

x:\Data\Job 29041 - Cattaraugus County - Dayton Intersection\Drawings\PS&E Drawings (Final Design)\0 Title Sheet.dwg Thursday, 26 January 2017 9:31AM

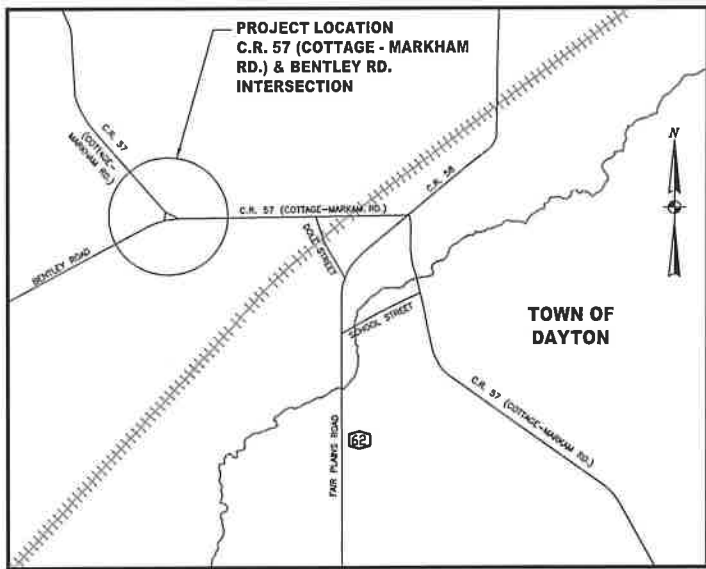
CATTARAUGUS COUNTY DEPARTMENT OF PUBLIC WORKS
PLANS FOR THE RECONSTRUCTION OF
**C.R. 57 (COTTAGE-MARKHAM ROAD)
AND BENTLEY ROAD INTERSECTION**
P.I.N. 5759.09

JOSEPH PILLITTERE, COMMISSIONER
8810 ROUTE 242
LITTLE VALLEY, NEW YORK 14755

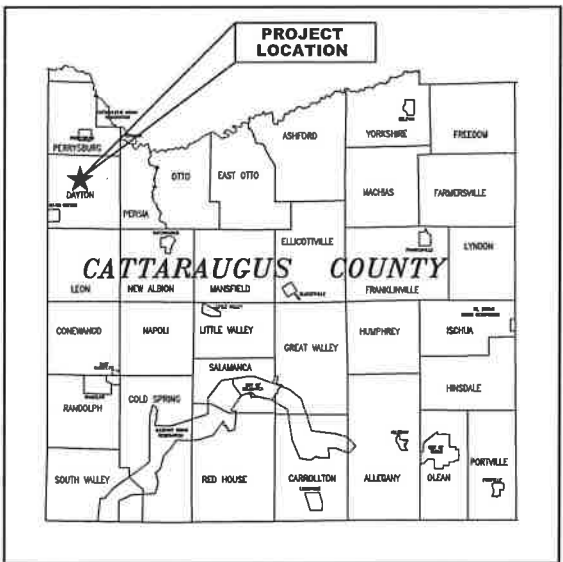
TOWN OF DAYTON

MARK C. BURR, P.E.
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JANUARY 2017

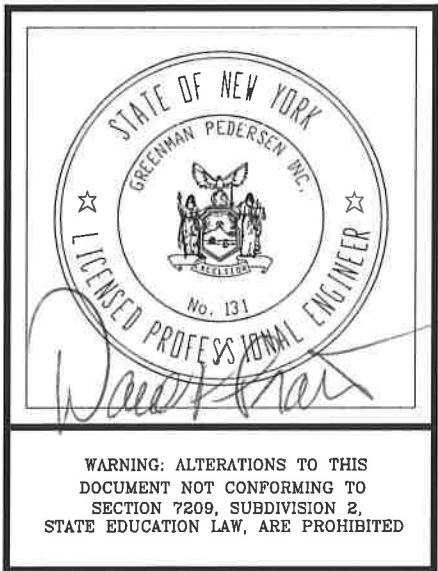


SITE LOCATION
SCALE: NONE



COUNTY LOCATION MAP
SCALE: NONE

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



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N.Y.S.D.O.T. STANDARD SHEETS:
203-01, 203-02, 203-04, 611-01,
619-3R1, 619-04, 619-05, 625-1R1,
645-50, 645-51, 645-52, 645-55,
646-04, 646-05, 685-01

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GENERAL NOTES	
1. CONSTRUCTION AND MATERIAL SPECIFICATIONS: STANDARD SPECIFICATIONS, CONSTRUCTION AND MATERIALS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, OFFICE OF ENGINEERING, US CUSTOMARY UNITS EDITION, DATED JANUARY 1, 2017 WITH CURRENT ADDITIONS AND MODIFICATIONS. 2. SUBSURFACE EXPLORATIONS HAVE BEEN MADE FOR THIS PROJECT AT THE LOCATIONS INDICATED ON THE GENERAL PLAN. BORING LOGS ARE INCLUDED IN THE PLAN SET. 3. UNLESS OTHERWISE INDICATED ON THE PLANS, WORK TO BE PERFORMED UNDER THIS CONTRACT DOES NOT REQUIRE THE DISTURBING, DESTRUCTION, OR REMOVAL OF ANY KNOWN MATERIALS CONTAINING ASBESTOS. 4. REFER TO SUBSECTION 107-05 OF THE STANDARD SPECIFICATIONS FOR SAFETY AND HEALTH REQUIREMENTS. 5. HIGH VOLTAGE ELECTRICAL LINES ARE IN PROXIMITY TO THIS PROJECT. REFER TO SUBSECTION 107-05 OF THE STANDARD SPECIFICATIONS FOR CONTRACTOR SAFETY REQUIREMENTS. 6. THE COST OF WATER USED FOR THE COMPACTION OF SELECT FILL ITEMS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE FILL ITEM. 7. MATERIALS EXCAVATED UNDER ITEM 206.01 MAY BE USED AS BORROW MATERIAL IF THE ENGINEER JUDGES SUCH MATERIALS TO BE SUITABLE. THESE EXCAVATION ITEMS ARE NOT REFLECTED IN THE EMBANKMENT ITEMS. 8. TREE STUMP REMOVALS SHALL BE INCLUDED UNDER BID ITEM 206.01 - CLEARING AND GRUBBING. NO ADDITIONAL PAYMENT WILL BE CONSIDERED.	
UTILITY NOTES	
1. LOCATION OF UTILITIES, PUBLIC AND/OR PRIVATE, INDICATED AS EXISTING AND/OR TO BE CONSTRUCTED AS SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THEIR EXACT LOCATION SHALL BE DETERMINED IN THE FIELD. ADDITIONAL UTILITY LINES, WHETHER ABANDONED OR IN SERVICE, MAY EXIST AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT HIS OPERATIONS AND TAKE THE NECESSARY PRECAUTIONS TO PREVENT INTERFERENCE WITH OR DAMAGE TO THESE OR OTHER FACILITIES DURING THE COURSE OF CONSTRUCTION. 2. WORK SHALL NOT COMMENCE UNTIL ALL UNDERGROUND UTILITIES HAVE BEEN STAKED OUT TO SHOW THEIR LOCATION EITHER INSIDE OR OUTSIDE OF THE WORK AREAS. RELOCATION OF EXISTING UTILITIES, ALTHOUGH NOT IN THE SCOPE OF THIS CONTRACT, MAY BE REQUIRED AS PART OF THIS PROJECT. 3. IN THE EVENT THE CONTRACTOR DAMAGES AN EXISTING UTILITY SERVICE CAUSING AN INTERRUPTION IN SAID SERVICE, HE SHALL IMMEDIATELY COMMENCE WORK TO RESTORE SERVICE AND MAY NOT CEASE HIS WORK OPERATION UNTIL SERVICE IS RESTORED. 4. THE METHOD OF REMOVAL OF EXISTING ROADWAY OR SHOULDER PAVEMENT IN THE IMMEDIATE VICINITY OF UNDERGROUND UTILITIES SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER. 5. OVERHEAD ELECTRIC LINES CROSS THE ROADWAY ALONG THE PROJECT AND MAY NEED TO BE TEMPORARILY SUPPORTED OR RELOCATED DURING CONSTRUCTION. REFER TO SUBSECTION 107-05 OF THE STANDARD SPECIFICATIONS FOR CONTRACTOR SAFETY REQUIREMENTS.	

MISCELLANEOUS NOTES	
1. NO ADDITIONAL PAYMENT WILL BE MADE FOR WORK CALLED FOR BY NOTES ON THE PLANS OR IN THE SPECIFICATIONS UNLESS PAYMENT IS SPECIFICALLY INDICATED BY ITEM NUMBER. THE COST OF WORK FOR WHICH NO PAYMENT ITEM IS INDICATED, SHALL BE INCLUDED IN THE UNIT PRICES BID FOR VARIOUS ITEMS OF THIS CONTRACT. 2. THE CONTRACTOR IS TO VISIT THE SITE BEFORE BIDDING, TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO JUDGE FOR HIMSELF THE EXTENT AND NATURE OF THE WORK TO BE DONE UNDER THIS CONTRACT. NO EXTRA COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR BECAUSE OF THE CONTRACTOR'S FAILURE TO INCLUDE IN HIS BID ALL ITEMS AND MATERIALS WHICH HE IS REQUIRED TO FURNISH IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. 3. ALL WORK AREAS WITH OPEN EXCAVATIONS SHALL BE COMPLETELY FENCED, CONFORMING WITH OSHA REGULATIONS, TO THE SATISFACTION OF THE ENGINEER, TO PROTECT THE PUBLIC AND PREVENT UNAUTHORIZED ENTRY. THE COST OF THIS WORK IS TO BE INCLUDED IN ITEM 619.01. 4. THE CONTRACTOR SHALL PROTECT HIS WORKERS AT ALL TIMES IN CONFORMANCE WITH APPLICABLE OSHA REGULATIONS. 5. IT WILL BE THE CONTRACTOR'S OBLIGATION AND RESPONSIBILITY TO USE METHODS AND EQUIPMENT WHICH WILL INSURE THE SATISFACTORY COMPLETION OF THE REQUIRED WORK WITH A MINIMUM OF DELAY. 6. PROTECTION OF THE PUBLIC: THE CONTRACTOR SHALL MAINTAIN AND PROTECT TRAFFIC IN ACCORDANCE WITH ITEM 619.01, THE TRAFFIC CONTROL DRAWINGS AND PERTINENT PROVISIONS OF THE NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (2009 EDITION). THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE REQUIREMENTS OF SECTION 107, LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC, OF THE STANDARD SPECIFICATIONS DATED MAY 1, 2008 INCLUDING CURRENT ADDITIONS AND MODIFICATIONS. 7. TREE CUTTING IS RESTRICTED. NO TREE CUTTING IS ALLOWED	

WORK ZONE TRAFFIC CONTROL NOTES	
1. WORK ZONE TRAFFIC CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 619-BASIC WORK ZONE TRAFFIC CONTROL, THE NYS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND ANY PROVISIONS CONTAINED IN THE PLANS AND/OR PROPOSAL OF THIS CONTRACT. 2. THE WORK ZONE TRAFFIC CONTROL SHOWN IS CONSIDERED TO BE THE MINIMUM REQUIREMENTS. ADDITIONAL SIGNS AND/OR CONTROL DEVICES MAY BE REQUIRED AS DIRECTED BY THE E.I.C. SIGN LOCATIONS SHOWN ARE APPROXIMATE ONLY, THE EXACT LOCATIONS MAY BE DETERMINED BY THE CONTRACTOR AND VERBALLY APPROVED BY THE PROJECT ENGINEER. 3. THE CONTRACTOR SHALL ENSURE THAT NO DETOUR/CONSTRUCTION SIGNS OBSCURE ANY EXISTING TRAFFIC CONTROL DEVICES WHICH ARE TO REMAIN IN EFFECT DURING CONSTRUCTION. 4. THE CONTRACTOR MUST SUBMIT ANY SIGNIFICANT PROPOSED MODIFICATIONS TO THIS PLAN FOR APPROVAL. ANY EXISTING SIGNS WHICH ARE TO REMAIN AND CONFLICT WITH DETOUR/CONSTRUCTION SIGNS SHALL BE EITHER COVERED OR REMOVED, STORED, AND RESET AS DIRECTED BY THE E.I.C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO THE EXISTING SIGNS DUE TO EITHER REMOVAL, STORAGE, RESETTING OR COVERING OF THE SIGNS AT NO ADDITIONAL COST TO THE COUNTY. 5. DETOUR SIGNS TO BE PLACED IN LOCATION AND COVERED WITH BURLAP, AND BARRICADES TO BE STORED ON SITE FOR USE (2) TWO DAYS PRIOR TO ROAD CLOSING. 6. THE CONTRACTOR SHALL NOT CLOSE THE ROAD UNTIL THE CLOSING DATE HAS BEEN APPROVED BY THE COUNTY IN WRITING. 7. ACCESS TO PRIVATE DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES DURING THE LIFE OF THE CONTRACT. TEMPORARY DRIVEWAYS SHALL BE PROVIDED AS NECESSARY. 8. THE CONTRACTOR SHALL NOT PARK HIS EQUIPMENT OVERNIGHT WHERE IT IS DEEMED A SAFETY HAZARD TO TRAFFIC. VEHICLES BELONGING TO THE CONTRACTOR OR HIS STAFF SHALL NOT BE PARKED ON THE PAVEMENT OR SHOULDERS ALONG A ROADWAY USED BY THE GENERAL PUBLIC. 9. REFER TO SHEET 5 FOR ADDITIONAL WORK ZONE TRAFFIC CONTROL NOTES.	

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SCALE: NONE
DATE: OCTOBER 2015
DRAWING NO.: 1

DETAILED BY: MC/REG
CHECKED BY: JEN
JOB NO.: 29041

NO. BY DATE

REVISIONS:

RECONSTRUCTION OF
C.R. 57 (COTTAGE-MARKHAM ROAD) AND
BENTLEY ROAD INTERSECTION
TOWN OF DAYTON
CATTARAUGUS COUNTY DEPARTMENT OF PUBLIC WORKS

GENERAL NOTES

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SHEET NO.
1-23

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FEATURE		SYMBOL	
		EXISTING	PROPOSED
SURVEYING DATA			
COORDINATE GRID			
SPOT ELEVATION	X 103.2		X 103.2
WATER ELEVATION	W.E. 102.5		
BENCH MARK	B.M. 12		
BASELINE POINT			
PERMANENT SURVEY MARKER			
POINT ON LINE (POL)			
NORTH ARROW (TRUE)			
NORTH ARROW (MAGNETIC)			
BASELINE			
CENTERLINE			
CONTOURS			
MAJOR ELEVATION CONTOUR	160		
MINOR ELEVATION CONTOUR	210		
DEPRESSION			
DEPRESSION (OBSTRUCTED)			
BOUNDARIES			
NATIONAL	CANADA U.S.A.		
STATE	NEW YORK PENNSYLVANIA		
COUNTY	BROOME CORTLAND		
TOWN	TOWN OF DICKINSON TOWN OF FENTON		
CITY OR VILLAGE	CITY OF BINGHAMTON PORT DICKINSON		
PUBLIC LAND			
HIGHWAY BOUNDARY			
PROPERTY LINE			
PROPERTY LINE MARKER	LP.		
TEMPORARY EASEMENT LINE	EASEMENT		
RIGHT OF WAY LINE & MON.	MON.		MON.
ACCESS INFORMATION	ROW WO/A ROW W/A		ROW WO/A ROW W/A
ACQUISITION INFORMATION			
FEE WITH ACCESS	FEE XX		FEE BHU-XX
TEMPORARY EASEMENT	TE XX		TE BHU-XX

FEATURE		SYMBOL	
		EXISTING	PROPOSED
TREES AND BRUSH			
WOODED AREA			
BRUSH			
DECIDUOUS TREE			
CONIFEROUS TREE			
DECIDUOUS BUSH			
CONIFEROUS BUSH			
HEDGE			
BRUSH LINE			
DECIDUOUS TREE ROW			
CONIFEROUS TREE ROW			
FOUNDATION PLANTING			
STUMP			
TREE TO BE REMOVED			
BUILDING AND SPECIAL SITES			
BUILDING	HOUSE		
BUILDING TO BE DEMOLISHED			
BUILDING UNDER CONSTRUCTION	U/C		
BRIDGE			
TUNNEL	TUNNEL		
SMOKESTACK	SMOKESTACK		
TANK, SILO, TOWER	TANK SILO		
DAM, LOCK, SPILLWAY	DAM SPILLWAY		
UNDERPASS			
CEMETERY	CEMETERY		
PATIO, CONCRETE PAD, STAIRS, CELLAR DOOR, SWIMMING POOL, ETC.	PATIO POOL		
MAILBOX	MB		MB
POST, FLAGPOLE, PARKING METER	FLAGPOLE		FP
POLE (NON-UTILITY)			
LIGHT POLE (NON-UTILITY)			
POST			

FEATURE		SYMBOL	
		EXISTING	PROPOSED
WATER LOCATIONS			
STREAM OR RIVER			
WATERFALLS OR RAPIDS	FALLS		
MINOR STREAM			
INTERMITTENT STREAM			
LAKE OR POND	LAKE		
DRY POND OR DRY STREAM	DRY POND		
SPRING			
MARSH OR SWAMP			
RIP-RAP			
WELL	WELL		
EDGE OF WATERWAY OR FEATURE			
ROUTE MARKERS			
INTERSTATE	5		5
STATE	5		5
COUNTY	5		5
COUNTY TOURING ROUTE SHIELD	2		2
TOWN	5		5
U.S.	5		5
ROADS			
PAVED ROADWAY DWY, PARK LOT			
UNPAVED RDWAY, DWY, PARK LOT			
SIDEWALK	S.W.		S.W.
CURB/DROP CURB			
CHANGE OF PAVEMENT			
FLUSH MEDIAN			
GUIDE RAIL OR BARRIER			
IMPACT ATTENUATOR			
BOX BEAM OR "W" BEAM RAIL			
BOX BEAM OR "W" BEAM MED. BARR.			
CABLE GUIDE RAIL			
CONCRETE BARRIER	CONC. BARR.		CONC. BARR.
RETAINING WALL	R.W.		R.W.
FENCE			
GUIDE POST			
STONE WALL			
BARRICADE			
BARREL			

