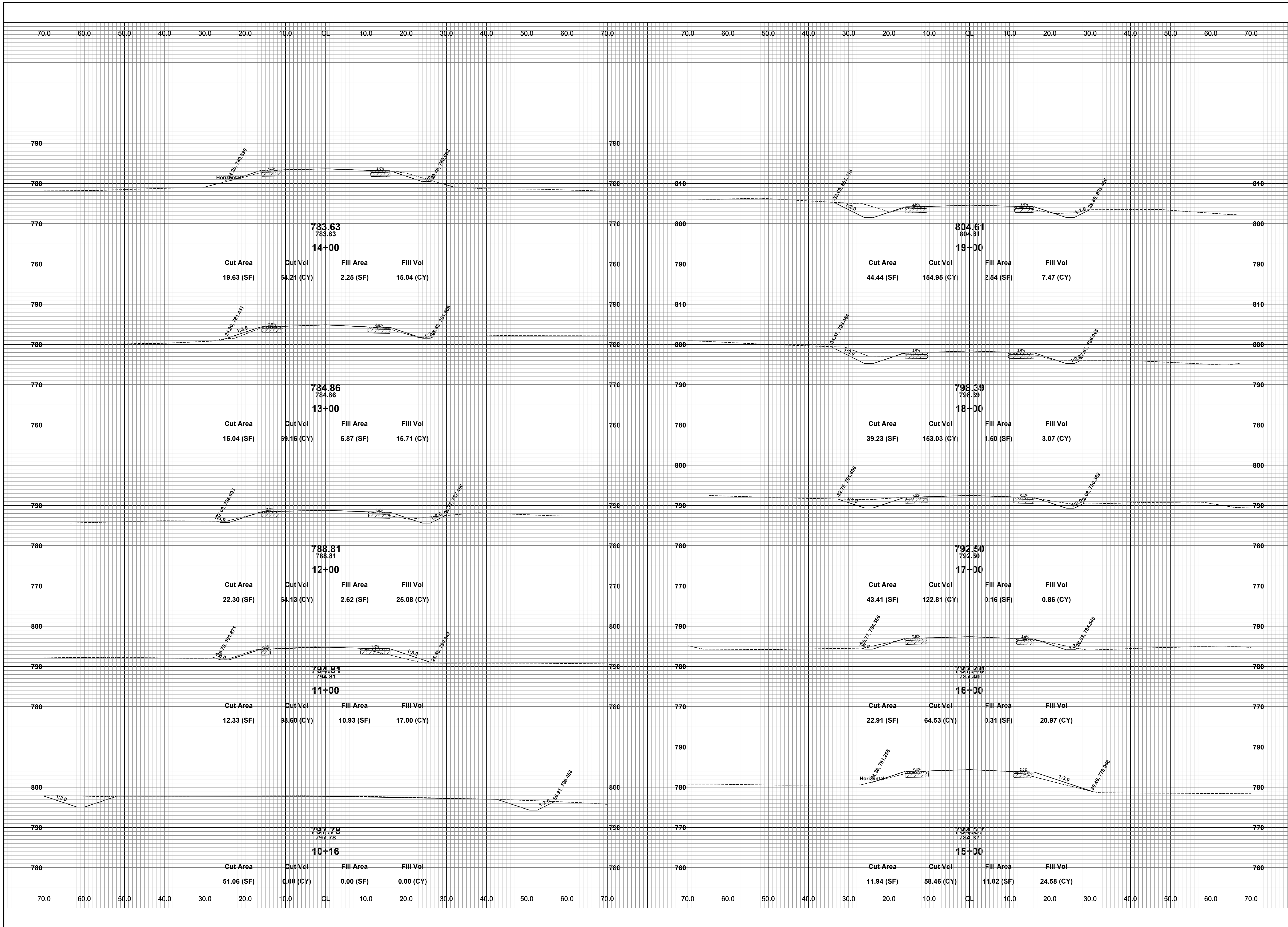
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110TH AVE & 15TH ST RECONSTRUCTION PROJECT
 OTSEGO TOWNSHIP - 111TH AVE TO TWP LINE
 15TH STREET PLAN - STA. 120+00 TO P.O.E.

DRAWN BY: RPB
 REVIEWED BY: JSE
 DATE: JUNE, 2020
 SCALE: 1"= 40'

LH 400012 8

Board of County Road Commissioners
Of Allegan County
 1308 LINCOLN ROAD
 ALLEGAN, MICHIGAN 49010-9762
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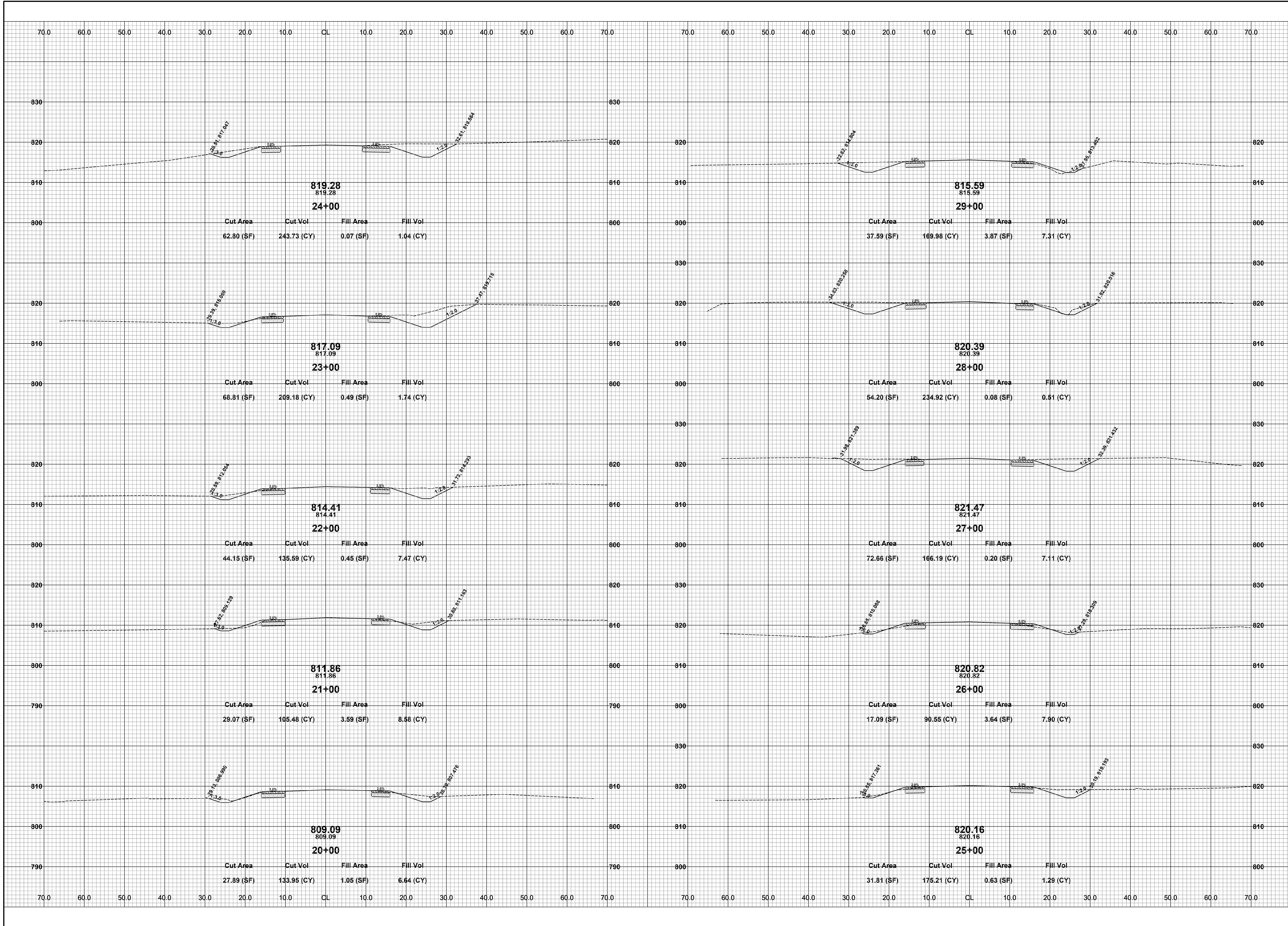
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110TH AVE & 15TH ST RECONSTRUCTION PROJECT
OTSEGO TOWNSHIP - 111TH AVENUE TO TWP LINE
110TH CROSS SECTIONS - P.O.B. TO STA. 19+00

