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UTILITY OFFICIALS:

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ROCK RIVER WATER RECLAMATION DISTRICT
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ROCKFORD, IL
(815) 387-7660

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DOT LIAISON
NICOR GAS
1844 FERRY ROAD
NAPERVILLE, IL 60563
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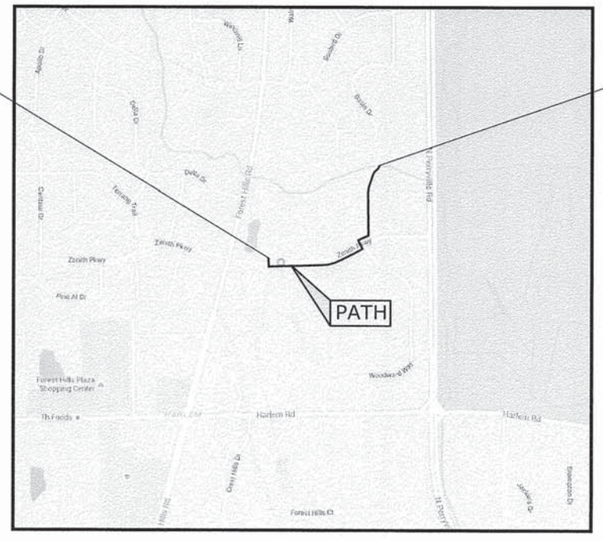
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
PLANS FOR LOCAL AGENCY IMPROVEMENTS
FEDERAL-AID PROJECT

CITY OF LOVES PARK
WILLOW CREEK TRAIL EXTENSION
SECTION 14-00076-00-BT
PROJECT NO. TE-00D2(160)
JOB NO. C-92-028-16
CONTRACT NO. 85628
ITEP #231020 & 231008



PROJECT LOCATION MAP

N O R T H
NO SCALE

LENGTH OF SHARED-USE PATH = 2,030 LIN. FT. = 0.38 MILES

LOCATION OF SECTION INDICATED THUS: – ■ –

PLANS SUBMITTED FOR

IDOT REVIEW	02-25-2016

Arc Project Number 14070

AGENCY RESPONSIBLE FOR LETTING

APPROVED Darryl Lindley
Mayor
CITY OF LOVES PARK, POSITION

APPROVED Tim Dimke
Executive Director
ROCKFORD PARK DISTRICT, POSITION

PASSED MARCH 3, 2016
Anthony Baratta
DISTRICT 2 ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID BASED ON LIMITED REVIEW MARCH 3, 2016
Paul A. Loete
Regional Engineer

FILE NAME = g:\projects\14070 willow creek trailhead\dwg\engineering plans\00 cover sheet.dwg	USER NAME = Andrew Hess	DESIGNED - JGS	REVISED - ----
		DRAWN - AJH	REVISED - ----
	PLOT SCALE = 1:1	CHECKED - JSL	REVISED - ----
	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----

ARC DESIGN RESOURCES INC.

COVER SHEET

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	01
		CONTRACT NO. 85628		
	ILLINOIS FED. AID PROJECT			

85628

DISTRICT 2 STANDARDS

10.2	Inlets, Special
13.2a	Frame and Grate for Inlets, Special
19.4	Riprap at End Sections

CITY OF LOVES PARK STANDARDS

1.	Fire Hydrant Detail
2.	Water Service Detail
3.	Valve and Valve Box Detail

GENERAL NOTES AND CONDITIONS

1. All earthwork, grading and paving shall be performed in accordance with Standard Specifications for Road and Bridge Construction in Illinois, State of Illinois Department of Transportation, (current edition), the "Supplemental Specifications and Recurring Special Provision" (current edition), and all revisions and supplements thereto, and the requirements and specifications of the County of Winnebago and/or City of Rockford (where applicable).

2. Notify the following at least 48 hours prior to start of construction:
   A. Winnebago County Highway Dept. - (815) 319-4000
   B. City of Loves Park Dept. of Public Works - (815) 654-5040
   C. Rock River Water Reclamation District - (815) 387-7660
   D. Rockford Park District - (815) 987-8800
   E. Arc Design Resources, Inc. - (815) 484-4300

3. The Contractor shall be responsible for protecting utility property during construction operations as outlined in Article 107.31 of the Standard Specifications. The J.U.L.I.E. number is 800-892-0123. A minimum of 48 hours advance notice is required for non-emergency work.

4. The Contractor shall contact the City of Loves Park Department of Public Works Water Division for all water main shutoffs required due to construction operations. The Contractor shall not operate any valves or shutoffs without prior notification.