FEATURE		SYMBOL	
		EXISTING	PROPOSED
TRAFFIC CONTROL			
TEMP. CONCRETE BARRIER			
TEMP. CONCRETE BARRIER LIGHTED			
CONSTRUCTION BARRICADE			
CONST. BARRICADE LIGHTED			
PLASTIC DRUM			
PLASTIC DRUM LIGHTED			
FLASHING ARROW BOARD			
CONE			
FLAGGER			
VARIABLE MESSAGE DISPLAY			VMD
SIGN AND BILLBOARDS			
SIGN (GROUND MOUNTED)			
SIGN (OVERHEAD)			
BILLBOARDS TWO POST SIGN	BB		BB
SIGN LOCATION AND MULTIPLE TEXT			
SIGN REMOVAL LOCATION			
SIGN TO BE REPLACED			
SIGN TO REMAIN			
DRAINAGE FACILITIES			
CULVERT			
CATCH BASIN	CB		CB
FIELD INLET	FI		FI
GRATE	GRATE		GRATE
DITCH LINE			
GUTTER	GUT.		GUT.
HEADWALL	HW		HW
END SECTION			
EROSION & SEDIMENTATION CONTROL			
STATE WETLAND			
FEDERAL WETLAND			
STATE/FED WETLAND			
ADJACENT AREA			
HAYBALE/STRAW BALE			
SILT FENCE			
VEGETATION FENCE			
SILT/VEG FENCE			
TURBIDITY CURTAIN			
SEDIMENT TRAP			
CHECK DAM (SILT FENCE)			S/F
CHECK DAM (HAYBALE/STRAWBALE)			H/S
CHECK DAM (STONE)			STO

FEATURE		SYMBOL	
		EXISTING	PROPOSED
UTILITY LINES			
OVERHEAD WIRE	OH		OH
TELEPHONE	T		T
CABLE T.V.	C		C
GAS	G		G
WATER MAIN	W		W
SANITARY SEWER	SAN		SAN
STORM SEWER	ST		ST
UTILITIES ABOVE GROUND			
UTILITY POLE	NYSE & G 47		
TRAFFIC SIGNAL			
FIRE HYDRANT			
PULLBOX STREET LIGHTS			
PULLBOX TRAFFIC SIGNALS			
TELEPHONE BOOTH			
PAPER BOX			
ELECTRIC METER	E		
GAS METER	G		
WATER METER	W		
WATER MANHOLE	W		W
SANITARY SEWER MANHOLE	SA		SA
TELEPHONE MANHOLE	T		T
GAS MANHOLE	G		G
CONTROL BOX SIGNALS, RR	TC BOX RR BOX		TC BOX RR BOX
GAS LINE MARKER			
STREET LIGHT			
STEEL SIGNAL POLE			
SIGNAL POLE W/ CONTROLLER			
CALL BOX POLICE, FIRE			
TRANS. LINE AND TOWERS			
TRANS. LINE AND POLES			
SUBSTATION	SUBSTATION		SUBSTATION
GUY WIRE W/ ANCHOR			
UTILITIES BELOW GROUND			
WATER VALVE	W.V.		W.V.
MANHOLE	M.H.		M.H.
UTILITY VALVE			
GAS VALVE			
UNDERGROUND	UG		UG

FEATURE		SYMBOL	
		EXISTING	PROPOSED
TOPOGRAPHY			
ROCK OUTCROP			
BIKE PATH	BIKE PATH		BIKE PATH
MAJOR TRAIL	TRAIL		
MINOR TRAIL OR PATH	TRAIL		TRAIL
PARKING BUMPER	PARKING		PARKING
STORAGE PILES	OPEN STORAGE DEBRIS		
QUARRY OR PIT	ACTIVE PIT		
ATHLETIC FIELD GOLF COURSE	ATHLETIC FIELD		
UNIDENTIFIABLE FEATURE			
PIER	PIER		
JETTY	JETTY		
AQUEDUCT	AQUEDUCT		
SAND OR MUD AREA	SAND		
BOULDER			
PLOWED FIELD	PLOWED FIELD		
ORCHARD OR NURSERY	ORCHARD		
CUT AND FILL LIMITS			
TOP OF CUT			
BOTTOM OF FILL			
GEOTECHNICAL			
BORING LOCATION	DNB-1		
SHEET PILING			
TOPOGRAPHY (UTILITIES)			
E	=	ELECTRIC	
E.M.H.	=	ELECTRIC MANHOLE	
G	=	GAS	
G.P.	=	GUY POLE	
G.S.B.	=	GAS SERVICE BOX (HOUSE LINE)	
G.V.	=	GAS VALVE (MAIN LINE)	
HYD.	=	HYDRANT	
L.P.	=	LIGHT POLE	
L.P.G.	=	LOW PRESSURE GAS	
M.P.G.	=	MEDIUM PRESSURE GAS	
U.T.P.	=	UTILITY POLE	
SA	=	SANITARY SEWER	
S.M.H.	=	SANITARY MANHOLE	
ST.	=	STORM SEWER	
T	=	TELEPHONE	
T.C.B.	=	TRAFFIC CONTROL BOX	
TEL. BOX	=	TELEPHONE BOX	
TEL. P.	=	TELEPHONE POLE	
T.M.H.	=	TELEPHONE MANHOLE	
TV.	=	CABLE TELEVISION	
W	=	WATER	
W.S.B.	=	WATER SERVICE BOX (HOUSE LINE)	
W.V.	=	WATER VALVE (MAIN LINE)	

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2-23

LEGEND & ABBREVIATIONS

ALIGNMENT		
AH.	=	AHEAD
AZ.	=	AZIMUTH
BK.	=	BACK
B	=	BASELINE
BRG.	=	BEARING
C	=	CENTERLINE
C.S.	=	CURVE TO SPIRAL
C.P.	=	CONTROL POINT
D _c	=	DEGREE OF CURVE
DIA.	=	DIAMETER
e.	=	CROSS SLOPE
EQ.	=	EQUALITY
EXT.	=	EXTERNAL
H.C.L.	=	HORIZONTAL CONTROL LINE
H.S.D.	=	HEADLIGHT SIGHT DISTANCE
L	=	LENGTH OF CIRCULAR CURVE
L.S.	=	LENGTH OF SPIRAL
L.V.C.	=	LENGTH OF VERTICAL CURVE
M.C.	=	CENTER CORRECTION OF VERTICAL CURVE
M	=	MAIN LINE
P.C.	=	POINT OF CURVATURE
P.I.	=	POINT OF INTERSECTION
P.O.L.	=	POINT ON LINE
P.S.D.	=	PASSING SIGHT DISTANCE
P.T.	=	POINT OF TANGENT
P.V.C.	=	POINT OF VERTICAL CURVE
P.V.I.	=	POINT OF VERTICAL INTERSECTION
P.V.T.	=	POINT OF VERTICAL TANGENT
R	=	RADIUS
S.C.	=	SPIRAL TO CURVE
S.S.D.	=	STOPPING SIGHT DISTANCE
S.T.	=	SPIRAL TO TANGENT
STA.	=	STATION
T	=	TANGENT LENGTH
T.G.L.	=	THEORETICAL GRADE LINE
T.S.	=	TANGENT TO SPIRAL
V.C.	=	VERTICAL CURVE
Z.	=	ELEVATION
△	=	DELTA ANGLE

TOPOGRAPHY (DRAINAGE)		
B.B.	=	BOTTOM OF BANK (STREAM)
B.C.	=	BOTTOM OF CURB
B.O.	=	BOTTOM OF OPENING
C.A.P.	=	CORRUGATED ALUMINUM PIPE
C.B.	=	CATCH BASIN
C.I.	=	CURB INLET
C.I.P.	=	CAST IRON PIPE
C STRM.	=	CENTERLINE OF STREAM
C.M.P.	=	CORRUGATED METAL PIPE
C.S.P.	=	CORRUGATED STEEL PIPE
C.S.P.A.	=	CORRUGATED STEEL PIPE ARCH
CULV.	=	CULVERT
D.I.	=	DROP INLET
D.M.H.	=	DRAINAGE MANHOLE
D.S.	=	DRAINAGE STRUCTURE
D'XING	=	DITCH CROSSING
E.H.W.	=	EXTREME HIGH WATER
EL.	=	ELEVATION
ELEV.	=	ELEVATION
E.L.W.	=	EXTREME LOW WATER
E.S.	=	END SECTION
F.I.	=	FIELD INLET
H.W.	=	HEADWALL
INV.	=	INVERT
M.H.	=	MANHOLE
M.H.W.	=	MEAN HIGH WATER
M.P.	=	METAL PIPE
O.H.W.	=	ORDINARY HIGH WATER
O.L.W.	=	ORDINARY LOW WATER
P.E.P.	=	POLYETHYLENE PIPE
P.I.	=	PAVED INVERT
R.C.P.	=	REINFORCED CONCRETE PIPE
S.D.G.	=	SPECIAL DITCH GRADE
S.I.C.P.P.	=	SMOOTH INTERIOR CORRUGATED POLY. PIPE

TOPOGRAPHY (DRAINAGE)		
T.B.	=	TOP OF BANK (STREAM)
T.C.	=	TOP OF CURB
T.G.	=	TOP OF GRATE
T.O.	=	TOP OF OPENING
V.C.P.	=	VITRIFIED CLAY PIPE
V.T.P.	=	VITRIFIED TILE PIPE

TOPOGRAPHY (MISCELLANEOUS)		
A/G	=	ABOVE GROUND
ABUT.	=	ABUTMENT
A.D.B.E.	=	AS DIRECTED BY ENGINEER
A.O.B.E.	=	AS ORDERED BY ENGINEER
ASPH.	=	ASPHALT
BDY.	=	BOUNDARY
B.I.N.	=	BRIDGE IDENTIFICATION NUMBER
BLDG.	=	BUILDING
B.M.	=	BENCH MARK
B.O.	=	BOTTOM OF OPENING
BR.	=	BRIDGE
BRK.HO.	=	BRICK HOUSE
C.B.HO.	=	CONCRETE BLOCK HOUSE
C.C.	=	CENTER TO CENTER
CONC.	=	CONCRETE
CONST.	=	CONSTRUCTION
C.R.	=	COUNTY ROAD
C.R.W.	=	CONCRETE RETAINING WALL
D.	=	DEED DISTANCE
D.M.	=	DIRECT MEASUREMENT
DWY.	=	DRIVEWAY
E.O.T.W.	=	EDGE OF TRAVELED WAY
E.O.S.	=	EDGE OF SHOULDER
F.B.	=	FULL BANK
F.P.	=	FENCE POST
FD.	=	FOUNDATION
F.L.	=	FENCE LINE
FR.HO.	=	FRAME HOUSE
GAR.	=	GARAGE
GR.	=	GRAVEL
HSE.	=	HOUSE
HWY.	=	HIGHWAY
I.P.	=	IRON PIN OR IRON PIPE
M.	=	MEASURED DISTANCE
M.B.	=	MAILBOX
MON.	=	MONUMENT
N&R	=	NAIL AND RED
N&W	=	NAIL AND WASHER
O.G.	=	ORIGINAL GROUND
O/H	=	OVERHEAD
P.	=	PARCEL
PAV'T.	=	PAVEMENT
P.E.	=	PERMANENT EASEMENT
PED. POLE	=	PEDESTRIAN POLE
R	=	PROPERTY LINE
POR.	=	PORCH
RR.	=	RAILROAD
RTE.	=	ROUTE
R.O.W.	=	RIGHT OF WAY
R.O.W. W/A	=	RIGHT OF WAY WITH ACCESS
R.O.W. WO/A	=	RIGHT OF WAY WITHOUT ACCESS
R.W.	=	RETAINING WALL
S.H.	=	STATE HIGHWAY
SHLDR.	=	SHOULDER
SPK.	=	SPIKE
ST.	=	STREET
STK.	=	STAKE
STO.HO.	=	STONE HOUSE
STY.	=	STORY
S.W.	=	SIDEWALK
T.E.	=	TEMPORARY EASEMENT
T.L.	=	TREE LINE
T.O	=	TEMPORARY OCCUPANCY
U/G	=	UNDERGROUND
W.W.	=	WING WALL

ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY
201.06	CLEARING AND GRUBBING	L.S.	1
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	C.Y.	3100
203.03	EMBANKMENT IN PLACE	C.Y.	550
203.25	SAND BACKFILL	C.Y.	275
206.0201	TRENCH AND CULVERT EXCAVATION	C.Y.	350
207.22	GEOTEXTILE DRAINAGE	S.Y.	600
209.110201	CHECK DAM (DITCH WIDTH 0'-3') GRAVEL BAG TEMPORARY	EA.	4
209.13	SILT FENCE - TEMPORARY	L.F.	2920
209.22	STABILIZED CONSTRUCTION ENTRANCE	S.Y.	120
304.15	SUBBASE COURSE, OPTIONAL TYPE	C.Y.	2000
402.377902	37.5 F9 BASE COURSE HMA, 70 SERIES COMPACTION	TON	1000
402.377912	PLANT PRODUCTION QUALITY ADJUSTMENT TO 402.377902	Q.U.	50
402.197902	19 F9 BINDER COURSE HMA, 70 SERIES COMPACTION	TON	840
402.197912	PLANT PRODUCTION QUALITY ADJUSTMENT TO 402.197902	Q.U.	42
402.097302	9.5 F3 TOP COURSE HMA, 70 SERIES COMPACTION	TON	520
402.097312	PLANT PRODUCTION QUALITY ADJUSTMENT TO 402.097302	Q.U.	25
407.0102	DILUTED TACK COAT	GAL.	625
490.30	MISCELLANEOUS COLD MILLING OF BITUMINOUS CONCRETE	S.Y.	250
605.1001	UNDERDRAIN FILTER, TYPE II	C.Y.	70
605.1503	PERFORATED CORRUGATED POLYETHYLENE UNDERDRAIN TUBING (8")	L.F.	582
607.41010010	TEMPORARY PLASTIC BARRIER FENCE	L.F.	215
610.1401	TOPSOIL - REUSE ON-SITE MATERIALS	C.Y.	575
610.1601	ESTABLISHING TURF - ROADSIDE	S.Y.	6310
610.1602	ESTABLISHING TURF - LAWNS	S.Y.	565
619.01	BASIC WORK ZONE TRAFFIC CONTROL	L.S.	1
619.04	TYPE III CONSTRUCTION BARRICADES	EA.	23
619.27	MAILBOXES	EA.	1
623.12	CRUSHED STONE (IN PLACE MEASURE)	C.Y.	30
625.01	SURVEY OPERATIONS	L.S.	1
625.05	STEEL PIN & CAP RIGHT OF WAY MARKERS	EA.	8
627.50140008	CUTTING PAVEMENT	L.F.	60
637.11	ENGINEER'S FIELD OFFICE - TYPE I	MOS.	6
637.34	OFFICE TECHNOLOGY AND SUPPLIES	D-C	750
640.10	WHITE PAINT REFLECTORIZED PAVEMENT STRIPES, (15 MILS)	L.F.	3300
640.11	YELLOW PAINT REFLECTORIZED PAVEMENT STRIPES, (15 MILS)	L.F.	2900
645.5101	GROUND MOUNTED SIGN PANELS WITHOUT "Z" BARS	S.F.	78
645.81	TYPE "A" SIGN POSTS (1½" SQUARE UNISTRUT POSTS)	EA.	19
647.31	RELOCATE SIGN PANEL - SIZE I (<30 SF)	EA.	4
647.41	REMOVE AND STORE SIGN PANEL - SIZE I (<30 SF)	EA.	11
697.03	FIELD CHANGE PAYMENT	D-C	1
698.04	ASPHALT PRICE ADJUSTMENT	D-C	100
698.05	FUEL PRICE ADJUSTMENT	D-C	100
699.040001	MOBILIZATION	L.S.	1

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(716) 633-4844 FAX (716) 633-4940