DRAWN BY: RPB
REVIEWED BY: JSE
DATE: JULY, 2020
SCALE: 1"= 10'

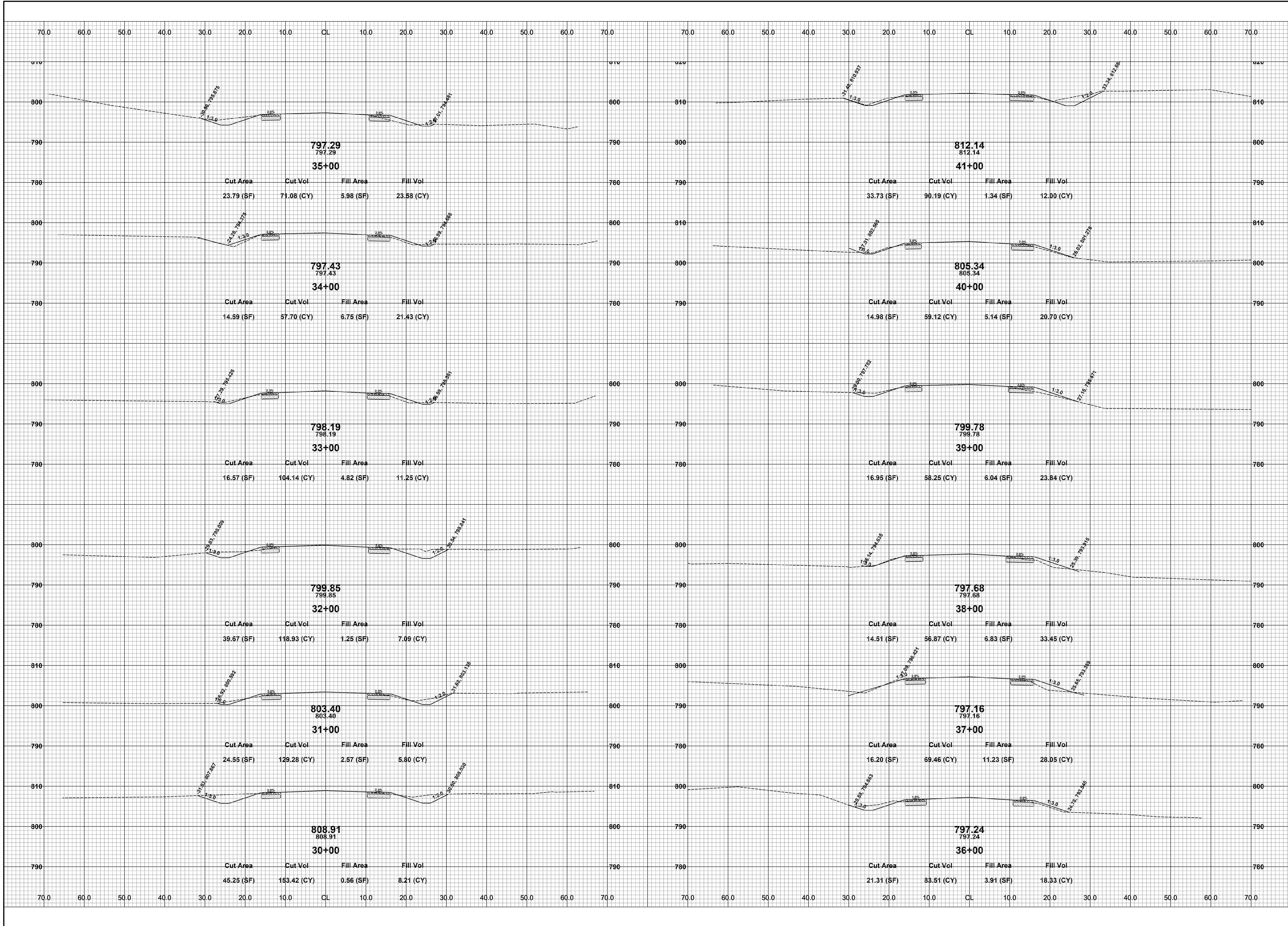


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110TH AVE & 15TH ST RECONSTRUCTION PROJECT
 OTSEGO TOWNSHIP - 111TH AVENUE TO TWP LINE
 110TH CROSS SECTIONS - STA. 20+00 TO STA. 29+00

DRAWN BY: RPB
 REVIEWED BY: JSE
 DATE: JULY, 2020
 SCALE: 1"= 10'



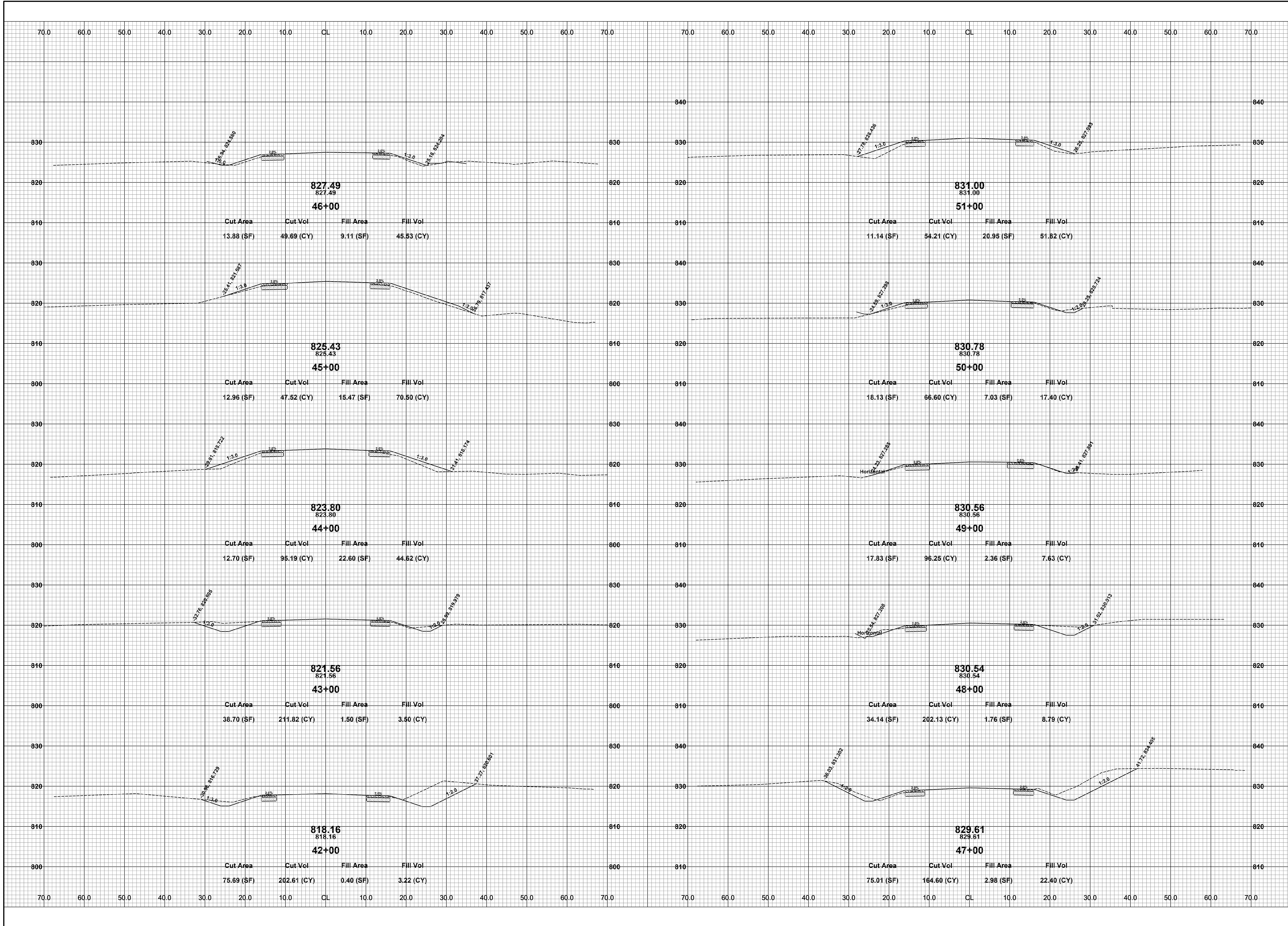
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110TH AVE & 15TH ST RECONSTRUCTION PROJECT
OTSEGO TOWNSHIP - 111TH AVENUE TO TWP LINE
110TH CROSS SECTIONS - STA. 30+00 TO STA. 41+00