5. If during paving or grading operations the existing mailboxes or street signs, which are to remain in place, become a hindrance, the Contractor shall be required to carefully remove and reinstall them and shall be included in the cost of the contract per section 107.20 of the Standard Specifications for Road and Bridge Construction in Illinois, State of Illinois Department of Transportation, (current edition).

6. All elevations are U.S.G.S. Datum.

7. The top four inches of soil in any right of way area disturbed by the Contractor must be capable of supporting vegetation.

8. All mandatory joint sealing for Class A, Class B, and Class B (Hinge Jointed) patches as shown on the plans will not be measured for payment. Optional sawing of the joint for the sealant reservoir will not be measured for payment. These items shall be incidental to the cost per square yard of patching.

9. Cut or fill slopes shall have a maximum ratio of 3 horizontal to one vertical unless noted otherwise. These slope constraints apply to temporary stock piles as well as finished slope conditions.

10. The Contractor is responsible for maintaining positive drainage at the conclusion of each working day.

11. Depressed curb shall be provided for handicapped ramps at all sidewalks abutting the curb and gutter and for future sidewalk locations. Follow IDOT ramp standards.

12. See cross sections for special slopes, including driveway slopes.

13. Embankment will not be measured for payment and shall be included in the Earth Excavation cost.

14. See cross sections for special ditches and back slopes.

15. The removal of bituminous surfacing not on a rigid type base removed in conjunction with the base shall be removed as earth excavation. The removal of bituminous surfacing on a rigid type base removed in conjunction with the base shall be included in the contract unit price for pavement removal of the type specified.

16. Placement and compaction of the backfill for proposed across road culverts and existing across road culverts that are removed shall conform to Section 502.10 of the standard specifications, except that the material shall conform to Article 208.02 of the standard specifications, and shall be compacted to a minimum of 95% of the stand laboratory density. Any material conforming to the requirement of Article 1003.04 or 1004.05 which has been excavated from the trenches shall be used for backfilling the trenches. The entire excavation, within 2 feet outside of each curb or pavement shall be backfilled with trench backfill material to the bottom of the proposed subgrade.

17. Except for the top 3",all aggregate bases and subbases 12" in thickness shall be constructed of aggregate gradation CA-2. If the specified thickness exceeds 12", the bases or subbases shall be constructed of topsize 6" breaker-run crushed stone with 70% to 90% by weight, passing the 4" sieve and 15% to 40% by weight, passing the 2" size sieve, except for the top 3". The breaker-run crushed stone shall be reasonably uniformly graded from coarse to fine and be taken from a quarry ledge capable of producing Class "D" quality aggregate. The top 3" shall be gradation CA-6 or CA 10 regardless of thickness. The water necessary to achieve compaction in all but the top 3" layer may be added after the subbase or base course is placed on the grade.

18. All embankment constructed of cohesive soil shall be constructed with not more than 110% of optimum moisture content, determined by the standard proctor test. Cohesive soil shall be defined as any soil which contains greater than 10% particles by weight passing the #200 sieve. The 110% of optimum moisture limit may be waived in free-draining granular material when approved by the Engineer.

19. Culvert flows must be maintained throughout the project. Normal flow shall be allowed to pass at the rate it enters the jobsite. High flows shall be allowed to pass without causing damage to upstream properties.

20. All frames and grates of drainage structures to be removed or filled shall be carefully salvaged and shall remain the property of the contractor.

GENERAL NOTES AND CONDITIONS (CONTINUED)

22. The contractor shall determine flow lines of existing sewer lines which are shown on the plans as estimated or unknown. This information is necessary before ordering inlets and manholes.

23. Pavement marking shall be done according to standard 780001, except as follows:
   A. All words, such as "ONLY", shall be 8 feet high.
   B. All non-freeway arrows shall be the large size.

24. Except as noted on the plans, pavement grades shown are at the top of pavement surfaces.

25. The work required to connect any sewer to an existing drainage structure or pipe will not be paid for separately, but shall be considered as included in the contract unit price bid for the sewer item.

26. Seeding shall not be permitted at any time when the ground is frozen, wet, or in an untillable condition. Locations to be seeded will be determined by the Engineer.

27. Only those trees designated by the Engineer or listed in the tree removal schedule shall be removed. The contractor shall protect all remaining trees from damage due to his operations.

28. Abandoned underground utilities that conflict with construction shall be disposed of outside the limits of the right-of-way according to Article 202.03 of the standard specifications and as directed by the Engineer. This work will not be paid for separately, but shall be included in the cost of earth excavation.