SCALE: NONE
DATE: OCTOBER 2015
DRAWING NO.: 3

DRAWN BY: MC/RGC
CHECKED BY: JEN
JOB NO.: 29041

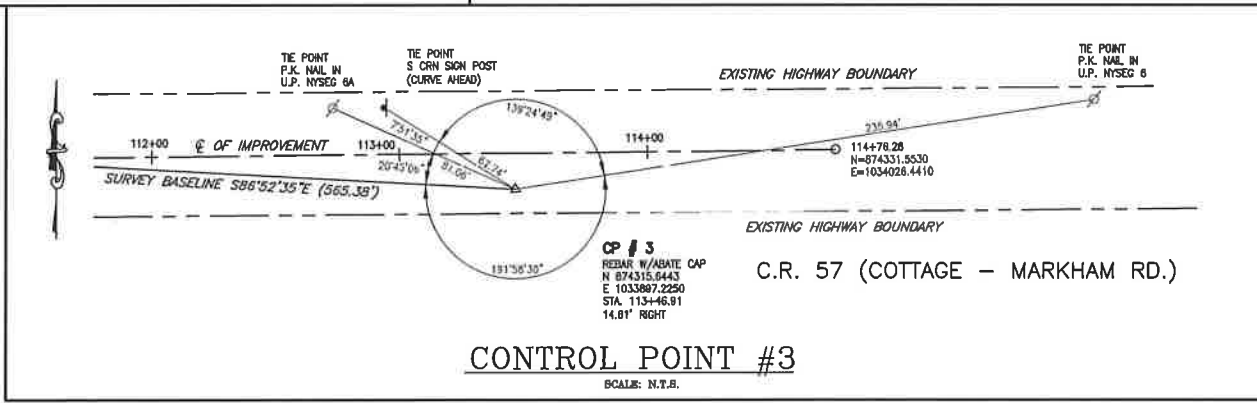
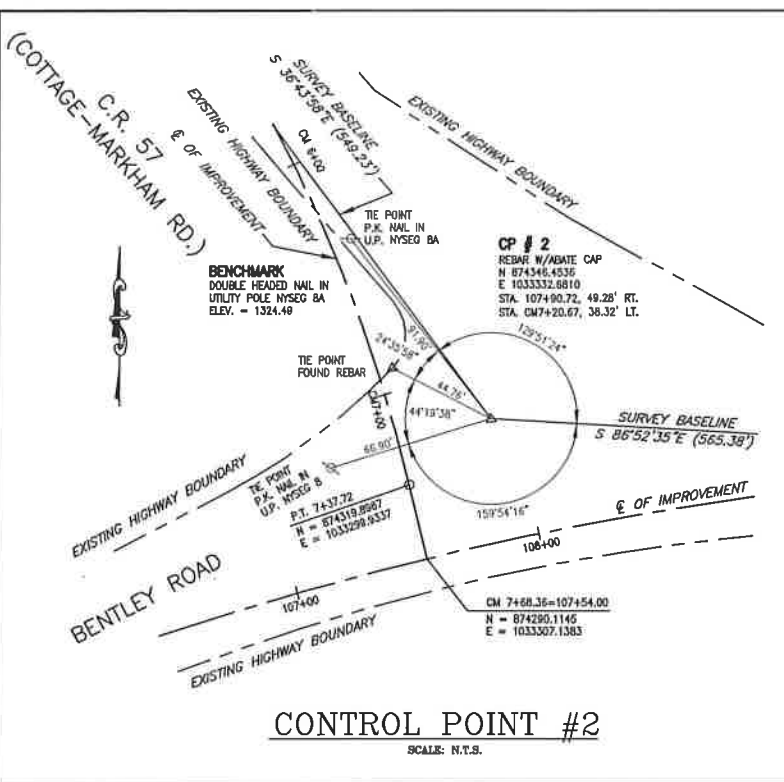
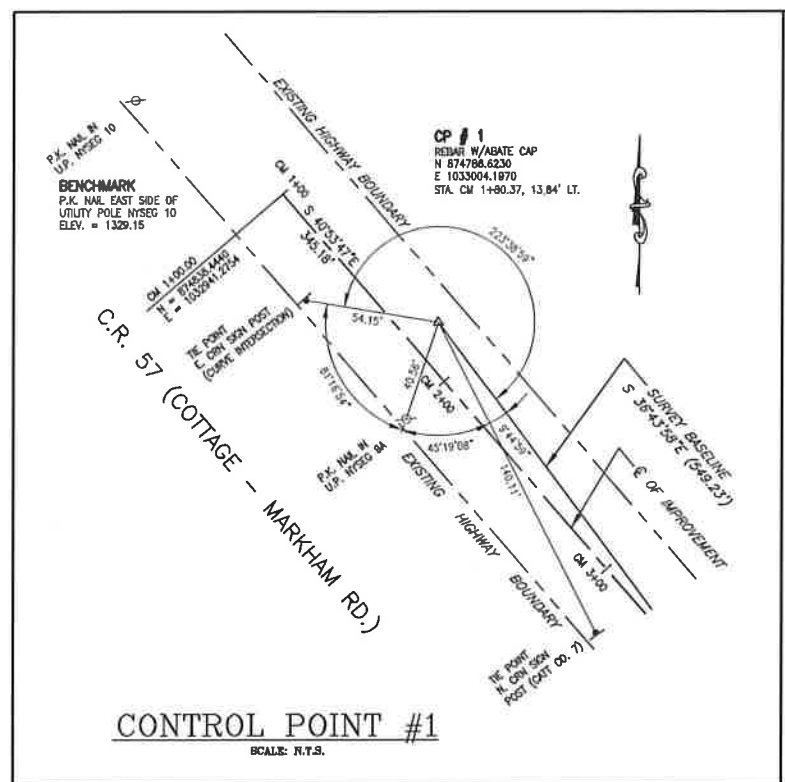
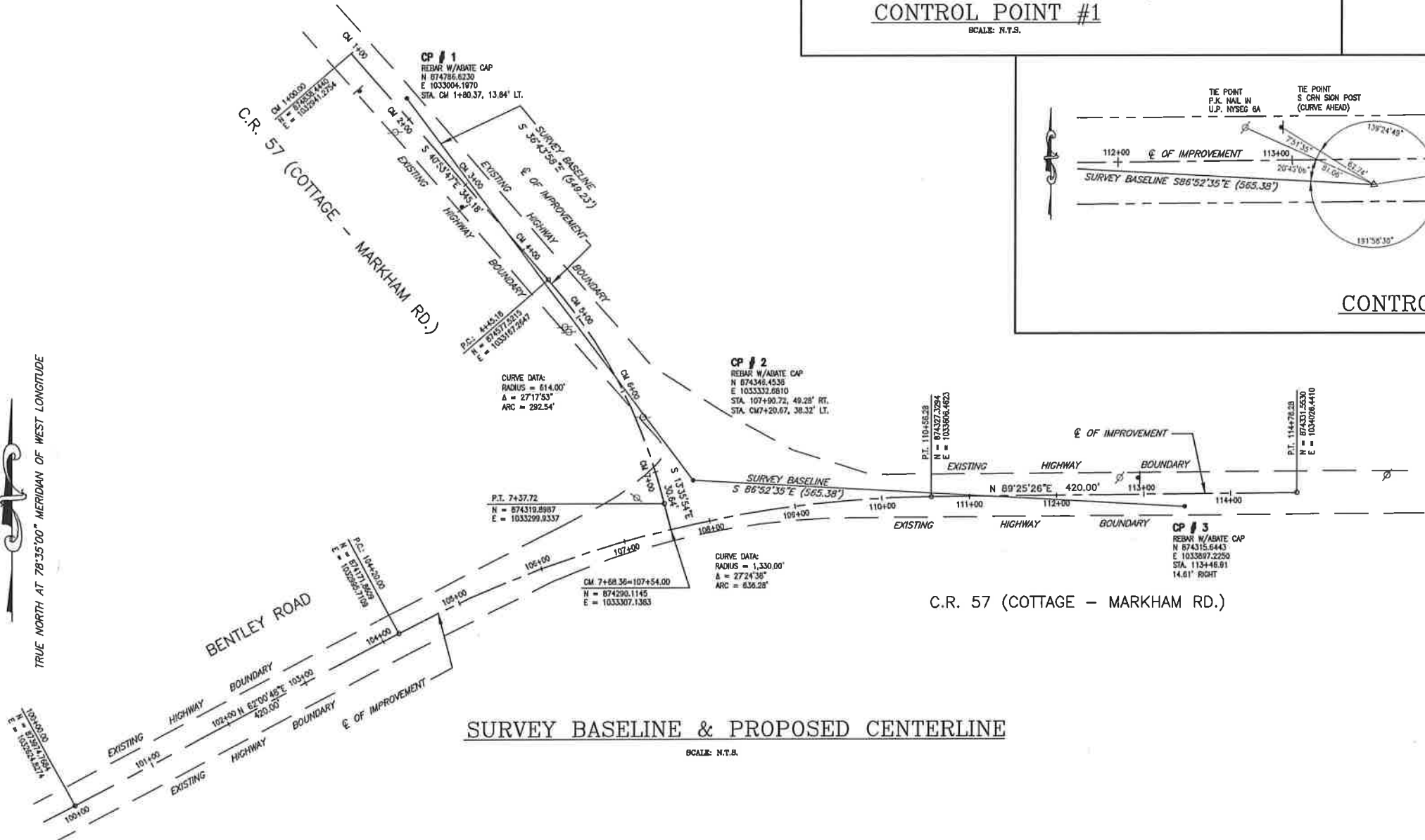
REVISIONS:
NO. BY DATE

RECONSTRUCTION OF
C.R. 57 (COTTAGE-MARKHAM ROAD) AND
BENTLEY ROAD INTERSECTION
TOWN OF DAYTON
CATTARAUGUS COUNTY DEPARTMENT OF PUBLIC WORKS

ABBREVIATIONS & QUANTITIES TABLE

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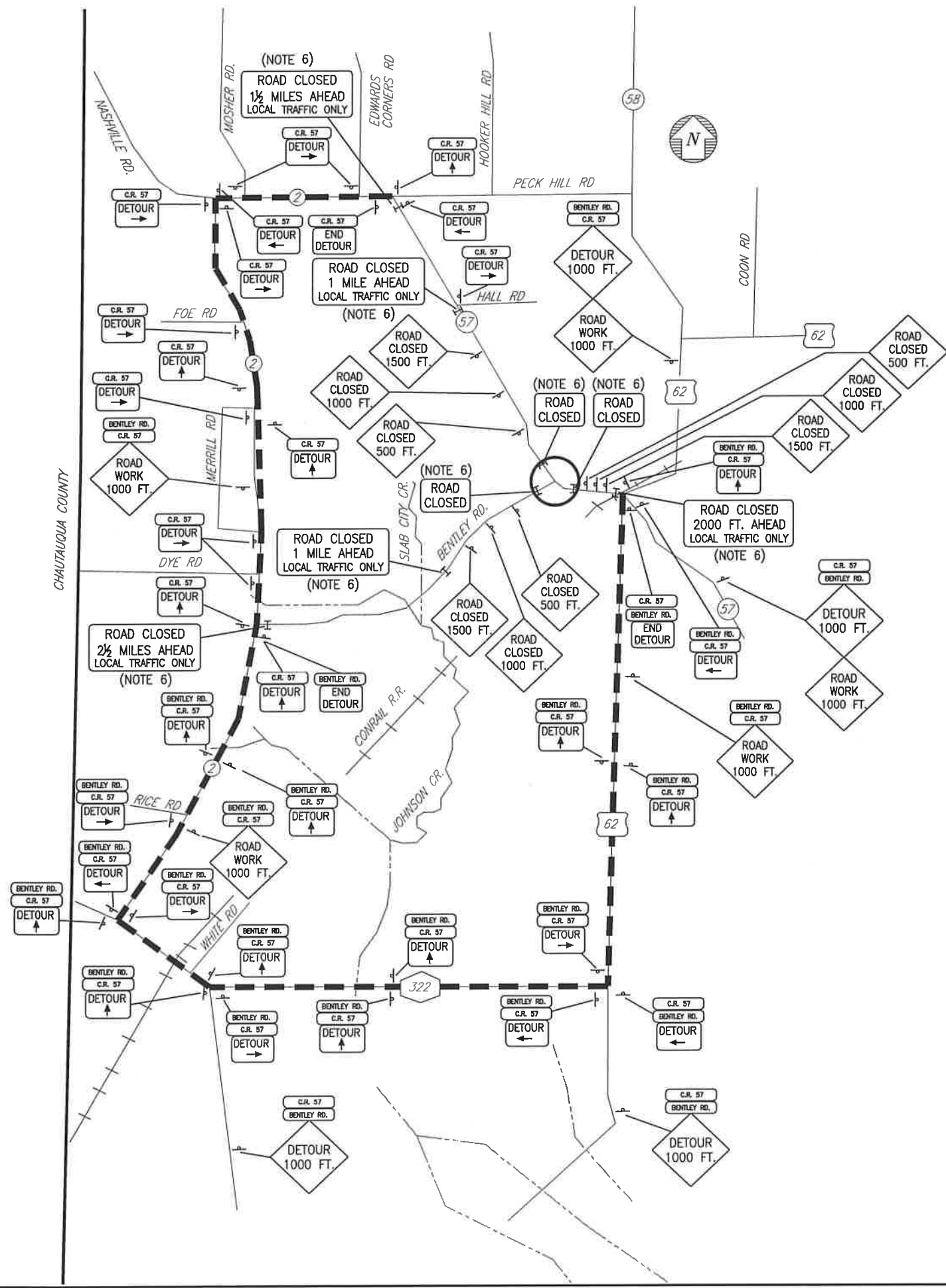
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SCALE: NONE	DRAWN BY: MCF/PLC	DATE: OCTOBER 2015	CHECKED BY: ZMK	NO.	REVISION:	BY	DATE
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RECONSTRUCTION OF
C.R. 57 (COTTAGE-MARKHAM ROAD) AND
BENTLEY ROAD INTERSECTION
TOWN OF DAYTON
CATTARAUGUS COUNTY DEPARTMENT OF PUBLIC WORKS
BASELINE TIES, CONTROL POINTS
AND BENCHMARKS

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4-23



- NOTES:
1. IF THE ROAD IS OPENED FOR SOME DISTANCE BEYOND THE INTERSECTION AND/OR THERE ARE SIGNIFICANT ORIGIN/DESIGNATION POINTS BEYOND THE INTERSECTION, THE R11-3a ON THE TYPE III BARRICADES MAY BE LOCATED AT THE EDGE OF THE TRAVELED WAY.
 2. ANY EXISTING SIGNS WHICH CONFLICT WITH THE TEMPORARY TRAFFIC CONTROL SIGN LAYOUT SHALL BE COVERED, REMOVED, STORED OR RESET ABOVE. BLANK COVERS USED TO COVER PORTIONS OF EXISTING SIGNS SHALL BE OF A COLOR AND REFLECTORIZED MATERIAL MATCHING THAT OF THE SIGN BEING PARTIALLY COVERED. THE CONTRACTOR SHALL BE LIABLE FOR ANY DAMAGE TO SIGNS CAUSED BY THE METHODS USED TO TEMPORARILY REMOVE, REPLACE, RELOCATE OR COVER SIGN PANELS OR SIGN TEXT, AT NO ADDITIONAL COST TO THE COUNTY. ALL APPROPRIATE EXISTING SIGNS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND/OR LOCATION UNLESS OTHERWISE REPLACED IN THE CONTRACT DOCUMENTS.
 3. SIGNS SHOWN TO BE INSTALLED AT INTERSECTIONS ARE TO BE PLACED NO MORE THAN 50' FROM THE INTERSECTION.
 4. THE SIGN LOCATIONS SHOWN ARE APPROXIMATE. THE LATERAL AND LONGITUDINAL PLACEMENT OF THE SIGNS AND THE SPECIFIC SIGN DETAILS SHALL BE IN CONFORMANCE WITH THE 2009 MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND THE NYS DOT SUPPLEMENT.
 5. THE DETOUR PLAN SHOWN IS CONSIDERED TO BE THE MINIMUM REQUIREMENTS. ADDITIONAL SIGNS AND/OR CONTROL DEVICES MAY BE REQUIRED, A.O.B.E.
 6. THESE SIGNS SHALL BE MOUNTED ON TYPE III BARRICADES WITH TYPE "A" FLASHING LOW INTENSITY WARNING LIGHTS.
 7. THE CONTRACTOR SHALL MAINTAIN ALL SIGNS AND/OR CONTROL DEVICES FOR THE DURATION OF THE DETOUR. THE CONTRACTOR SHALL NOT BE RESPONSIBLE FOR ROADWAY MAINTENANCE.

SIGN DESCRIPTION	QUANTITY	SIGN DESIGNATION	SIZE
	11	M4-9R	30"x24"
	6	M4-9L	30"x24"
	15	M4-9	30"x24"
	3	M4-8a	30"x24"
	3	R11-2	48"x30"
	27	D3-1	12" HEIGHT
	41	D3-1	12" HEIGHT
	4	W20-2	36"x36"
	5	W20-1	36"x36"
	1	R11-3a	60"x30"
	4	R11-3a	60"x30"
	3	W20-3	36"x36"
	3	W20-3	36"x36"
	3	W20-3	36"x36"

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NO.	NO.	NO.	NO.
BY	BY	BY	BY
DATE	DATE	DATE	DATE

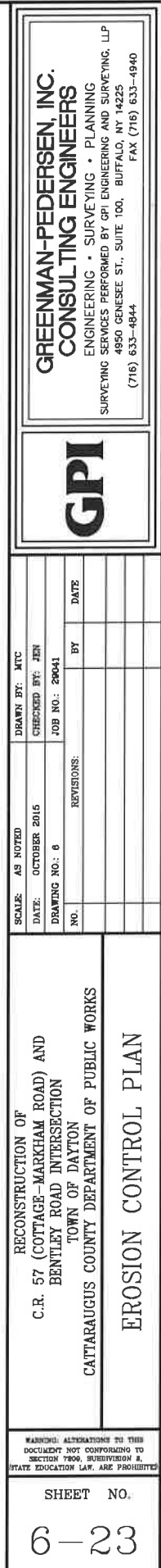
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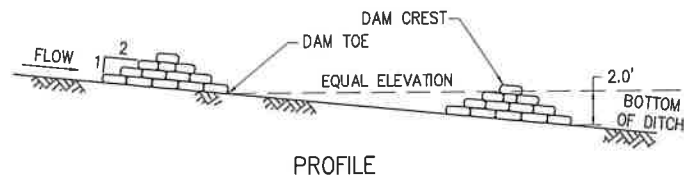
RECONSTRUCTION OF
C.R. 57 (COTTAGE-MARKHAM ROAD) AND
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TOWN OF DAYTON
CATTARAUGUS COUNTY DEPARTMENT OF PUBLIC WORKS