DRAWN BY: RPB
REVIEWED BY: JSE
DATE: JULY, 2020
SCALE: 1"= 10'



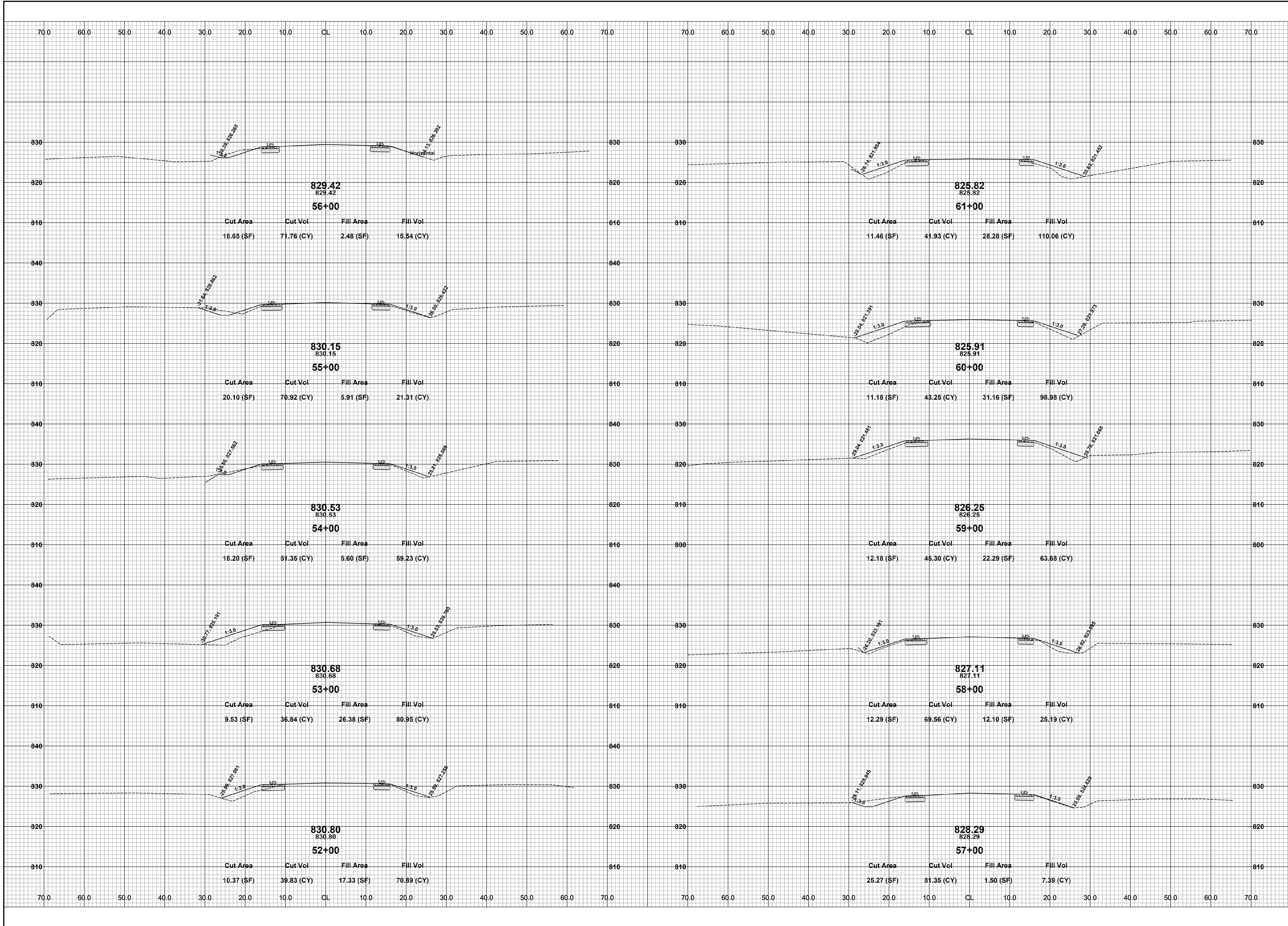
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110TH AVE & 15TH ST RECONSTRUCTION PROJECT
OTSEGO TOWNSHIP - 111TH AVENUE TO TWP LINE
110TH CROSS SECTIONS - STA. 42+00 TO STA. 51+00

DRAWN BY: RPB
REVIEWED BY: JSE
DATE: JULY, 2020
SCALE: 1"= 10'



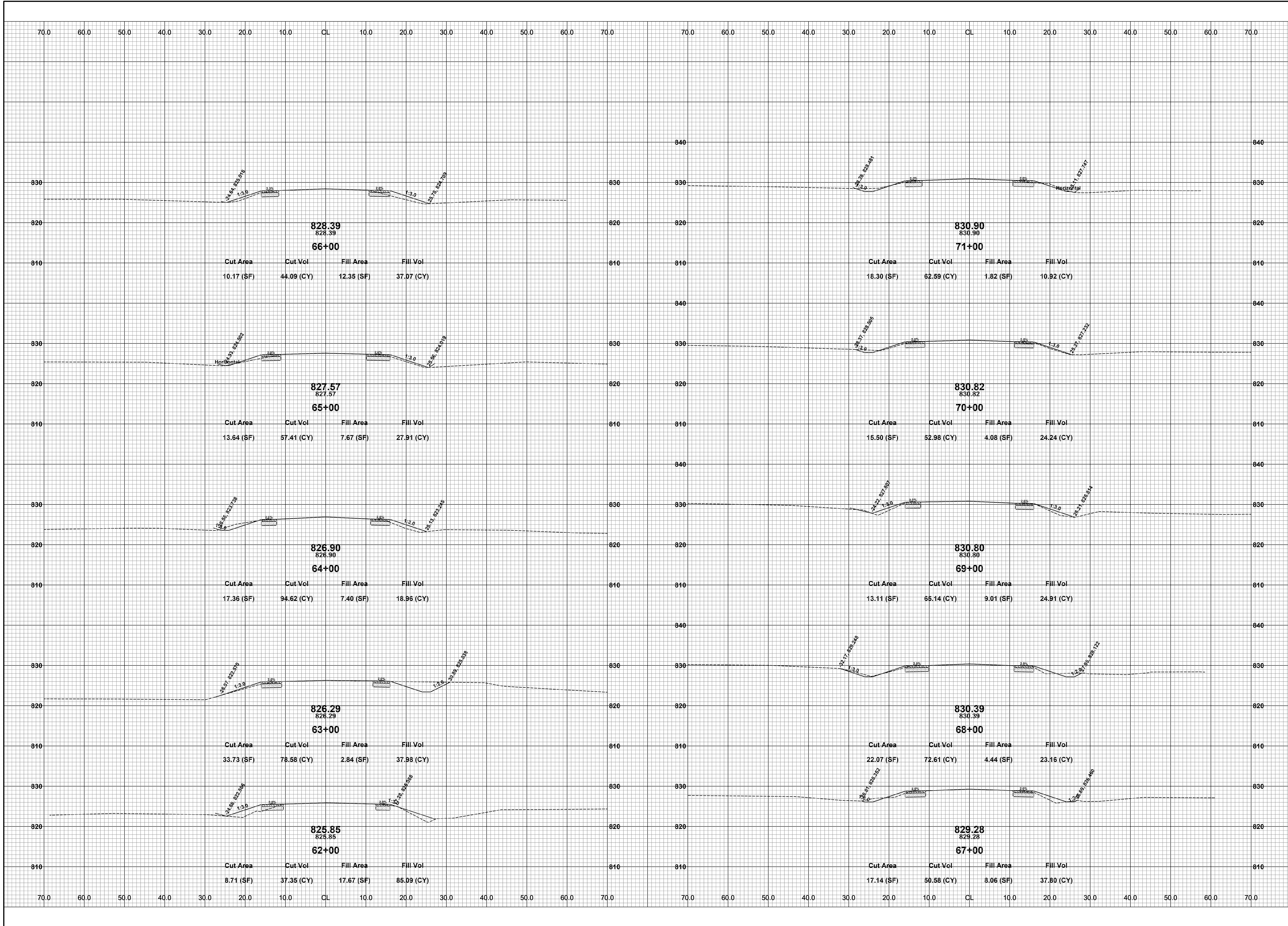
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110TH AVE & 15TH ST RECONSTRUCTION PROJECT
OTSEGO TOWNSHIP - 111TH AVENUE TO TWP LINE
110TH CROSS SECTIONS - STA. 52+00 TO STA. 61+00