29. Any reference to a standard in these plans shall be interpreted to mean the most current edition.

30. The following rates of application have been used in calculating plan quantities:

Granular Materials	2.05	TONS / CU YD
Bituminous Mat Prime Coat	0.6779	LB / SY
HMA Resurfacing	112	LBS / SQ YD / IN
Short Term Pavement Marking	10	FT / 100 FT OF APPLICATION
Mix for Cracks, JTS, & FLGWYS	0.0003	TONS / SQ YD
Level Binder (Hand Method)	0.0005	TONS / SQ YD
Supplemental Watering	3	GAL / SQ YD/ APPLICATION
Calcium Chloride	2	LB / SQ YD/ APPLICATION
Temporary Ditch Checks	5	TONS OF AGGREGATE

31. All existing corrugated metal pipe (CMP) field tiles crossing under the roadway, as shown in the plans or discovered during exploration trenching, shall be replaced according to Section 611 of the standard specifications and paid for under the various pay items for storm sewer work. (See schedules for pay items.)

32. All sanitary sewer work (including manhole adjustment, sewer crossing, etc.) shall be constructed in the presence of a RRWRD Inspector. The Contractor shall coordinate this work with RRWRD Chief Inspector Jude Torre@815-871-8072 cell.

33. All sanitary sewer work shall conform to all standards and specifications of the Rock River Water Reclamation District.

COMMITMENTS

1. Replace dead pine tree in R.O.W. in front of 5291 Zenith Parkway.

2. To preserve Indiana and Northern long-eared bats, trees will not be cleared from April 1 through September 30.

3. Impacts to trees shall be mitigated in accordance with IDOT Departmental Policy D&E-18 Preservation and Replacement of Trees. Trees will be replaced in accordance with IDOT Departmental Policy D&E-18 Preservation and Replacement of Trees.

FILE NAME = g:\projects\14070 willow creek trailhead\dwg\engineering plans\01 general notes.dwg	USER NAME = Andrew Hess	DESIGNED - JGS	REVISED - ----	ARC DESIGN RESOURCES INC.	GENERAL NOTES & STANDARDS
		DRAWN - AJH	REVISED - ----		
	PLOT SCALE = 1:1	CHECKED - JSL	REVISED - ----		
	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	02
		CONTRACT NO. 85628		
	ILLINOIS	FED. AID PROJECT		

85628

CONSTRUCTION TYPE CODE: 0028

Item Number	S.P.	Pay Item Number	Description	Unit	Total
1		20100210	Tree Removal (Over 15 Units Diameter)	UNIT	58
2	*	20100500	Tree Removal, Acres	ACRE	0.5
3		20101100	Tree Trunk Protection	EACH	25
4		20101350	Tree Pruning (Over 10 Inch Diameter)	EACH	25
5		20101700	Supplemental Watering	UNIT	51.6
6		20200100	Earth Excavation	CU YD	90
7		20400100	Borrow Excavation	CU YD	1750
8		21101615	Topsoil Furnish and Place, 4"	SQ YD	3431
Δ 9		25200100	Sodding	SQ YD	3431
10		28000305	Temporary Ditch Check	FOOT	36
11		28000400	Perimeter Erosion Barrier	FOOT	2475
12		28000500	Inlet and Pipe Protection	EACH	5
13		28100127	Stone Riprap, Class B4	SQ YD	24
14		28100129	Stone Riprap, Class B5	SQ YD	71
15		35102200	Aggregate Base Course, Type B 10"	SQ YD	1468
16		40600275	Bituminous Materials (Prime Coat)	POUND	330
17		40600290	Bituminous Materials (Tack Coat)	POUND	67
18		40603080	Hot-Mix Asphalt Binder Course, IL-19.0, N50	TON	55
19		40603310	Hot-Mix Asphalt Surface Course, Mix "C", N50	TON	193
20		42300400	Portland Cement Concrete Driveway Pavement, 8 Inch	SQ YD	172
21		42400200	Portland Cement Concrete Sidewalk 5 Inch	SQ FT	5659
22		42400800	Detectable Warnings	SQ FT	159
23	*	44000100	Pavement Removal	SQ YD	145
24		44000500	Combination Curb and Gutter Removal	FOOT	224
25		50300300	Protective Coat	SQ YD	956
26		54001001	Box Culvert End Sections, Culvert No. 1	EACH	2
27		54001002	Box Culvert End Sections, Culvert No. 2	EACH	2
28		54011006	Precast Concrete Box Culverts 10' x 6'	FOOT	60
29		54213657	Precast Reinforced Concrete Flared End Sections 12"	EACH	2
30	*	56400400	Fire Hydrant To Be Relocated	EACH	1
31		60236200	Inlets, Type A, Type 8 Grate	EACH	1
32	*	60248700	Valve Vaults, Type A, 4' Diameter, Type 1 Frame, Closed Lid	EACH	2
33		60262700	Inlets to be Reconstructed	EACH	1
34		60609800	Combination Concrete Curb and Gutter, Type M-6.18	FOOT	552
35		67100100	Mobilization	L SUM	1
36		72000100	Sign Panel - Type 1	SQ FT	8.6