DETOUR PLAN & SIGNAGE DETAILS

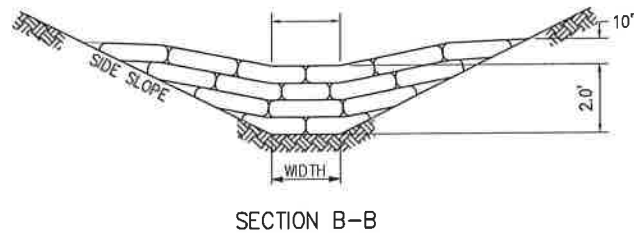
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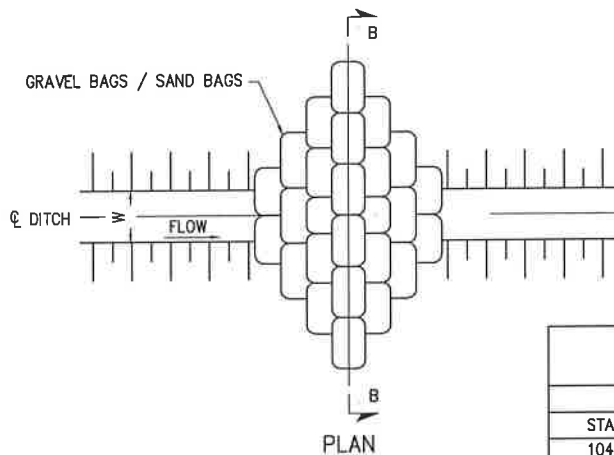


GRAVEL BAG / SAND BAG CHECK DAM ITEM SUFFIXES	
SUFFIX (XX)	DITCH BOTTOM WIDTH
01	0.0' - 3.0'
02	> 3.0' - 6.0'
03	> 6.0' - 10.0'
04	> 10.0'



GRAVEL BAG / SAND BAG CHECK DAM PLACEMENT INTERVAL *	
DITCH SLOPE	PLACEMENT INTERVAL (BASED ON 2' HEIGHT)
1%	200'
2%	100'
3%	67'
4%	50'
5%	40'
6%	33'
8%	25'
10%	20'

* I = H / S



WHERE:
I = CHECK DAM SPACING INTERVAL
H = CHECK DAM HEIGHT
S = CHANNEL SLOPE

GRAVEL BAG/SAND BAG CHECK DAM VOLUMES	
DITCH SIDE SLOPE	VOLUME (cy)
1:2	1 cy ±
1:3	1.5 cy ±
1:4	2 cy ±
1:6	3 cy ±

BASED ON V SHAPED DITCH SECTION FOR TRAPEZOIDAL DITCH, ADD 1 CUBIC YARD / YARD OF DITCH WIDTH

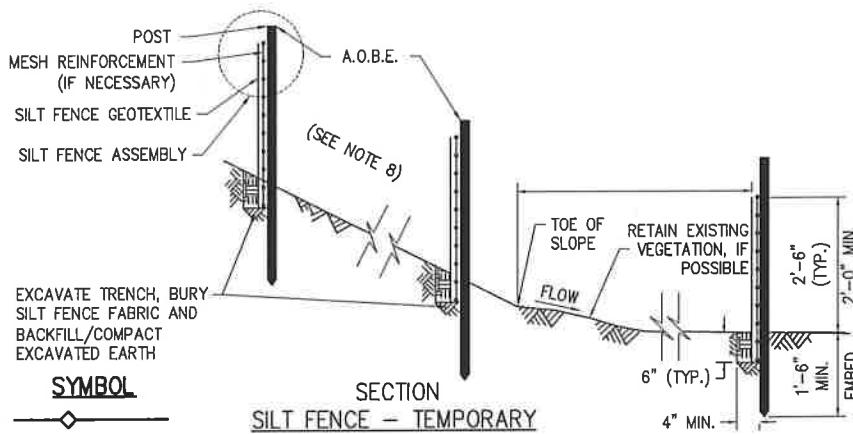
CHECK DAM (DITCH WIDTH 0'-3'), GRAVEL BAG, TEMPORARY			
ITEM 209.110201			
STATION	OFFSET	SIDE	QUANTITY (EA)
104+74	22'	RT	1
105+50	22'	RT	1
107+50	22'	RT	1
110+00	22'	RT	1

APPLICATION NOTES:

- THE PRIMARY PURPOSE OF A CHECK DAM IS TO REDUCE EROSION IN A CHANNEL BY REDUCING FLOW VELOCITY IN THE CHANNEL.
- CHECK DAMS WILL CAPTURE SEDIMENT THAT FALLS OUT OF SUSPENSION BEHIND THE CHECK DAM DUE TO DECREASED VELOCITY.
- CHECK DAMS ARE NOT INTENDED TO, AND WILL NOT FILTER SEDIMENT FROM TURBID WATER.
- PREFABRICATED CHECK DAMS ARE NOT TO BE USED ON SLOPES GREATER THAN 5%.
- GRAVEL BAGS / SAND BAGS SHALL BE FILLED WITH CLEAN STONE OR CLEAN SAND TO PREVENT RECEIVING WATERS FROM BECOMING TURBID.

GENERAL NOTES:

- THE UPHILL END OF THE APRON FOR THE PREFABRICATED CHECK DAM SHALL BE STAPLED AND BURIED AS SHOWN IN DETAIL "A" OR AS RECOMMENDED BY THE MANUFACTURER'S LITERATURE. COST OF EXCAVATION FOR INSTALLATION SHALL BE INCLUDED IN PRICE BID FOR ITEM.
- DRAINAGE AREAS: MAXIMUM DRAINAGE AREA TRIBUTARY TO PREFABRICATED CHECK DAM SHALL BE 0.5 AC. MAXIMUM DRAINAGE AREA TRIBUTARY TO GRAVEL BAG / SAND BAG CHECK DAM SHALL BE 0.8 Ha.
- GRAVEL BAGS/SAND BAGS SHALL BE INDIVIDUALLY TIED, DOUBLE BAGGED AND INVERSELY INSERTED. BAGS SHALL OVERLAP THE JOINTS BETWEEN THE BAGS IN THE LAYER BELOW.
- MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS OR AFTER EACH RAINFALL OF ½" OR MORE, WITHIN A 24 HOUR PERIOD. MEASURES SHALL BE CLEANED AND REPAIRED AS REQUIRED.
- SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.



TEMPORARY SILT FENCE	
ITEM 209.13 - SILT FENCE (FT)	
STATION	
101+50 RT TO 113+21 RT	
101+50 LT TO 4+00 RT	
4+00 LT TO 113+04 LT	

NOTE: THE FOLLOWING NOTES APPLY TO ALL WORK SECTION 209 - SOIL EROSION AND SEDIMENT CONTROL AND CONSTRUCTION SEQUENCE SCHEDULE NOTES:

- THE CONTRACTOR SHALL COMPLY WITH ALL GENERAL CONDITIONS FOR THE UNITED STATES ARMY CORPS OF ENGINEERS NATIONWIDE PERMITS.
- IN ORDER TO CONTROL SEDIMENTATION AND EROSION AND MINIMIZE ADVERSE IMPACTS TO WATER QUALITY, APPROPRIATE SILT FENCING SHALL BE INSTALLED AND ENTRENCHED (AT LEAST 150mm BELOW GROUND ELEVATION) AROUND THE WORK SITE, INCLUDING EXCAVATED SOIL PILES, IF ANY, AND/OR BETWEEN DISTURBED HIGH ELEVATIONS ON SITE AND DRAINAGE WAYS WATER BODIES, OR WETLANDS. THIS SHALL BE PERFORMED PRIOR TO ANY CONSTRUCTION ACTIVITY.
- DURING THE COURSE OF CONSTRUCTION THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN SUCH A MANNER TO PREVENT OR REDUCE TO A MINIMUM ANY DAMAGE TO ANY STREAM FROM POLLUTION BY DEBRIS, SEDIMENT, OR OTHER FOREIGN MATERIAL OR FROM MANIPULATION OF EQUIPMENT AND/OR MATERIALS IN OR NEAR SUCH STREAM. ALL STORM DRAINAGE OUTLETS SHALL BE STABILIZED, AS REQUIRED AND A.O.B.E. BEFORE THE DISCHARGE POINTS BECOME OPERATIONAL.
- THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORM WATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL DEVICES.
- STORM WATER FROM DISTURBED AREAS MUST BE PASSED THROUGH A STRAW BALE DIKE, SEDIMENT TRAP, OR SILTATION FENCE BEFORE DISCHARGE BEYOND DISTURBED AREAS OR INTO INLETS OF OTHER DRAINAGE SYSTEMS.
- DURING CONSTRUCTION, NO WET OR FRESH CONCRETE OR LEACHATE SHALL BE ALLOWED TO ESCAPE TO ANY WATERS NOR SHALL WASHINGS FROM CONCRETE TRUCKS, MIXERS, OR OTHER DEVICES BE ALLOWED TO ENTER ANY WATERS.
- NO MATERIAL SHALL BE ALLOWED TO BE DROPPED INTO STREAM CHANNELS. ANY DEBRIS OR EXCESS MATERIALS FROM CONSTRUCTION OF THIS PROJECT SHALL BE IMMEDIATELY AND COMPLETELY REMOVED FROM THE BED AND BANKS OF ALL WATER AREAS TO AN APPROPRIATE UPLAND AREA FOR DISPOSAL.
- ALL DREDGED AND EXCAVATED MATERIAL SHALL BE DISPOSED OF ON AN UPLAND SITE AND BE SUITABLY STABILIZED SO THAT IT CANNOT REASONABLY RE-ENTER ANY WATER BODY. WHENEVER ITEMS IN THE CONTRACT REQUIRE MATERIALS TO BE REMOVED THE COST OF SUPPLYING A DISPOSAL AREA SHALL BE INCLUDED IN THE UNIT BID PRICES FOR THOSE ITEMS.
- IN THE EVENT DE-WATERING OPERATIONS BECOME NECESSARY. A SETTLING BASIN WILL BE REQUIRED UNLESS THE PUMP DISCHARGE IS AS CLEAR AND FREE OF SEDIMENT AS THE FLOWING STREAM.
- THE COST OF INSTALLING, CLEANING, MAINTAINING, AND REMOVING TEMPORARY SOIL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE PAID FOR UNDER THE APPROPRIATE 209 ITEM.
- THE LOCATIONS OF EROSION AND SEDIMENT CONTROL MEASURES, AS INDICATED IN THE CONTRACT DOCUMENTS MAY REQUIRE FIELD ADJUSTMENT DEPENDING ON THE SEQUENCE OF CONSTRUCTION ACTIVITIES, CONSTRUCTION METHODS, AND/OR ACTUAL FIELD CONDITIONS.
- ALL IN-STREAM WORK SHALL BE CONDUCTED DURING PERIODS OF LOW FLOW.
- THE CONTRACTOR SHALL NOT USE STREAM BEDS OR BANKS AS A STAGING AREA FOR EQUIPMENT OR MATERIALS. AFTER EACH WORK DAY, ALL MECHANIZED EQUIPMENT SHALL BE REMOVED FROM BEDS AND BANKS AND STORED IN AN APPROVED UPLAND SITE.
- THE CONTRACTOR SHALL SUBMIT FOR APPROVAL TO THE ENGINEER IN CHARGE A WRITTEN SCHEDULE AND PROPOSED MEASURES FOR TEMPORARY AND PERMANENT SOIL EROSION AND SEDIMENT CONTROL AS REQUIRED BY SECTION 209 OF THE NYS DOT STANDARD SPECIFICATIONS.
- THE CONTRACTOR WILL FOLLOW WHATEVER NYSDEC GUIDELINES ARE AVAILABLE FOR PROTECTION OF STREAMS AND WETLANDS DURING CONSTRUCTION AND ENSURE THAT ALL WORK TAKE PLACE ENTIRELY IN THE ALLOTTED RIGHT OF WAY, DURING NON-CRITICAL FISH-SPAWNING SEASONS, AND THAT ALL PRECAUTIONS WILL BE TAKEN TO PROTECT THE SURROUNDING AREAS DURING CONSTRUCTION.
- THE STONE SUBBASE SHALL BE LAID ON THE ROAD SUBGRADE THE SAME DAY THAT THE SUBGRADE IS EXPOSED BY EXCAVATION. TRUCKS OR OTHER VEHICLES THAT TRAVEL OFFSITE SHALL NOT BE DRIVEN ON EXPOSED SUBGRADE.
- EXCAVATION AND BACKFILL FOR PIPES, DROP INLETS AND THE UNDERDRAIN SYSTEM SHALL ALL BE MADE ON THE SAME DAY.
- ONE ROLL OF UNUSED SILT FENCE SHALL BE ON SITE AT ALL TIMES. THIS ROLL SHALL BE USED, AS ORDERED BY ENGINEER, FOR EROSION CONTROL PURPOSES.
- THE COST FOR THE ABOVE WORK SHALL BE PAID FOR UNDER THE PRICES BID FOR THE 209 ITEMS.

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SCALE	AS NOTED	DRAWN BY: MTC	CHECKED BY: JEN	DATE: OCTOBER 2015	JOB NO: 29041	DATE
NO.	NO.	NO.	NO.	NO.	NO.	NO.

RECONSTRUCTION OF
C.R. 57 (COTTAGE-MARKHAM ROAD) AND
BENTLEY ROAD INTERSECTION
TOWN OF DAYTON
CATTARAUGUS COUNTY DEPARTMENT OF PUBLIC WORKS

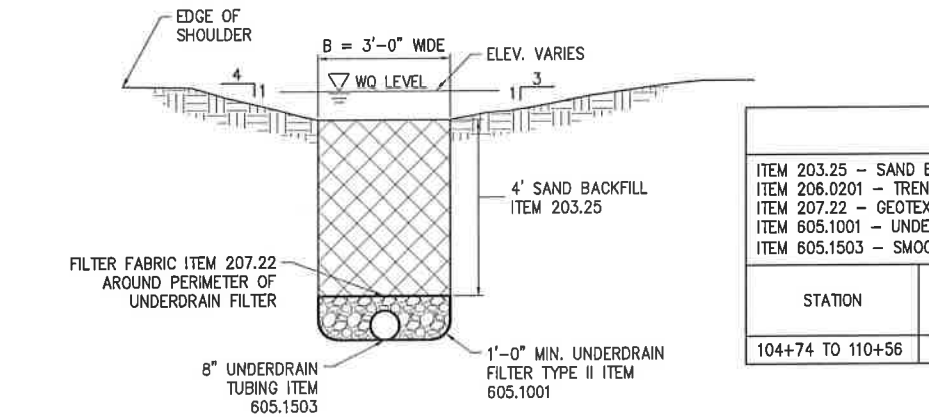
EROSION CONTROL DETAILS

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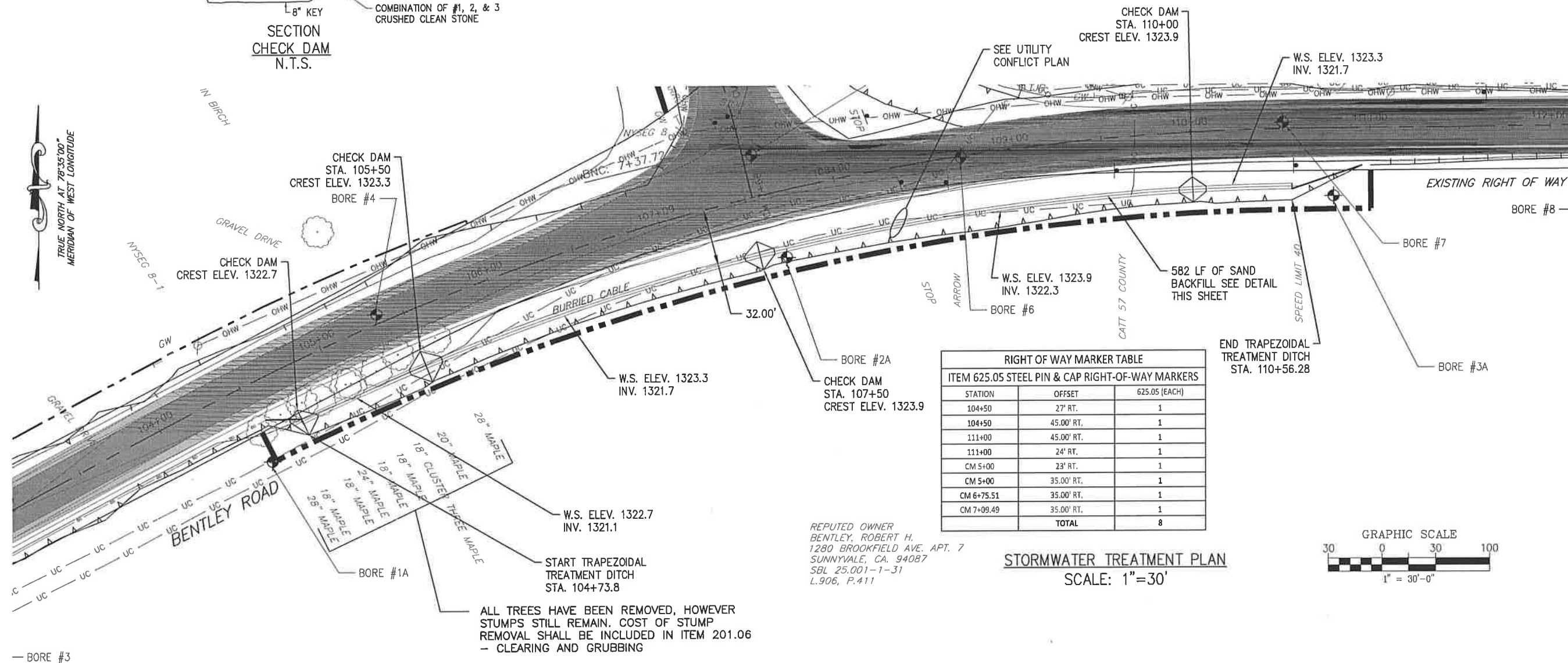
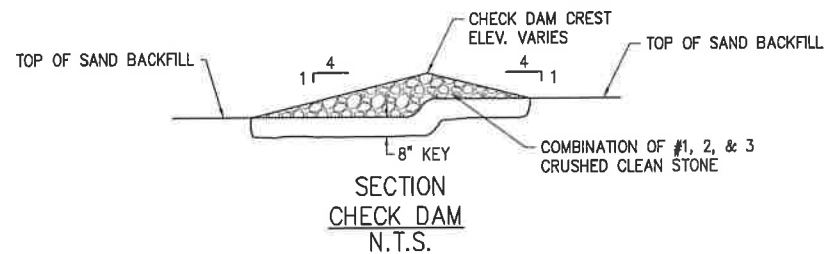
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X:\Data\Job 29041 - Cattaraugus County - Dayton Intersection\Drawings\PS&E Drawings (Final Design)\6, 7 & 8 Erosion Control.dwg Tuesday, 13 December 2016 3:15PM