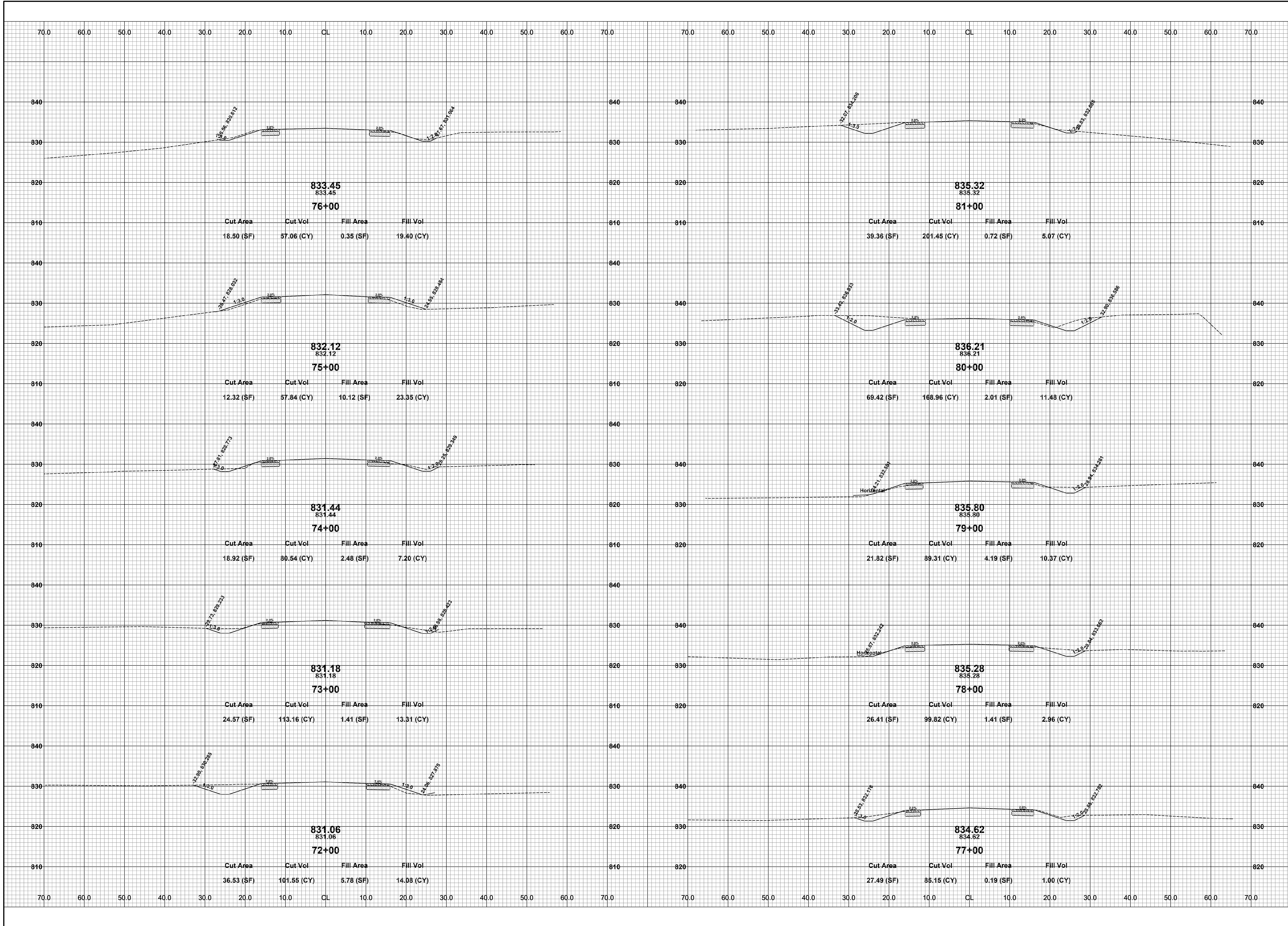
DRAWN BY: RPB
REVIEWED BY: JSE
DATE: JULY, 2020
SCALE: 1"= 10'



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110TH AVE & 15TH ST RECONSTRUCTION PROJECT
 OTSEGO TOWNSHIP - 111TH AVENUE TO TWP LINE
 110TH CROSS SECTIONS - STA. 62+00 TO STA. 71+00

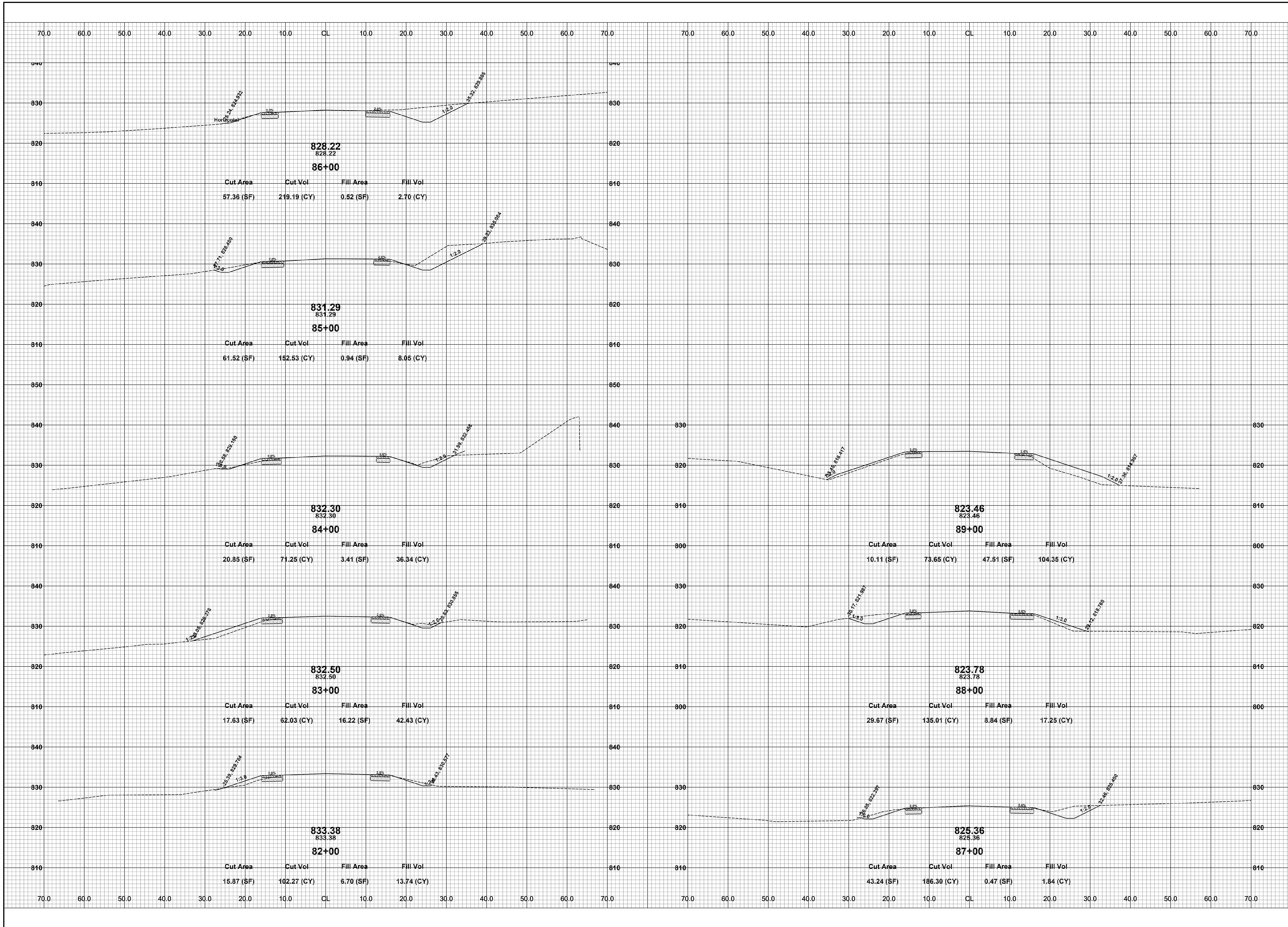
DRAWN BY: RPB
 REVIEWED BY: JSE
 DATE: JULY, 2020
 SCALE: 1"= 10'



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110TH AVE & 15TH ST RECONSTRUCTION PROJECT
 OTSEGO TOWNSHIP - 111TH AVENUE TO TWP LINE
 110TH CROSS SECTIONS - STA. 72+00 TO STA. 81+00

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 REVIEWED BY: JSE
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 SCALE: 1"= 10'

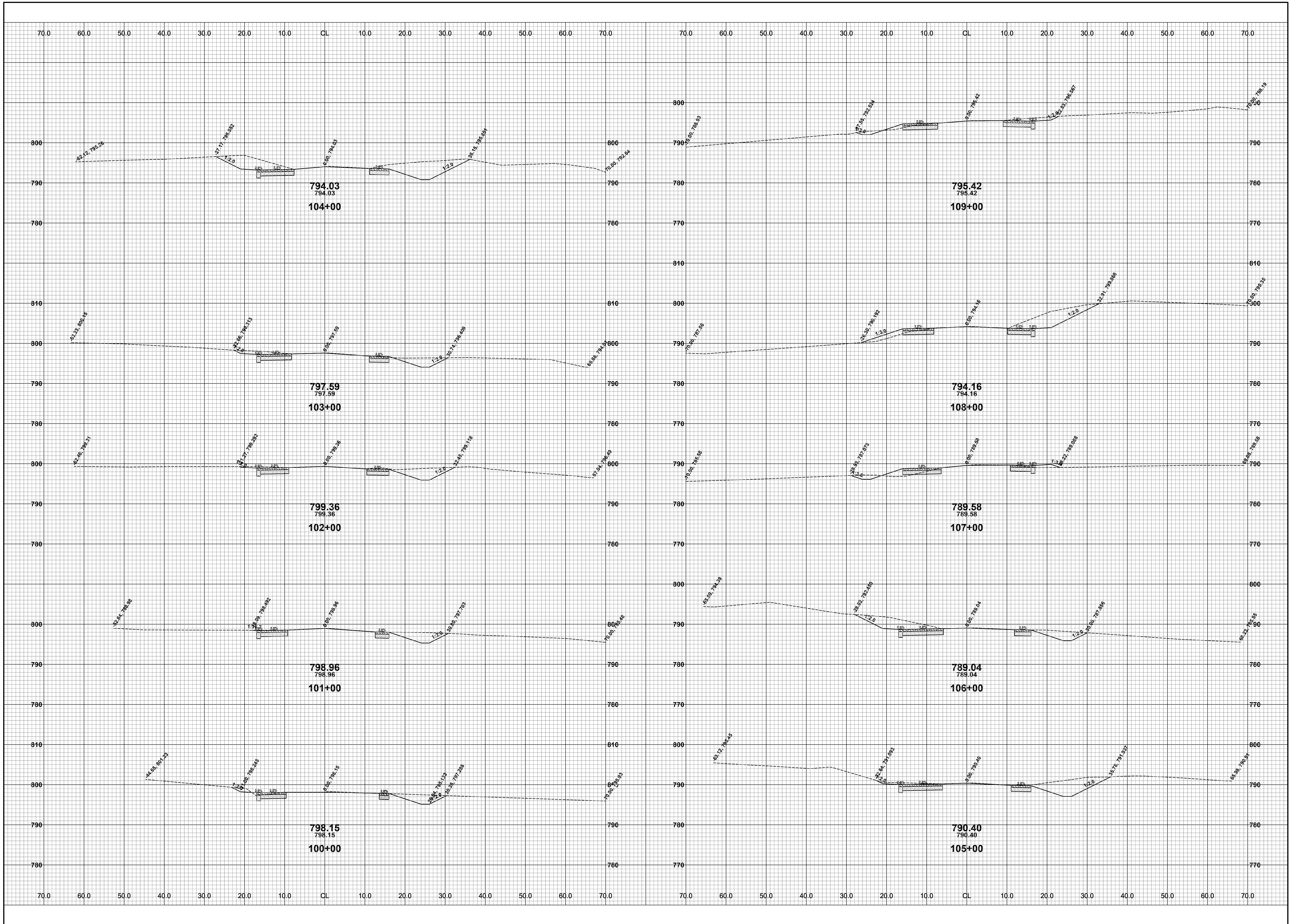


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110TH AVE & 15TH ST RECONSTRUCTION PROJECT
OTSEGO TOWNSHIP - 111TH AVENUE TO TWP LINE
110TH CROSS SECTIONS - STA. 82+00 TO P.O.E.

DRAWN BY: RPB
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SCALE: 1"= 10'



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110TH AVE & 15TH ST RECONSTRUCTION PROJECT
OTSEGO TOWNSHIP - 111TH AVENUE TO TWP LINE
15TH CROSS SECTIONS - STA. 100+00 TO STA. 109+00