STORMWATER TREATMENT TABLE										
ITEM 203.25 - SAND BACKFILL ITEM 206.0201 - TRENCH AND CULVERT EXCAVATION ITEM 207.22 - GEOTEXTILE DRAINAGE ITEM 605.1001 - UNDERDRAIN FILTER, TYPE II ITEM 605.1503 - SMOOTH INTERIOR PERFORATED CORRUGATED POLYETHYLENE UNDERDRAIN TUBING, 8" DIA.										
STATION	LENGTH (LF)	DIMENSION DATA				ITEM 206.0201 (CY)	ITEM 207.22 (SY)	ITEM 605.1001 (CY)	ITEM 605.1503 (LF)	ITEM 203.25 (CY)
		B	SIDE SLOPES (V:H) FORE / BACK		GRADIENT					
104+74 TO 110+56	582	3	1:4	1:3	0.0	350	600	70	582	275

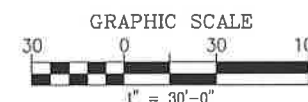
DITCH INLET TABLE		
DITCH TYPE	BEGIN STA.	END STA.
"V"	101+55	104+50
TRAP. TREATMENT ELEV. 1321.1	104+73.8	105+50
TRAP. TREATMENT ELEV. 1321.7	105+50	107+50
TRAP. TREATMENT ELEV. 1322.3	107+50	110+00
TRAP. TREATMENT ELEV. 1321.7	110+00	110+56.28



RIGHT OF WAY MARKER TABLE		
ITEM 625.05 STEEL PIN & CAP RIGHT-OF-WAY MARKERS		
STATION	OFFSET	625.05 (EACH)
104+50	27' RT.	1
104+50	45.00' RT.	1
111+00	45.00' RT.	1
111+00	24' RT.	1
CM 5+00	23' RT.	1
CM 5+00	35.00' RT.	1
CM 6+75.51	35.00' RT.	1
CM 7+09.49	35.00' RT.	1
	TOTAL	8

REPUTED OWNER
BENTLEY, ROBERT H.
1280 BROOKFIELD AVE. APT. 7
SUNNYVALE, CA. 94087
SBL 25.001-1-31
L.906, P.411

STORMWATER TREATMENT PLAN
SCALE: 1"=30'



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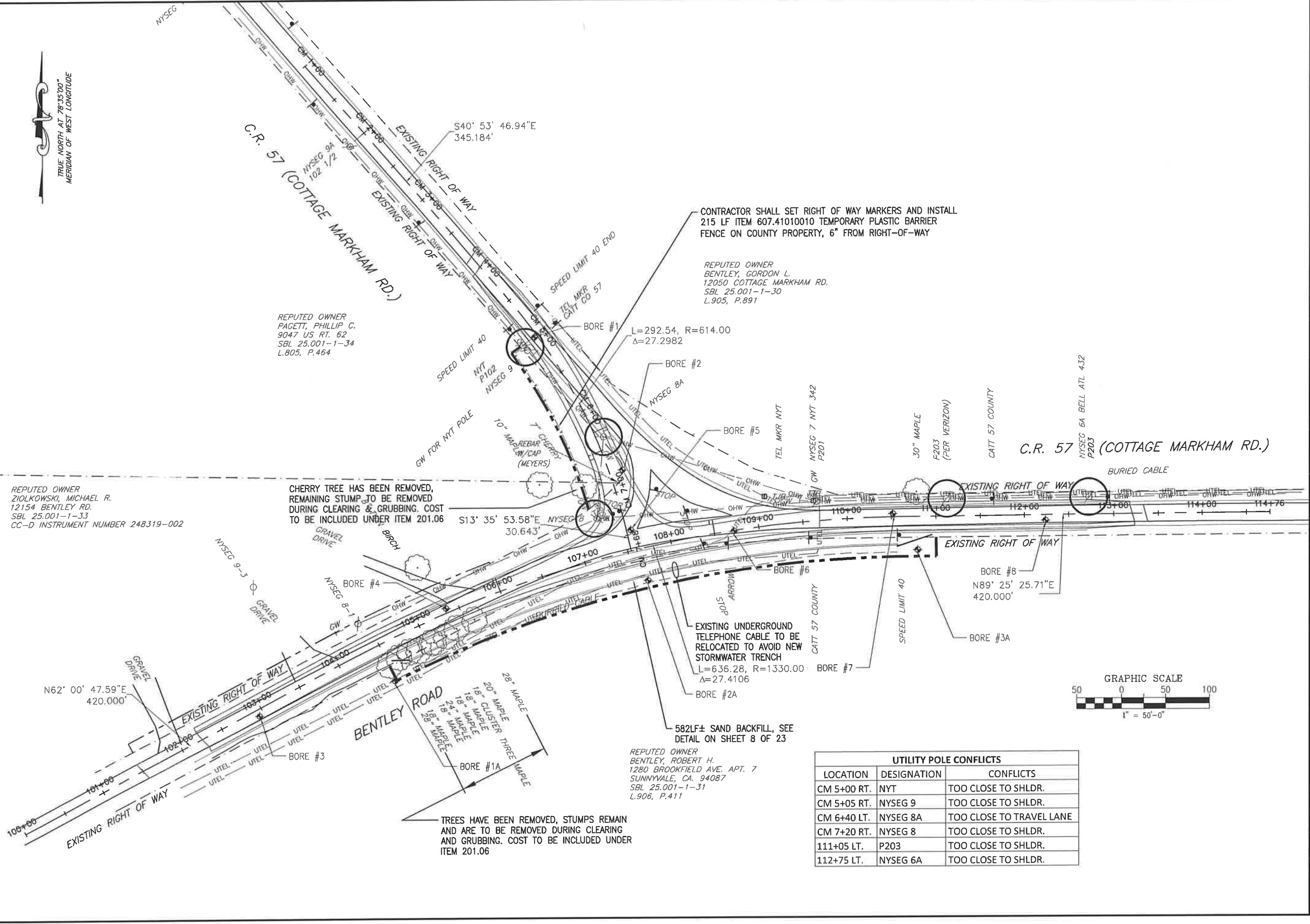
SCALE: AS NOTED		DRAWN BY: MTC	
DATE: OCTOBER 2015		CHECKED BY: JEN	
DRAWING NO. 8		JOB NO.: 22041	
NO.	BY		DATE

RECONSTRUCTION OF
C.R. 57 (COTTAGE-MARKHAM ROAD) AND
BENTLEY ROAD INTERSECTION
TOWN OF DAYTON
CATTARAUGUS COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER POLLUTION CONTROL
PLAN AND DETAILS

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SHEET NO.

8-23



UTILITY POLE CONFLICTS		
LOCATION	DESIGNATION	CONFLICTS
CM 5+00 RT.	NYT	TOO CLOSE TO SHLDR.
CM 5+05 RT.	NYSEG 9	TOO CLOSE TO SHLDR.
CM 6+40 LT.	NYSEG 8A	TOO CLOSE TO TRAVEL LANE
CM 7+20 RT.	NYSEG 8	TOO CLOSE TO SHLDR.
111+05 LT.	P203	TOO CLOSE TO SHLDR.
112+75 LT.	NYSEG 6A	TOO CLOSE TO SHLDR.

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SCALE: AS NOTED
DATE: OCTOBER 2016
DRAWING NO.: 10
NO.

DRAWN BY: MTC
CHECKED BY: JEN
JOB NO.: 29041
BY
DATE

REVISIONS:

RECONSTRUCTION OF
C.R. 57 (COTTAGE-MARKHAM ROAD) AND
BENTLEY ROAD INTERSECTION
TOWN OF DAYTON
CATTARAUGUS COUNTY DEPARTMENT OF PUBLIC WORKS

UTILITY CONFLICT PLAN

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SHEET NO.
10-23



SCALE: AS NOTED	DRAWN BY: MTC
DATE: OCTOBER 2015	CHECKED BY: JEN
DRAWING NO.: 11	JOB NO.: 28041
NO.	REVISIONS:
	BY
	DATE

RECONSTRUCTION OF
C.R. 57 (COTTAGE-MARHAM ROAD) AND
BENTLEY ROAD INTERSECTION
TOWN OF DAYTON
CAITARRAUGUS COUNTY DEPARTMENT OF PUBLIC WORKS

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11-23



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SOURCE:	NOT INVOLVED	DRAWN BY:	MTC
DATE:	OCTOBER 2015	CHECKED BY:	TEN
DRAWING NO.: 12		JOB NO.:	28041
NO.	REVISIONS:		
		BY	DATE

RECONSTRUCTION OF
C.R. 57 (COTTAGE-MARKHAM ROAD) AND
BENTLEY ROAD INTERSECTION
TOWN OF DAYTON
CAHARRAUGUS COUNTY DEPARTMENT OF PUBLIC WORKS

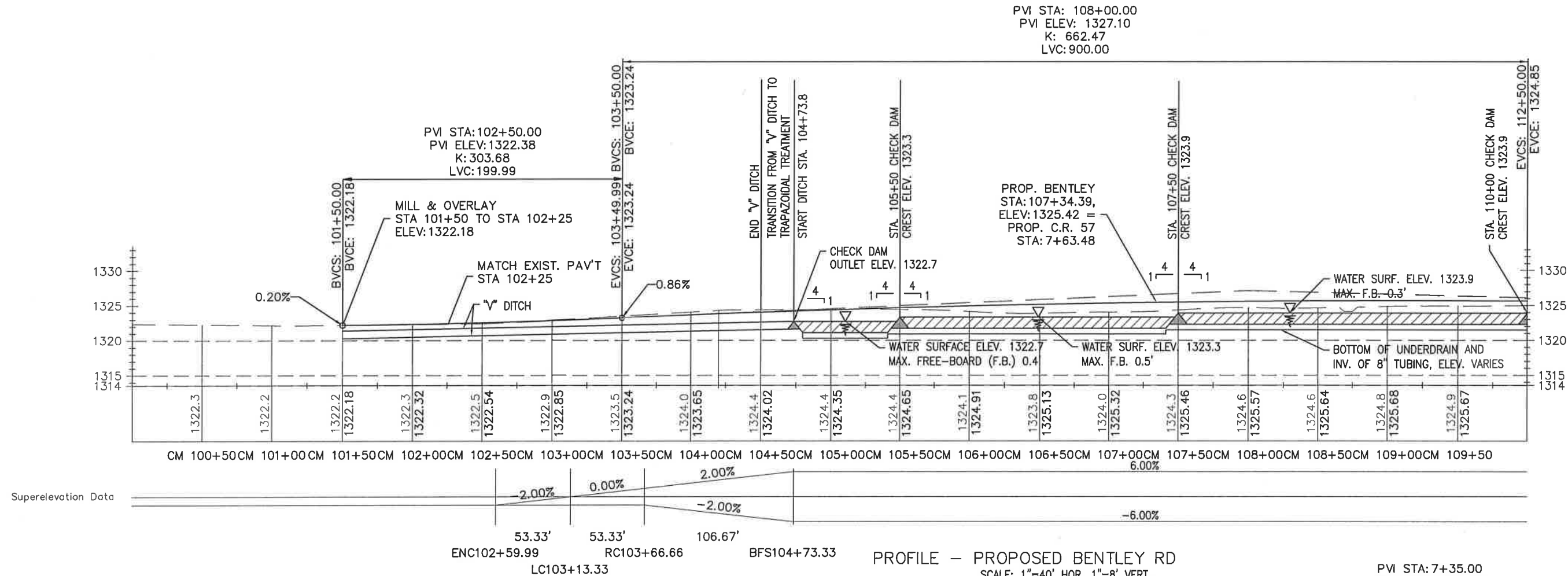
PROPOSED SITE PLAN

WARNING: ALTERATIONS TO THIS DOCUMENT NOT CONFORMING TO SECTION 7209, SUBDIVISION 2, STATE EDUCATION LAW, ARE PROHIBITED.

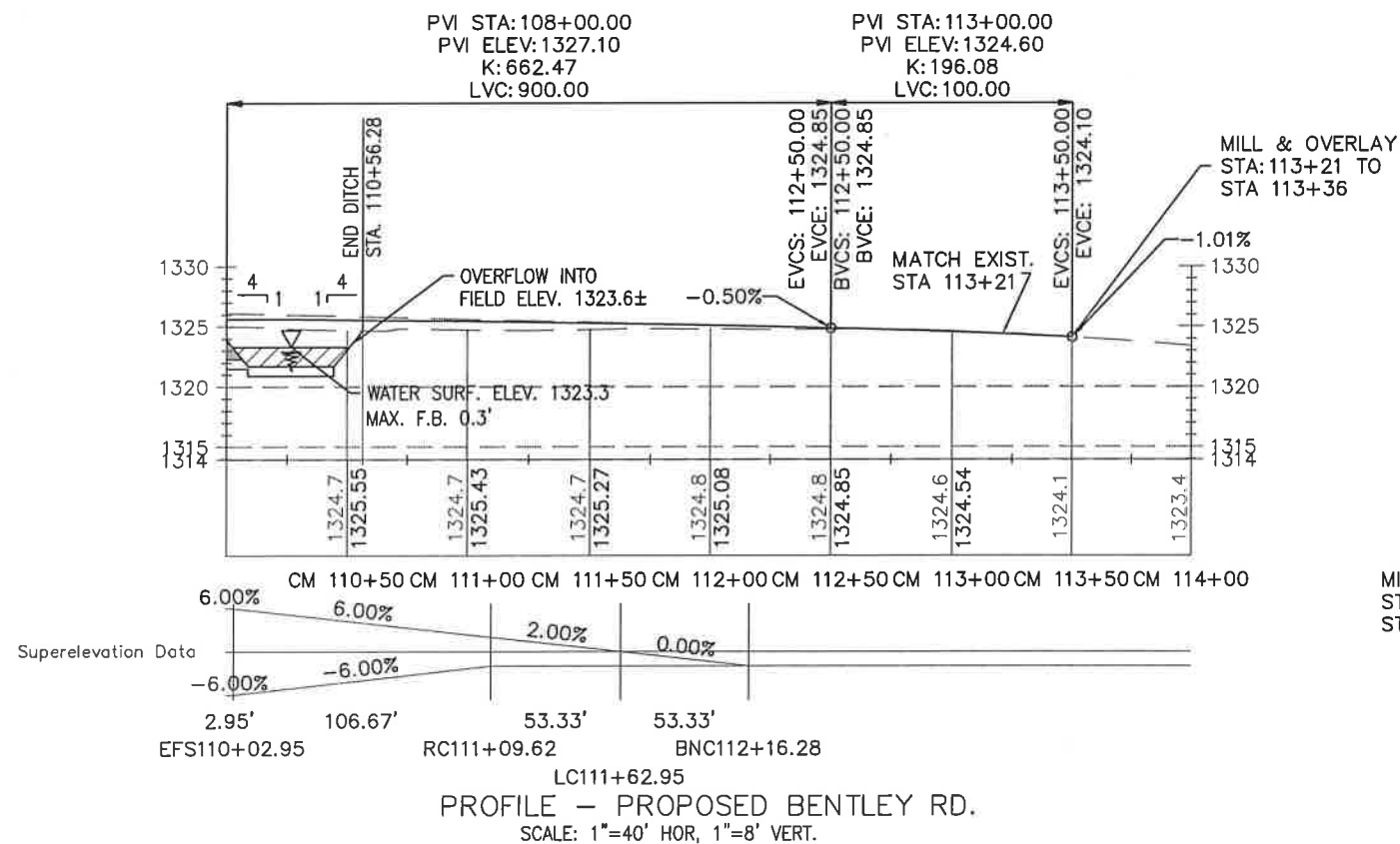
SHEET NO.