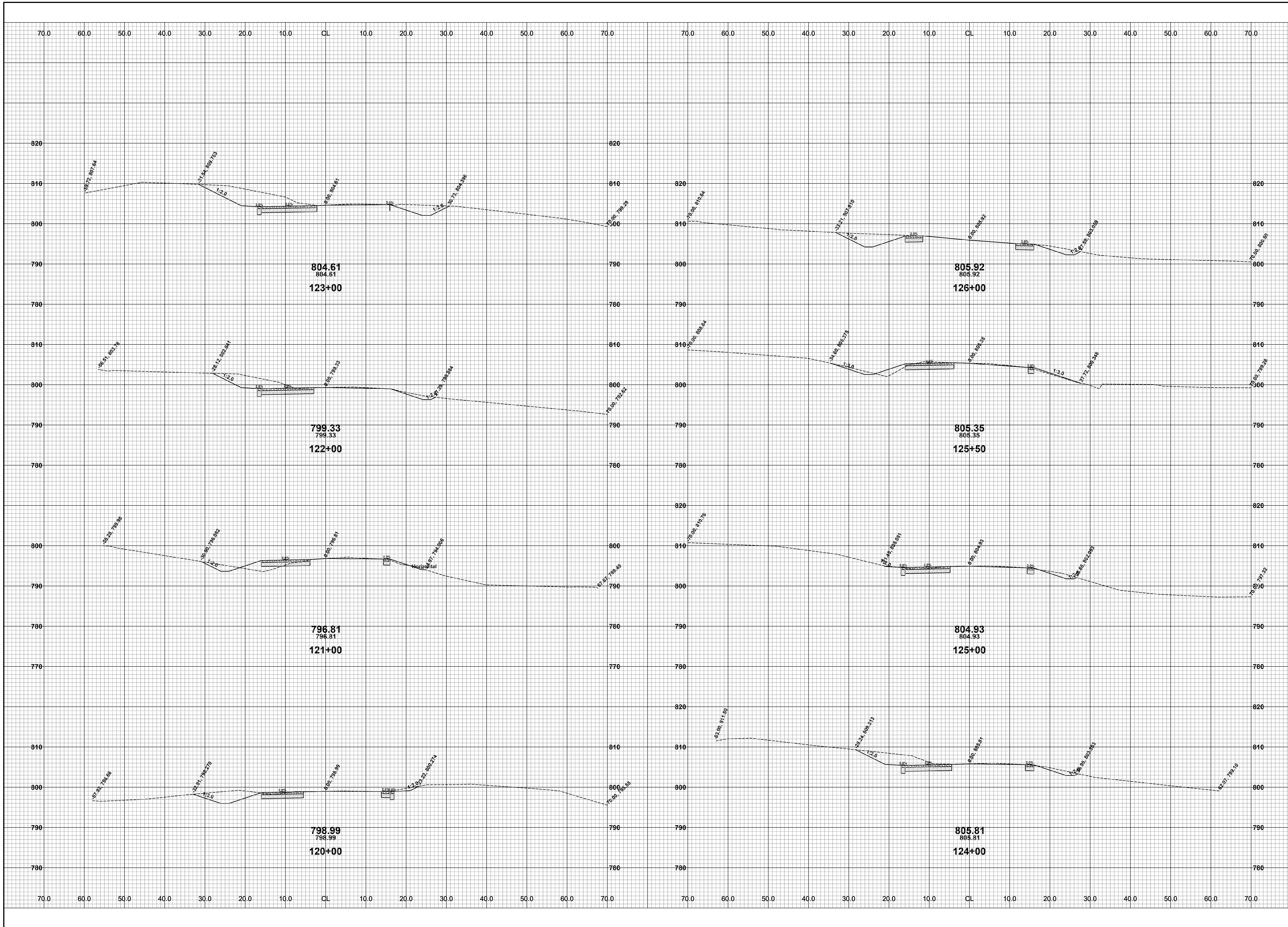
DRAWN BY: RPB
REVIEWED BY: JSE
DATE: JULY, 2020
SCALE: 1" = 10'



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110TH AVE & 15TH ST RECONSTRUCTION PROJECT
OTSEGO TOWNSHIP - 111TH AVENUE TO TWP LINE
15TH CROSS SECTIONS - STA. 110+00 TO STA. 119+00

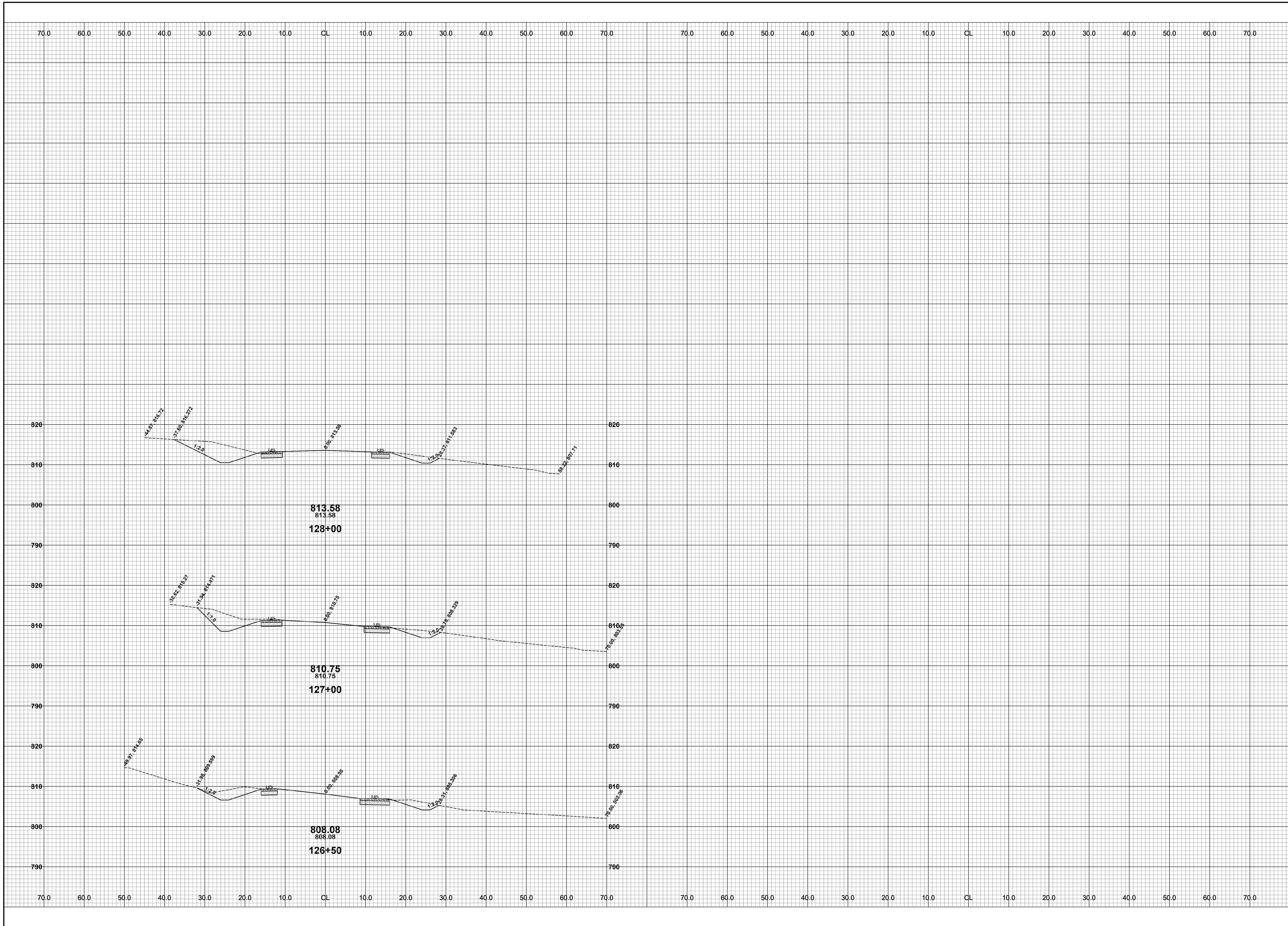
DRAWN BY: RPB
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SCALE: 1"= 10'



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110TH AVE & 15TH ST RECONSTRUCTION PROJECT
OTSEGO TOWNSHIP - 111TH AVENUE TO TWP LINE
15TH CROSS SECTIONS - STA. 120+00 TO STA. 126+00

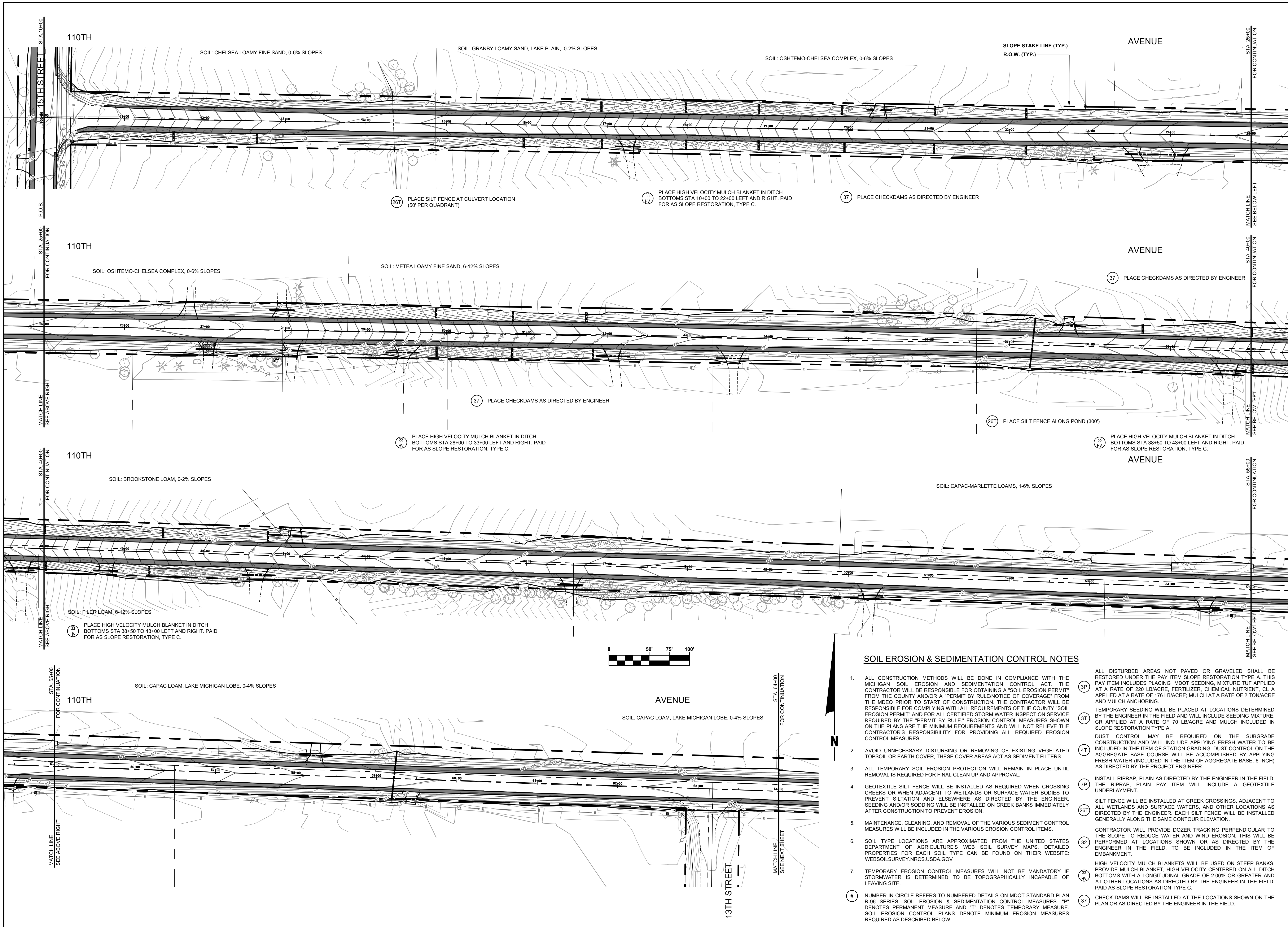
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SCALE: 1" = 10'



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110TH AVE & 15TH ST RECONSTRUCTION PROJECT
OTSEGO TOWNSHIP - 111TH AVENUE TO TWP LINE
15TH CROSS SECTIONS - STA. 127+00 TO P.O.E.

DRAWN BY: RPB
REVIEWED BY: JSE
DATE: JULY, 2020
SCALE: 1"= 10'



SOIL EROSION & SEDIMENTATION CONTROL NOTES

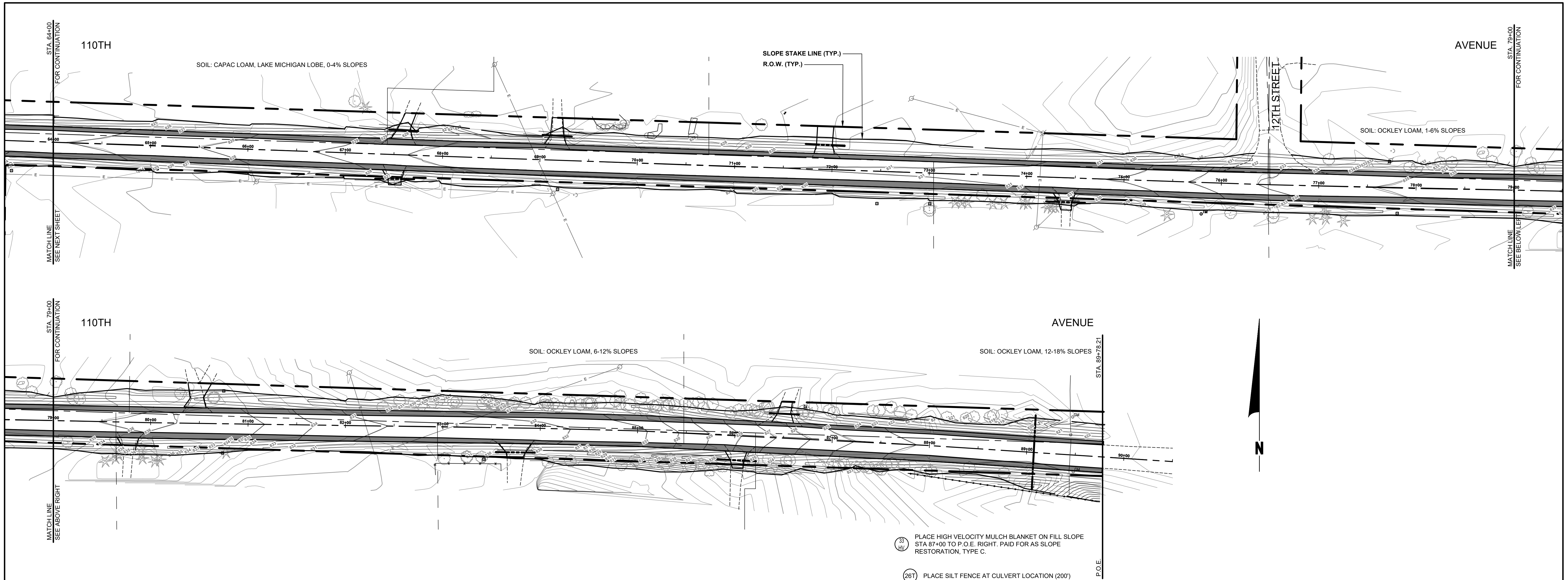
- ALL CONSTRUCTION METHODS WILL BE DONE IN COMPLIANCE WITH THE MICHIGAN SOIL EROSION AND SEDIMENTATION CONTROL ACT. THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING A "SOIL EROSION PERMIT" FROM THE MDEQ PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR COMPLYING WITH ALL REQUIREMENTS 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
 - TEMPORARY EROSION CONTROL MEASURES WILL NOT BE MANDATORY IF STORMWATER IS DETERMINED TO BE TOPOGRAPHICALLY INCAPABLE OF LEAVING SITE.
- (3P) ALL DISTURBED AREAS NOT PAVED OR GRAVELED SHALL BE RESTORED UNDER THE PAY ITEM SLOPE RESTORATION TYPE A. THIS PAY ITEM INCLUDES PLACING MDT 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.
 (3T) 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 INCLUDED IN SLOPE RESTORATION TYPE A.
 (4T) DUST CONTROL MAY BE REQUIRED ON THE SUBGRADE CONSTRUCTION AND WILL INCLUDE APPLYING FRESH WATER TO BE INCLUDED IN THE ITEM OF STATION GRADING. 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.
 (7P) INSTALL RIPRAP, PLAIN AS DIRECTED BY THE ENGINEER IN THE FIELD. THE RIPRAP, PLAIN PAY ITEM WILL INCLUDE A GEOTEXTILE UNDERLAYMENT.
 (26T) 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.
 (32) 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.
 (3H) 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, PAID AS SLOPE RESTORATION TYPE C.
 (37) CHECK DAMS WILL BE INSTALLED AT THE LOCATIONS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER IN THE FIELD.