12-23

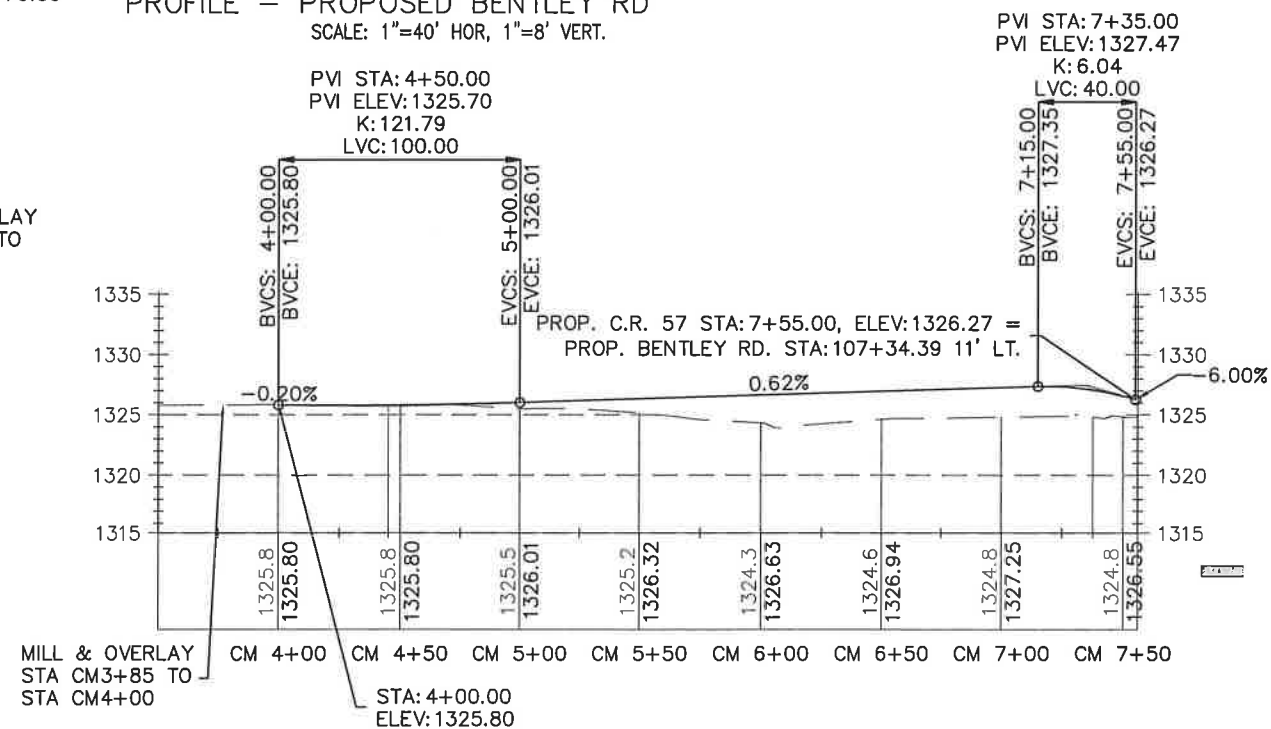
LOCATION STA.	ITEM 203.02 (CY)	ITEM 304.15 (CY)	ITEM 623.12 (CY)
101+95 (LT.)	17.50	10.60	7.00
103+60 (LT.)	22.10	13.30	8.80
105+50 (LT.)	14.90	8.90	5.90



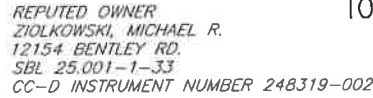
PROFILE - PROPOSED BENTLEY RD
SCALE: 1"=40' HOR, 1"=8' VERT.



PROFILE - PROPOSED BENTLEY RD.
SCALE: 1"=40' HOR, 1"=8' VERT.



PROFILE - PROPOSED CR 57
SCALE: 1"=40' HOR, 1"=8' VERT.



 EXISTING SIGN TO BE REMOVED, STORED & RETURNED TO THE COUNTY. PAYMENT TO BE MADE UNDER ITEM 647.41 - REMOVE AND STORE SIGN PANEL, SIZE 1.

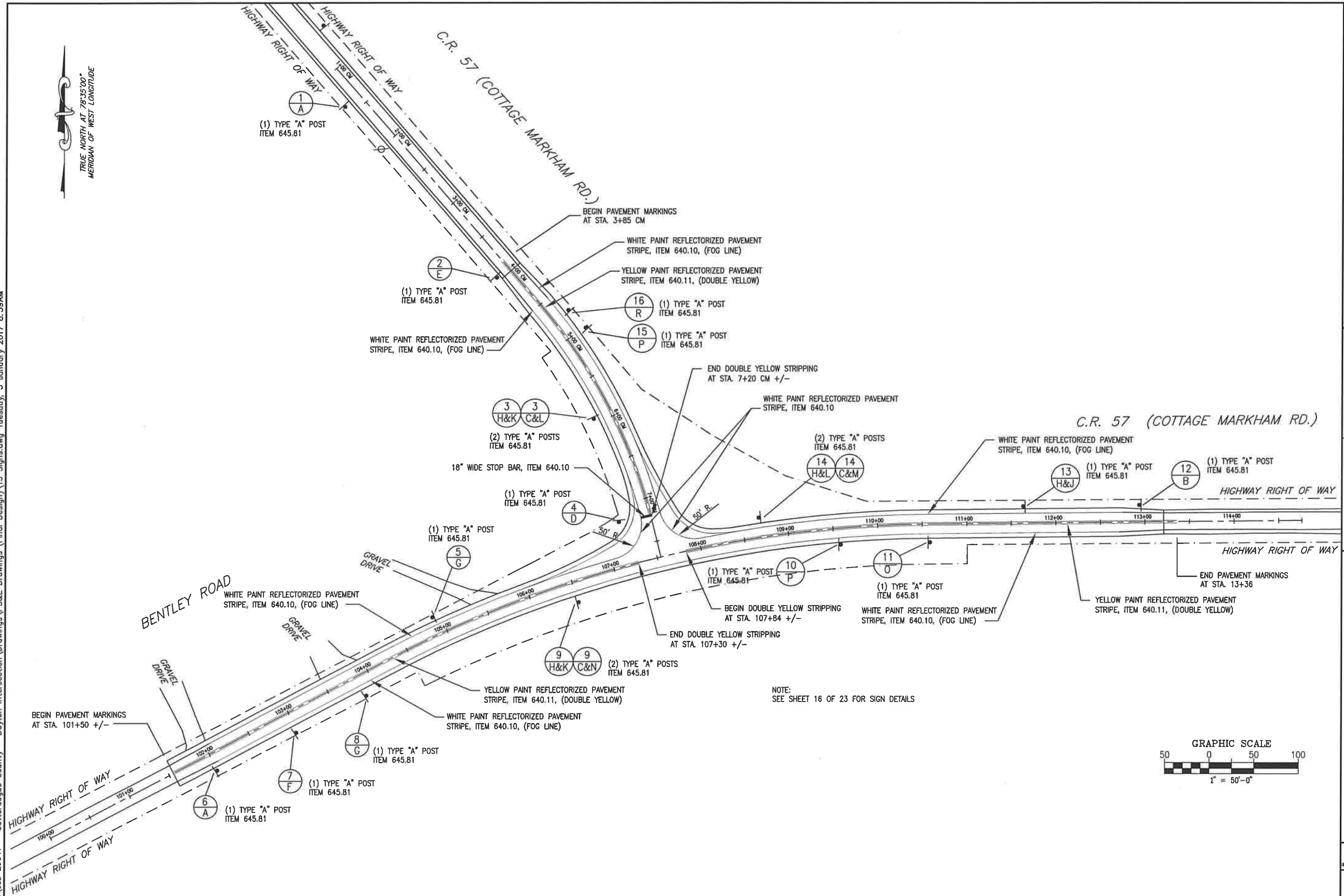
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RECONSTRUCTION OF
C.R. 57 (COTTAGE-MARKHAM ROAD) AND
BENTLEY ROAD INTERSECTION
TOWN OF DAYTON
CATARAUGUS COUNTY DEPARTMENT OF PUBLIC WORKS

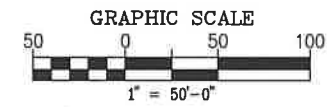
SHEET NO.

14-23

X:\Data\Job 29041 - Cattaraugus County - Dayton Intersection\Drawings\PS&E Drawings (Final Design)\15 Signs.dwg Tuesday, 3 January 2017 8:59AM



NOTE:
SEE SHEET 16 OF 23 FOR SIGN DETAILS



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		JOB NO.: 29041	DRAWING NO.: 15
		REVISIONS:	DATE
		BY	

RECONSTRUCTION OF
C.R. 57 (COTTAGE-MARKHAM ROAD) AND
BENTLEY ROAD INTERSECTION
TOWN OF DAYTON
CATTARAUGUS COUNTY DEPARTMENT OF PUBLIC WORKS
**PROPOSED SIGN AND
PAVEMENT MARKING PLAN**

WARNING: ALTERATIONS TO THIS
DOCUMENT NOT CONFORMING TO
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STATE EDUCATION LAW, ARE PROHIBITED

X:\Data\Job 29041 - Cattaraugus County - Dayton Intersection\Drawings\PS&E Drawings (Final Design)\16 Sign Data Sheet.dwg Tuesday, 13 December 2016 3:21PM

NEW SIGN TEXT						
ITEM NUMBER	LOCATION	TEXT NO.	TEXT	M.U.T.C.D. NO.	SIZE (inches) (PAYMENT FACTOR)	TYPE OF MOUNT
645.5101	1, 6	A		W1-2R	30"x30" (6.25 sf)	GROUND MOUNTED
645.5101	12	B		W1-2L	30"x30" (6.25 sf)	GROUND MOUNTED
645.5101	3, 9	C	BENTLEY RD.	D3-1	12" HEIGHT (APPROX. 1.25 sf)	GROUND MOUNTED
645.5101	4	D		R1-1	30"x30" (5.40 sf)	GROUND MOUNTED
645.5101	2	E		W3-1	36"x36" (9.00 sf)	GROUND MOUNTED
645.5101	7	F		W2-2L	30"x30" (6.25 sf)	GROUND MOUNTED
645.5101	5, 8	G		R2-1	24"x30" (5.00 sf)	GROUND MOUNTED

NEW SIGN TEXT						
ITEM NUMBER	LOCATION	TEXT NO.	TEXT	M.U.T.C.D. NO.	SIZE (inches) (PAYMENT FACTOR)	TYPE OF MOUNT
645.5101	3, 9, 13, 14	H		M1-6	18"x18" (2.25 sf)	GROUND MOUNTED
645.5101	13	J		M5-1R	21"x15" (2.19 sf)	GROUND MOUNTED
645.5101	3, 9	K		M6-1L	21"x15" (2.19 sf)	GROUND MOUNTED
645.5101	3, 14	L		M6-1R	21"x15" (2.19 sf)	GROUND MOUNTED
645.5101	14	M		M5-2L	21"x15" (2.19 sf)	GROUND MOUNTED
645.5101	9	N		M5-2R	21"x15" (2.19 sf)	GROUND MOUNTED

EXISTING SIGN TEXT						
ITEM NUMBER	LOCATION	TEXT NO.	TEXT	M.U.T.C.D. NO.	SIZE (inches) (PAYMENT FACTOR)	TYPE OF MOUNT
647.31	11	O		EXISTING	24"x36" (APPROX.)	GROUND MOUNTED
647.31	10, 15	P		EXISTING	18"x18" (APPROX.)	GROUND MOUNTED
647.31	16	R		EXISTING	24"x36" (APPROX.)	GROUND MOUNTED

1. ALL SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE GUIDELINES AND REGULATIONS OF THE NATIONAL MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (2009 EDITION) AND THE NEW YORK STATE SUPPLEMENT (2009 EDITION).
2. SEE SHEET 15 OF 23 FOR SIGN LAYOUT PLAN
3. ALL SIGN POSTS SHALL BE UNISTRUT TYPE SIGN POSTS

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SCALE: NONE
DATE: OCTOBER 2016
DRAWING NO.: 16

DRAWN BY: MC/NGC
CHECKED BY: TEN
JOB NO.: 29041

NO. REVISIONS:
BY DATE

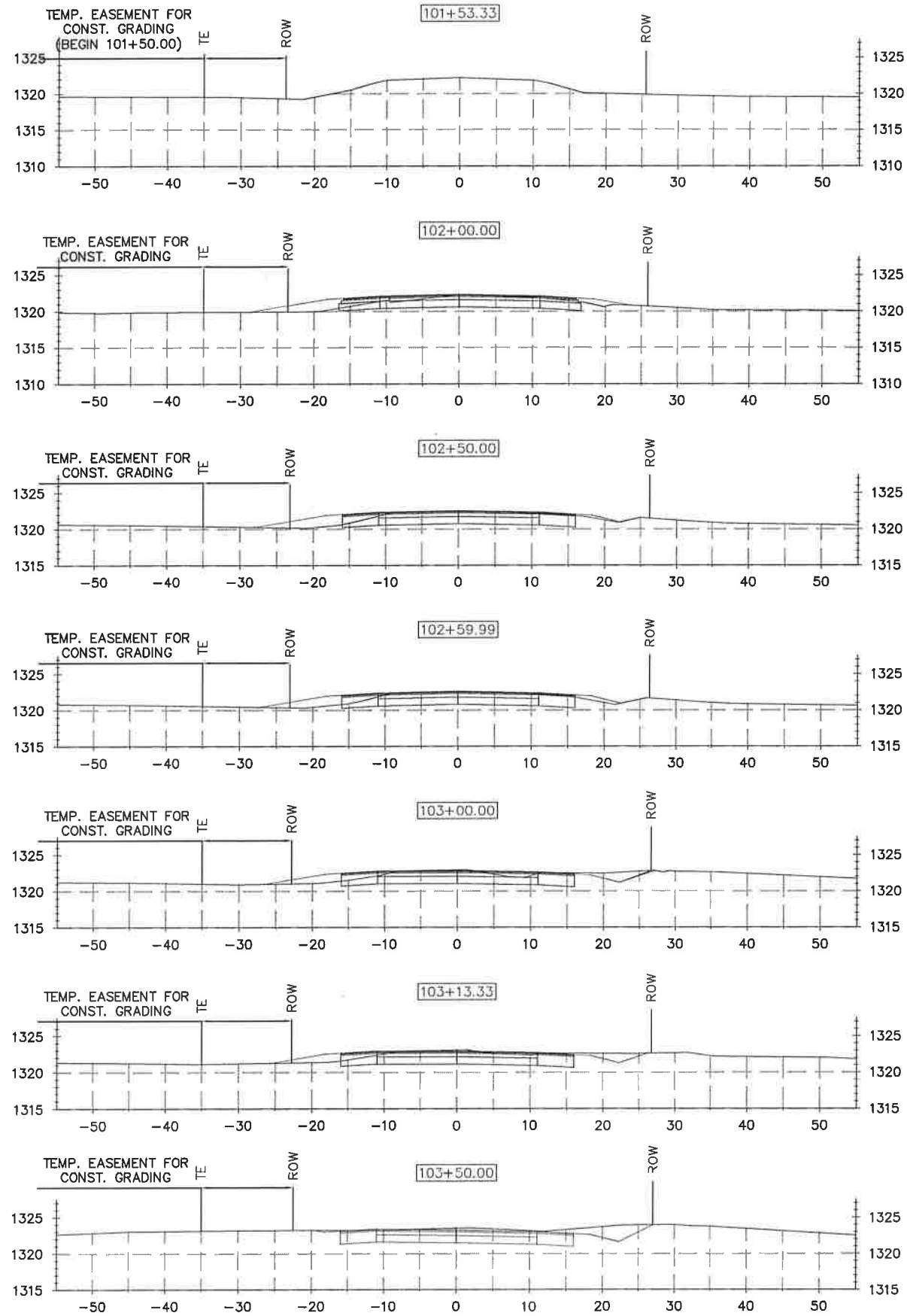
RECONSTRUCTION OF
C.R. 57 (COTTAGE-MARKHAM ROAD) AND
BENTLEY ROAD INTERSECTION
TOWN OF DAYTON
CATTARAUGUS COUNTY DEPARTMENT OF PUBLIC WORKS

PROPOSED SIGN DATA

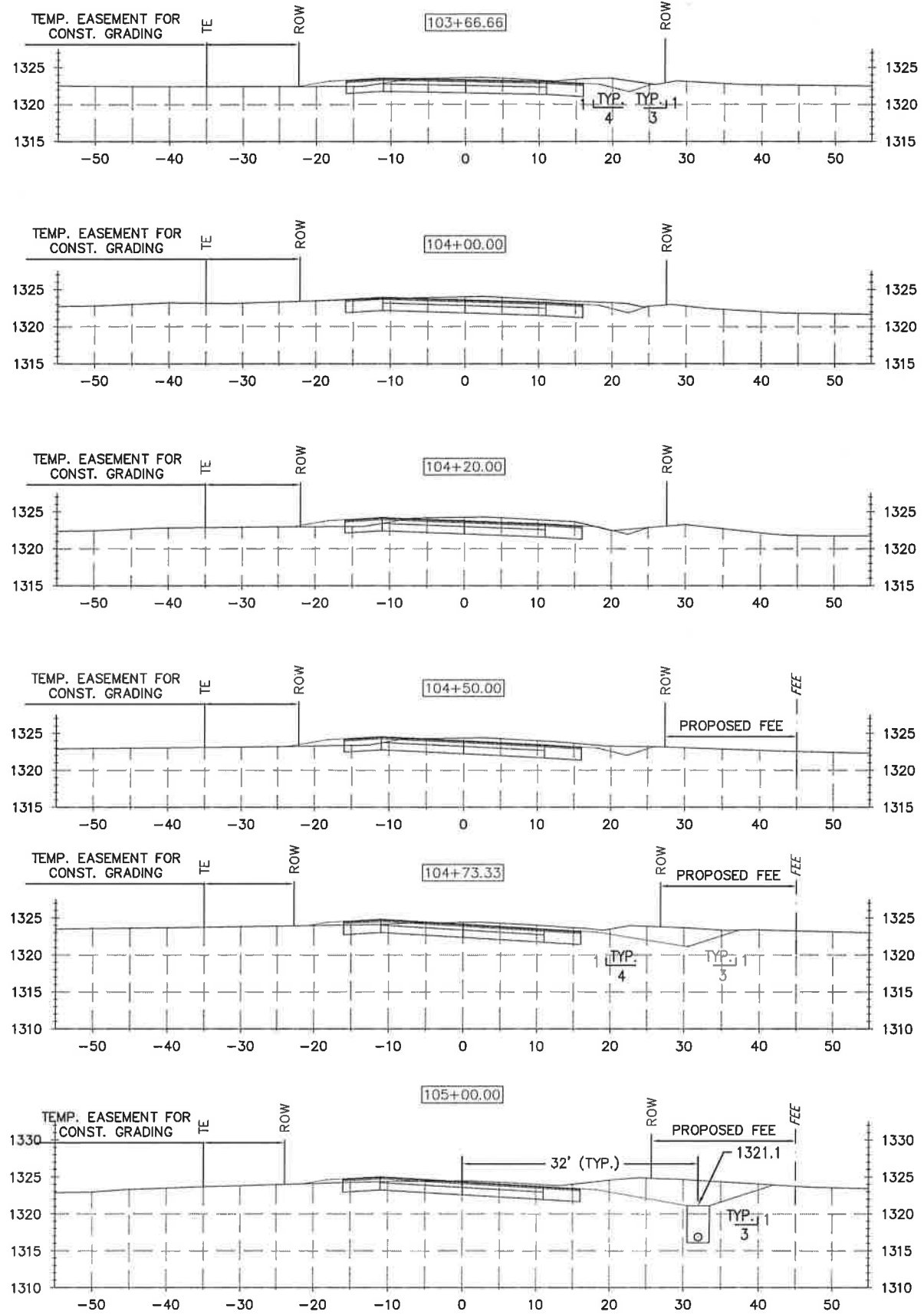
WARNING: ALTERNATIVES TO THIS DOCUMENT NOT CONFORMING TO SECTION 2206, SUBSECTION 2, STATE EDUCATION LAW, ARE PROHIBITED

SHEET NO.
16-23

x:\Data\Job 29041 - Cattaraugus County - Dayton Intersection\Drawings\PS&E Drawings (Final Design)\10-14 & 17-20 Plans, Profiles & Sections.dwg Wednesday, 4 January 2017 2:12PM



BENTLEY ROAD SECTIONS
SCALE: 1" = 10'-0"



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SCALE: AS NOTED	DRAWN BY: MTC	CHECKED BY: JEN
DATE: OCTOBER 2015	JOB NO.: 29041	DATE:
DRAWING NO.: 17	REVISIONS:	BY:
NO.		

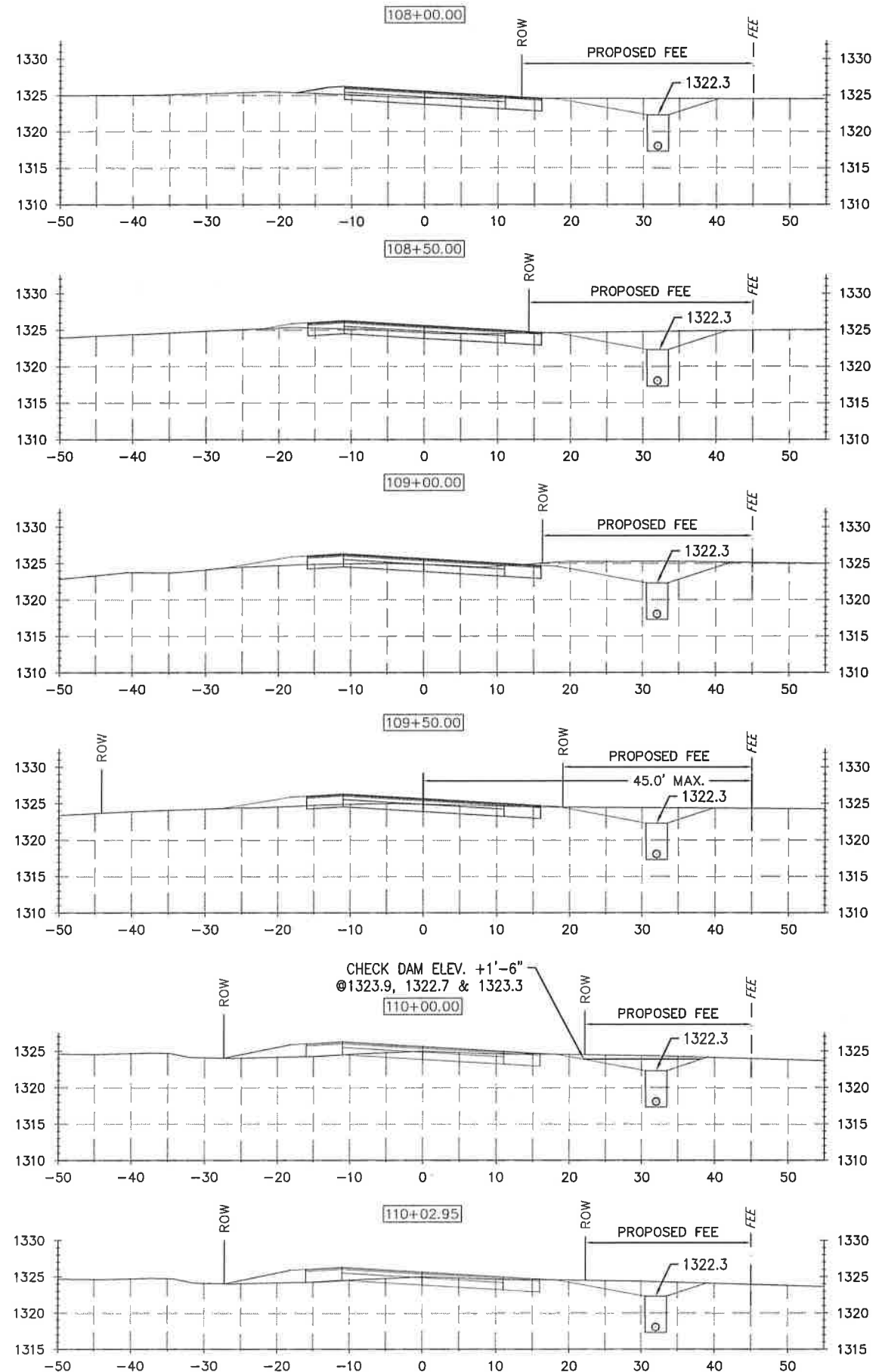
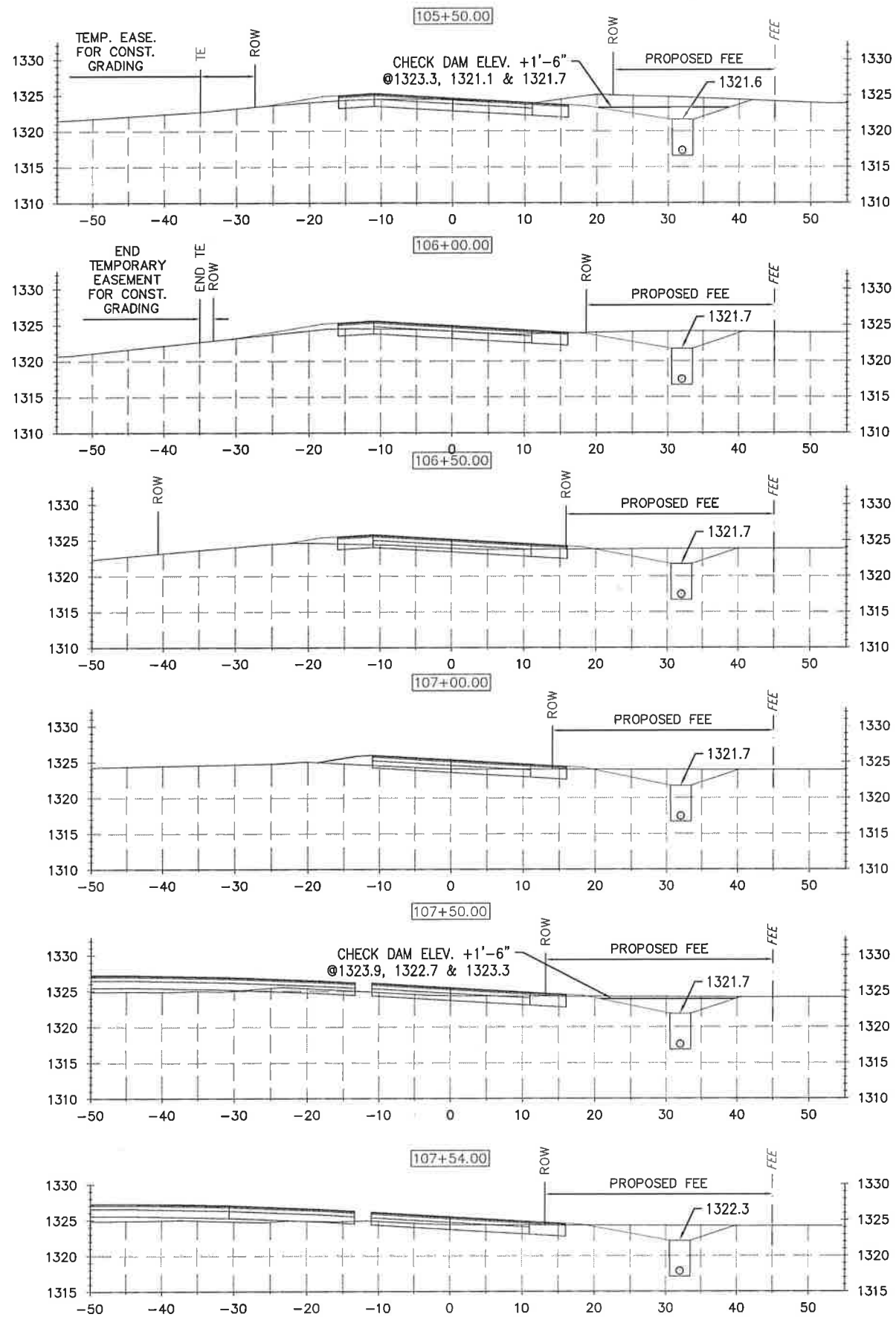
RECONSTRUCTION OF
C.R. 57 (COTTAGE-MARKHAM ROAD) AND
BENTLEY ROAD INTERSECTION
TOWN OF DAYTON
CATTARAUGUS COUNTY DEPARTMENT OF PUBLIC WORKS

BENTLEY ROAD CROSS SECTIONS
STA. 101+53.33 TO STA. 105+00

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SHEET NO.
17-23

X:\Data\Job 29041 - Cattaraugus County - Dayton Intersection\Drawings\PS&E Drawings (Final Design)\10-14 & 17-20 Plans, Profiles & Sections.dwg Wednesday, 4 January 2017 11:06AM



BENTLEY ROAD CROSS SECTIONS
SCALE: 1" = 10'-0"

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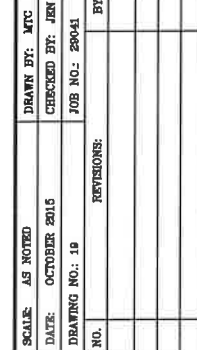
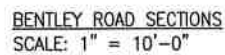
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JOB NO.:	29041
CHECKED BY:	JEN
DRAWN BY:	MYC
DATE:	
BY:	
REVISIONS:	

RECONSTRUCTION OF
C.R. 57 (COTTAGE-MARKHAM ROAD) AND
BENTLEY ROAD INTERSECTION
TOWN OF DAYTON
CATTARAUGUS COUNTY DEPARTMENT OF PUBLIC WORKS
BENTLEY ROAD CROSS SECTIONS
STA. 105+50 TO STA. 110+02.95

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SHEET NO.

18-23



RECONSTRUCTION OF
C.R. 57 (COTTAGE-MARKHAM ROAD) AND
BENTLEY ROAD INTERSECTION
TOWN OF DAYTON
CATARAUGUS COUNTY DEPARTMENT OF PUBLIC WORKS

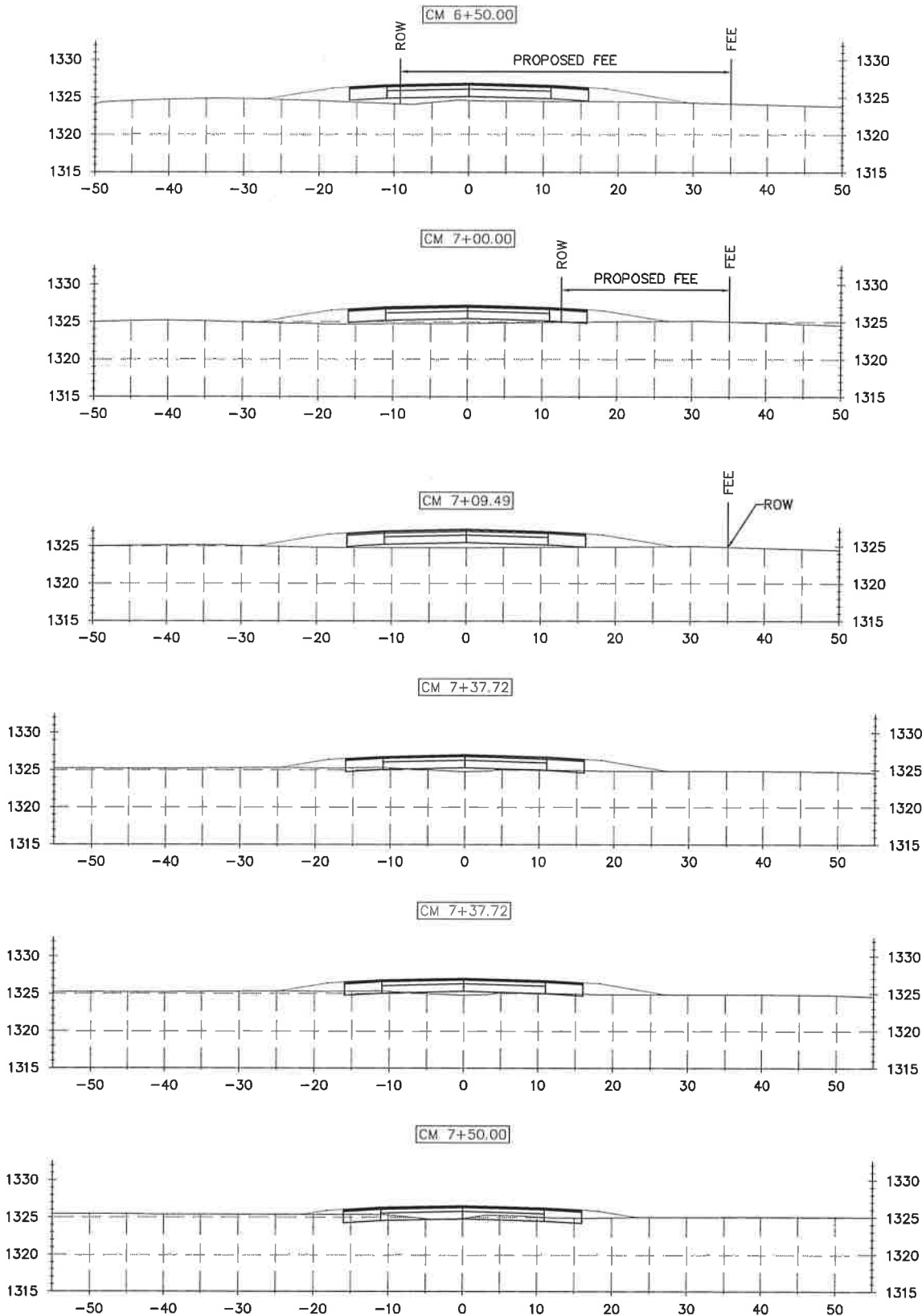
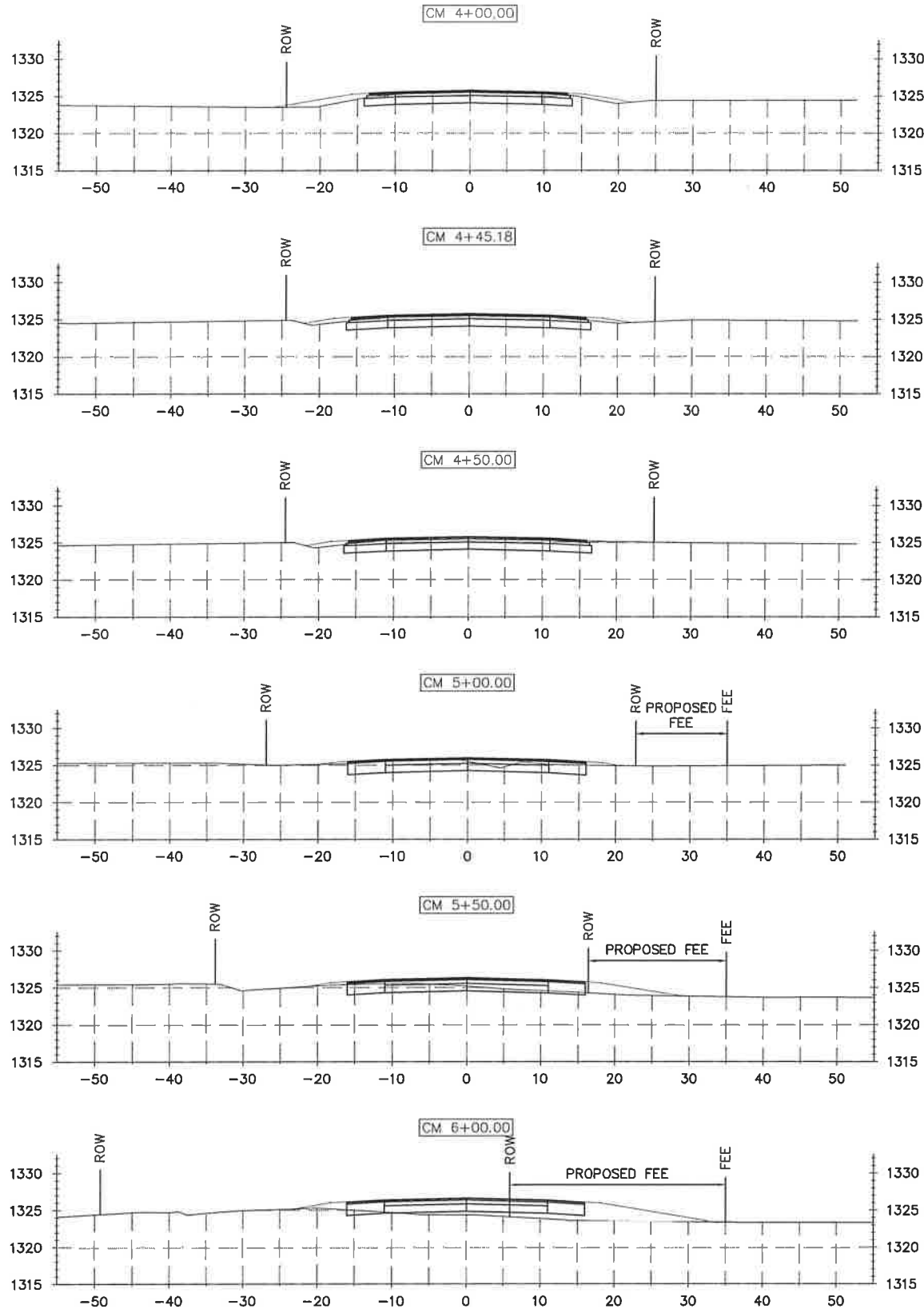
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SHEET NO.
19-23