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110TH AVE & 15TH ST RECONSTRUCTION PROJECT
 OTSEGO TOWNSHIP - 111TH AVE TO TWP LINE
 110TH AVE SOIL EROSION & SEDIMENTATION CONTROL PLAN P.O.B. TO 64+00

DRAWN BY: RPB
 REVIEWED BY: JSE
 DATE: JULY, 2020
 SCALE: 1" = 50'



- 33 PLACE HIGH VELOCITY MULCH BLANKET ON FILL SLOPE STA 87+00 TO P.O.E. RIGHT. PAID FOR AS SLOPE RESTORATION, TYPE C.
- 267 PLACE SILT FENCE AT CULVERT LOCATION (200')

SOIL EROSION & SEDIMENTATION CONTROL NOTES

1. 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 MDEQ 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.
 2. AVOID UNNECESSARY DISTURBING OR REMOVING OF EXISTING VEGETATED TOPSOIL OR EARTH COVER, THESE COVER AREAS ACT AS SEDIMENT FILTERS.
 3. ALL TEMPORARY SOIL EROSION PROTECTION WILL REMAIN IN PLACE UNTIL REMOVAL IS REQUIRED FOR FINAL CLEAN UP AND APPROVAL.
 4. 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. SEEDINGS AND/OR SODDING WILL BE INSTALLED ON CREEK BANKS IMMEDIATELY AFTER CONSTRUCTION TO PREVENT EROSION.
 5. MAINTENANCE, CLEANING, AND REMOVAL OF THE VARIOUS SEDIMENT CONTROL MEASURES WILL BE INCLUDED IN THE VARIOUS EROSION CONTROL ITEMS.
 6. 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
 7. TEMPORARY EROSION CONTROL MEASURES WILL NOT BE MANDATORY IF STORMWATER IS DETERMINED TO BE TOPOGRAPHICALLY INCAPABLE OF LEAVING SITE.
- # 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.
- 3P ALL DISTURBED AREAS NOT PAVED OR GRAVELED SHALL BE RESTORED UNDER THE PAY ITEM SLOPE RESTORATION TYPE A. 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.
 - 3T 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 INCLUDED IN SLOPE RESTORATION TYPE A.
 - 4T DUST CONTROL MAY BE REQUIRED ON THE SUBGRADE CONSTRUCTION AND WILL INCLUDE APPLYING FRESH WATER TO BE INCLUDED IN THE ITEM OF STATION GRADING. 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.
 - 7P INSTALL RIPRAP, PLAIN OR RIPRAP, HEAVY AS DIRECTED BY THE ENGINEER IN THE FIELD. THE RIPRAP, PLAIN AND RIPRAP, HEAVY PAY ITEMS WILL INCLUDE A GEOTEXTILE UNDERLAYMENT.
 - 267 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.
 - 32 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.
 - 33 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. PAID AS SLOPE RESTORATION TYPE C.
 - 37 CHECK DAMS WILL BE INSTALLED AT THE LOCATIONS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER IN THE FIELD.

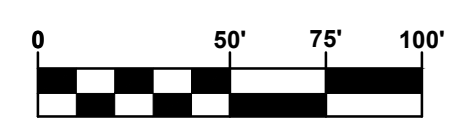
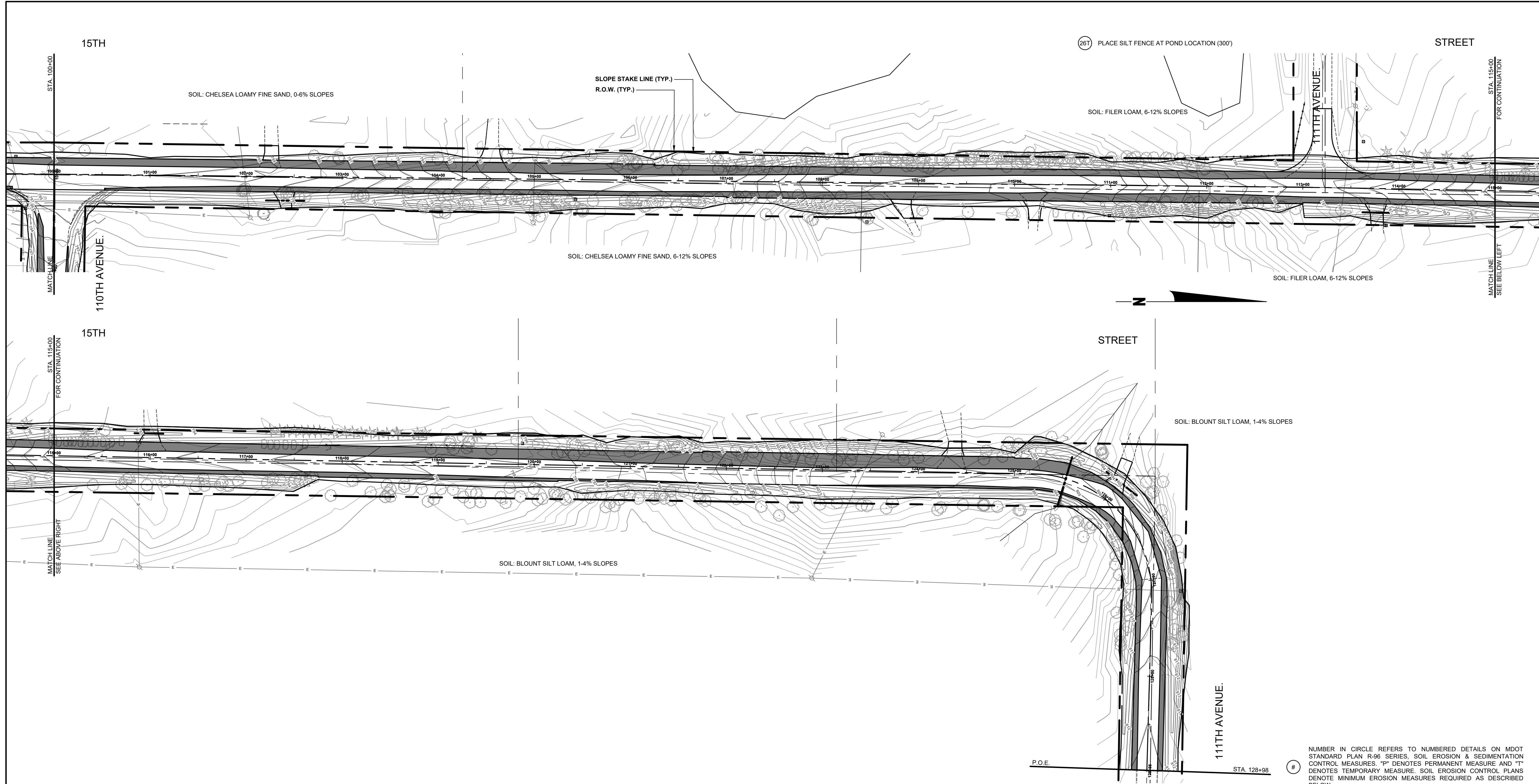
**Board of County Road Commissioners
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1308 LINCOLN ROAD
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110TH AVE & 15TH ST RECONSTRUCTION PROJECT
OTSEGO TOWNSHIP - 111TH AVE TO TWP LINE

110TH AVE SOIL EROSION & SEDIMENTATION CONTROL PLAN 64+00 TO P.O.E.

DRAWN BY: RPB
REVIEWED BY: JSE
DATE: JULY, 2020
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 MDEQ 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.
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