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C.R. 57 ROAD SECTIONS
SCALE: 1" = 10'-0"

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SCALE: AS NOTED

DATE: OCTOBER 2015

DRAWING NO.: 20

DRAWN BY: MTC

CHECKED BY: JEN

JOB NO.: 29041

REVISIONS:

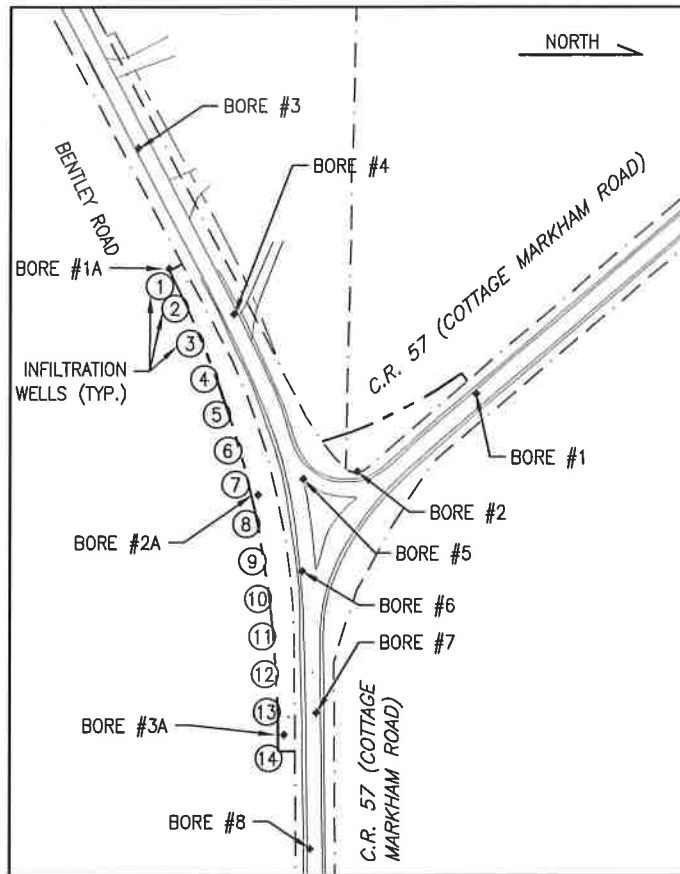
BY: DATE

RECONSTRUCTION OF
C.R. 57 (COTTAGE-MARKHAM ROAD) AND
BENTLEY ROAD INTERSECTION
TOWN OF DAYTON
CATTARAUGUS COUNTY DEPARTMENT OF PUBLIC WORKS

CR 57 CROSS SECTIONS
STA. CM 4+00 TO STA. CM 7+50

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SHEET NO.
20-23



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(714) 937-9367
CRITTENDEN
(916) 937-9367

KEY TO SUBSURFACE LOGS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
①	Depth	②	Sample number	③	Blow Count	④	N Value	⑤	QVM Reading
⑥	Lithologic symbols for various soil types and/or bedrock units	⑦	Soil descriptions and/or bedrock descriptions	⑧	Amount of sample recovered	⑨	Monitoring well detail	⑩	Comments

Hardness

Soft	Scratched by fingernail
Medium	Scratched easily by penknife
Hard	Scratched with knife with difficulty
Very Hard	Cannot be scratched with knife or pick

8ppt
Spoon
Sample

Weathering

Very Weathered, Weathered, or Sound

Judged from relative amounts of disintegration, iron staining, core recovery, clay seams, etc.

Auger or
Test Pit
Sample

Bedding

Facile	< 1"
Very Thinly Bedded	1" - 2"
Thinly Bedded	2" - 4"
Medium Bedded	4" - 12"
Thick Bedded	12" - 36"
Massive	> 36"

Rock
Core
Sample

Shelby
Tube
Sample

Geoprobe
Interval

Soil Types

Soil Particle Size

Boulder	> 12"
Cobble	12" - 3"
Gravel - Coarse	3" - 3/4"
- Fine	3/4" - #4
Sand - Coarse	#4 - #10
- Medium	#10 - #40
- Fine	#40 - #200
Silt - Non Plastic (Granular)	
Clay - Plastic (Cohesive)	

Gravel Content

Granular

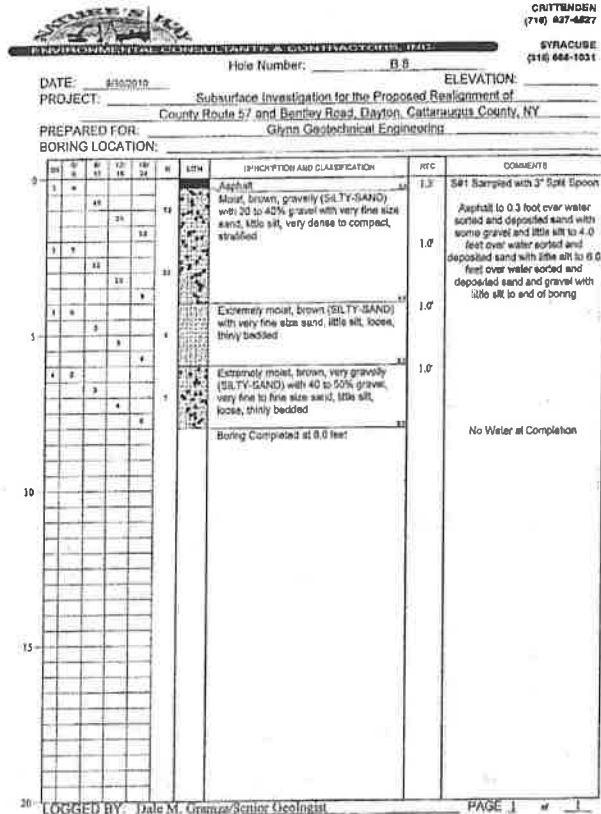
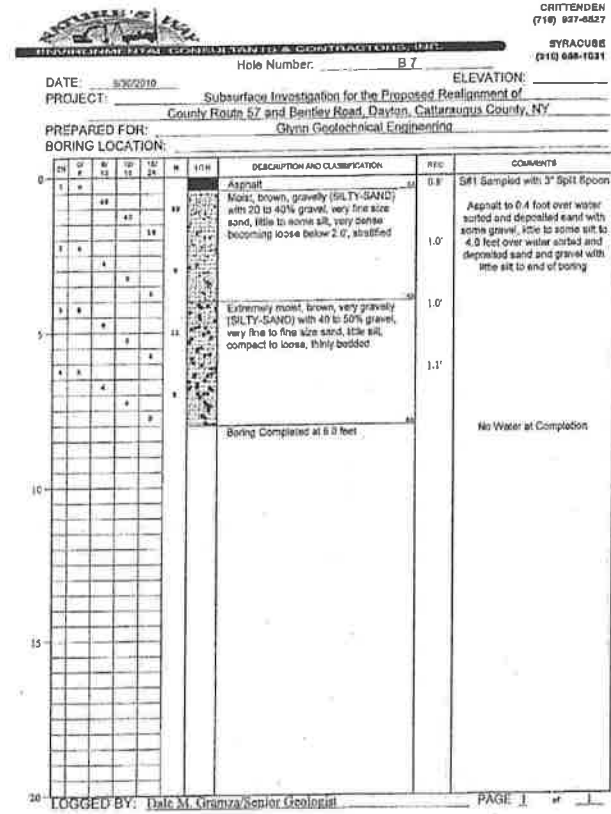
Cohesive

Term	Amount	Term	Amount	Term	N Value
- and	> 40	- Very Loose	0 - 2	- Very Soft	0 - 2
- some	25 - 40	- Loose	5 - 10	- Soft	3 - 4
- little	12 - 25	- Compact	11 - 30	- Firm	5 - 8
- trace	0 - 10	- Dense	31 - 50	- Stiff	8 - 16
		- Very Dense	> 50	- Very Stiff	16 - 30
				- Hard	> 30

3555 CRITTENDEN ROAD • CRITTENDEN, NEW YORK 14038 • FAX (716) 937-9360
7036 VAN BUREN ROAD, BLDG 3 • SYRACUSE, NEW YORK 13206 • FAX (315) 435-9677

CRITTENDEN (716) 837-4827 SYRACUSE (315) 466-1031									
Hole Number: B 1									
ELEVATION: 1000									
DATE: 8/30/2016									
PROJECT: Subsurface Investigation for the Proposed Realignment of County Route 57 and Bentley Road, Dayton, Catteraugus County, NY									
Glynn Geotechnical Engineering									
PREPARED FOR: BORING LOCATION:									
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741	742	743	744	745	746	747	748	749	750
751	752	753	754	755	756	757	758	759	760
761	762	763	764	765	766	767	768	769	770
771	772	773	774	775	776	777	778	779	780
781	782	783	784	785	786	787	788	789	790
791	792	793	794	795	796	797	798	799	800
801	802	803	804	805	806	807	808	809	810
811	812	813	814	815	816	817	818	819	820
821	822	823	824	825	826	827	828	829	830
831	832	833	834	835	836	837	838	839	840
841	842	843	844	845	846	847	848	849	850
851	852	853	854	855	856	857	858	859	860
861	862	863	864	865	866	867	868	869	870
871	872	873	874	875	876	877	878	879	880
881	882	883	884	885	886	887	888	889	890
891	892	893	894	895	896	897	898	899	900
901	902	903	904	905	906	907	908	909	910
911	912	913	914	915	916	917	918	919	920
921	922	923	924	925	926	927	928	929	930
931	932	933	934	935	936	937	938	939	940
941	942	943	944	945	946	947	948	949	950
951	952	953	954	955	956	957	958	959	960
961	962	963	964	965	966	967	968	969	970
971	972	973	974	975	976	977	978	979	980
981									

x:\Data\Job 29041 - Catteraugus County - Dayton Intersection\Drawings\PS&E Drawings (Final Design)\21-23-Boring Logs.dwg Tuesday, 13 December 2016 3:23PM



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March 29, 2012

Greenman-Pederson, Inc.
4950 Genesee Street
Suite 165
Buffalo, New York 14225

Attn: Mr. Tim Woodbury, P.E.

Subject: CR57 and Bentley Road Intersection
Dayton, New York
Stormwater Infiltration Testing
GGE 10-1157 B

Dear Mr. Woodbury:

At the request of Greenman-Pederson, Inc. (GPI), Glynn Geotechnical Engineering (GGE) has completed infiltration testing for the proposed stormwater infiltration trench along the south side of Bentley Road in the Town of Dayton, New York. The proposed stormwater infiltration trench is to be part of the proposed realignment of the CR57 and Bentley Road Intersection. The infiltration testing was performed in general accordance with Appendix D of the New York State Stormwater Design Manual.

A subsurface investigation was performed by Nature's Way Environmental Consultants and Contractors, Inc. (NWECC) along the proposed infiltration trench alignment on March 7, 2012. Hollow stem augers were advanced through the overburden soils to permit soil sample retrieval in accordance with ASTM D1586-06a "Standard Test Method for Standard Penetration Test (SPT) and Split Barrel Sampling of Soils". Resistance values, or blow counts, were rounded for each blow count advancement of a twenty-four inch long, two inch inside diameter split spoon sampler. "N" values were calculated by totaling the resistance values for the 6/12 and 12/18 inch intervals.

The subsurface investigation consisted of a total of three borings, with B-1 located at the west end of the proposed trench, B-2 at the center of the proposed trench and B-3 at the east end of the proposed trench. The soil borings were advanced to a depth of 14.0 feet each and revealed granular soils, the majority of which were composed of extremely moist, loose to compact, silty sand with varying quantities of gravel (SM, GP). Fine grained cohesive soil (CL) was encountered in boring B-2 from 13.0 to 14.0 feet. At boring completion, groundwater was encountered at a depth of 11.2 feet in boring B-1, 11.0 feet in boring B-2 and 11.1 feet in boring B-3.

GLYNN GEOTECHNICAL ENGINEERING
415 South Transit Street, Lockport, New York 14094
Voice: 716.625.6973 / Fax: 716.625.6993
www.glynn-group.com

CR57 and Bentley Road Intersection, Dayton, New York
Stormwater Infiltration Testing
GGE 10-1157 B

March 29, 2012
Page 2

Infiltration test locations were selected along the proposed alignment by GPI. Initially 14 locations were selected to reflect the minimum spacing identified in Table D-1 of Appendix D, however the number of test locations were reduced to 7 by GPI due to the similar subsurface conditions encountered at the soil boring locations. Nature's Way performed the installation of infiltration test wells on March 7, 2012. The infiltration test wells were composed of 4 inch diameter PVC pipe installed to a depth of 30 inches below the bottom of the proposed trench. Gravel was placed in the bottom of the pipe to avoid turbulence when pouring water into the well. Bentonite was placed around the base of the well to prevent water from rising up the annulus outside of the pipe. Upon the completion of well installation, 24 inches of water was added to the well to initiate the 24 hour pre-soak.

Infiltration testing was performed by GGE on March 9, 2012. The infiltration testing was performed by placing 24 inches of water in the bottom of each well and measuring the drop in water level over the course of one hour. The procedure was repeated several times where applicable. The testing produced highly variable infiltration rates across the site, with measured rates and locations as follows:

Location	Infiltration Rate (in/hr)
1	400
3	84
5	0.3
7	2.8
9	1.9
11	no infiltration over 2 hours
13	0.9
14	2.0

Appendix D of the NYSDC Stormwater Design Manual specifies a minimum field infiltration rate of 0.5 inches per hour to permit the use of infiltration practices. Based on the data obtained during field testing, infiltration practices are not acceptable at locations 5 and 11.

This completes the current scope of infiltration testing for the proposed realignment of CR 57 and Bentley Road. The recommendations and engineering evaluations provided in this report are based on the subsurface information gathered during field operations and pertinent data supplied by GPI. Please contact GGE if you should have any questions.

Sincerely,
G. Edward Lower
Senior Geologist
/s/

Mark W. Glynn, P.E.
Consulting Engineer, Principal
3.29.12

Investigation location plan, soil borings (3), infiltration well sketch

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Greenman-Pederson, Inc.
County Route 57 & Bentley Road
Dayton, NY
Cattaraugus County

3553 Crittenden Road
Alden, NY 14004
(716) 937-6527
www.natureswayenvironmental.com

Infiltration Test Wells #1 thru #8

CRITTENDEN
(716) 937-6527
SYRACUSE
(315) 636-8816

KEY TO SUBSURFACE LOGS

DEPTH (FEET)	DESCRIPTION	REMARKS	COMMENTS
0.0	Asphalt		
0.3	Moist, brown, gravelly (SILTY-SAND) with 20 to 40% gravel with very fine size sand, little silt, very dense to compact, stratified		
1.0			
1.3	Extremely moist, brown (SILTY-SAND) with very fine size sand, little silt, loose, thinly bedded		
1.6			
1.9	Extremely moist, brown, very gravelly (SILTY-SAND) with 40 to 50% gravel, very fine to fine size sand, little silt, loose, thinly bedded		
2.0			
2.3			
2.6			
2.9			
3.2			
3.5			
3.8			
4.1			
4.4			
4.7			
5.0			
5.3			
5.6			
5.9			
6.2			
6.5			
6.8			
7.1			
7.4			
7.7			
8.0			
8.3			
8.6			
8.9			
9.2			
9.5			
9.8			
10.1			
10.4			
10.7			
11.0			
11.3			
11.6			
11.9			
12.2			
12.5			
12.8			
13.1			
13.4			
13.7			
14.0			
14.3			
14.6			
14.9			
15.2			
15.5			
15.8			
16.1			
16.4			
16.7			
17.0			
17.3			
17.6			
17.9			
18.2			
18.5			
18.8			
19.1			
19.4			
19.7			
20.0			

Soil Hardness

Soil Hardness	Description	Symbol
Soft	Scratched by fingernail	○
Medium	Scratched easily by penknife	○
Hard	Scratched with knife with difficulty	○
Very Hard	Cannot be scratched with knife of pick	○

Weathering

Weathering	Description	Symbol
Very Weathered, Weathered, or Sound	Judged from relative amounts of disintegration, con staining, cone recovery, clay seams, etc.	○

Bedding

Bedding	Description	Symbol
Flake	< 1"	○
Very Thinly Bedded	1" - 2"	○
Thinly Bedded	2" - 4"	○
Medium Bedded	4" - 12"	○
Thick Bedded	12" - 36"	○
Massive	> 36"	○

Soil Type

Soil Type	Symbol
Boulder	○
Cobble	○
Gravel - Coarse	○
- Fine	○
Sand - Coarse	○
- Medium	○
- Fine	○
Silt - Non Plastic (Drainable)	○
Clay - Plastic (Cohesive)	○

Gravel Content

Gravel Content	Symbol
Less than 5%	○
5 - 10%	○
10 - 25%	○
25 - 40%	○
40 - 60%	○
60 - 75%	○
75 - 90%	○
90 - 100%	○

Cohesive

Cohesive	Symbol
Very Soft	○
Soft	○
Medium	○
Firm	○
Very Firm	○
Hard	○

RECONSTRUCTION OF
C.R. 57 (COTTAGE-MARKHAM ROAD) AND
BENTLEY ROAD INTERSECTION
TOWN OF DAYTON
CATTARAUGUS COUNTY DEPARTMENT OF PUBLIC WORKS

BORINGS 2 of 3

WARNING: ALTERATIONS TO THIS DOCUMENT NOT CONFORMING TO SECTION 1700, SUBDIVISION 8, STATE EDUCATION LAW, ARE PROHIBITED

SHEET NO. 22-23