Item Number	S.P.	Pay Item Number	Description	Unit	Total
37		72800100	Telescoping Steel Sign Support	FOOT	10.5
38		73000100	Wood Sign Support	FOOT	20
39		73100100	Base For Telescoping Steel Sign Support	EACH	1
Δ 40		78000100	Thermoplastic Pavement Marking - Letters and Symbols	SQ FT	6.2
Δ 41		78000200	Thermoplastic Pavement Marking - Line 4"	FOOT	522
Δ 42		78001140	Paint Pavement Marking - Line 8"	FOOT	64
Δ 43		78001150	Paint Pavement Marking - Line 12"	FOOT	50
44		78300100	Pavement Marking Removal	SQ FT	576
Δ 45		81028720	Underground Conduit, Coilable Nonmetallic Conduit, 1" Dia	FOOT	895
Δ 46		81028750	Underground Conduit, Coilable Nonmetallic Conduit, 2" Dia	FOOT	625
Δ 47		81702110	Electric Cable In Conduit, 600V (XLP-Type Use) 1/C No. 10	FOOT	4786
Δ 48		81702120	Electric Cable In Conduit, 600V (XLP-Type Use) 1/C No. 8	FOOT	628
Δ 49		81702140	Electric Cable In Conduit, 600V (XLP-Type Use) 1/C No. 4	FOOT	1884
Δ 50		82500350	Lighting Controller, Base Mounted, 240 Volt, 100 Amp	EACH	1
51		550A0050	Storm Sewers, Class A, Type 1 12"	FOOT	98
Δ 52		A2002566	Tree, Carpinus Caroliniana (American Hornbeam), 6' Height, Shrub Form, Balled and Burlapped	EACH	3
Δ 53		A2005020	Tree, Gymnocladus Dioicus (Kentucky Coffeetree), 2-1/2" Caliper, Balled and Burlapped	EACH	4
Δ 54		A2005420	Tree, Liriodendron Tulipifera (Tulip Tree), 2-1/2" Caliper, Balled and Burlapped	EACH	4
Δ 55		A2006520	Tree, Quercus Bicolor (Swamp White Oak), 2-1/2" Caliper, Balled and Burlapped	EACH	4
Δ 56		A2007620	Tree, Taxodium Distichum (Common Bald Cypress), 2-1/2" Caliper, Balled and Burlapped	EACH	5
Δ 57		A2008820	Tree, Ulmus Carpinifolia Homestead (Homestead Elm), 2-1/2" Caliper, Balled and Burlapped	EACH	3
Δ 58		B0001720	Tree, Amelanchier X Grandiflora (Apple Serviceberry), 12' Height, Shrub Form, Balled and Burlapped	EACH	3
Δ 59		B2001666	Tree, Crataegus Crusgalli Inermiz (Thornless Cockspur Hawthorn), 6' Height, Shrub Form, Balled and Burlapped	EACH	5
Δ 60		D2002972	Evergreen, Pinus Strobus (Eastern White Pine), 6' Height, Balled and Burlapped	EACH	1
61	*	X0321158	Park Benches	EACH	4
62	*	X0326806	Washout Basin	L SUM	1
63	*	X6024240	Inlets, Special	EACH	1
64	*	X6026050	Sanitary Manholes To Be Adjusted	EACH	1
65	*	X6026632	Valve Boxes to Be Removed	EACH	2
66	*	X7010216	Traffic Control and Protection, Special	L SUM	1
Δ 67	*	X8040102	Electric Service Installation, Special	EACH	1
Δ 68	*	X8360120	Light Pole Foundation, Special	EACH	9
69	*	XX000959	Trash Receptacle	EACH	2
Δ 70	*	XX007295	Lighting Unit A Complete	EACH	2
Δ 71	*	XX007296	Lighting Unit B Complete	EACH	7
72	*	Z0013797	Stabilized Construction Entrance	SQ YD	187

Δ specialty Items

FILE NAME = g:\projects\14070 willow creek trailhead\dwg\engineering plans\02 summary of quantities.dwg	USER NAME = Andrew Hess	DESIGNED - JGS	REVISED - ----	ARC DESIGN RESOURCES INC.	SUMMARY OF QUANTITIES
		DRAWN - AJH	REVISED - ----		
	PLOT SCALE = 1:1	CHECKED - JSL	REVISED - ----		
	PLOT DATE = 2/29/2016	DATE - 11/17/2015	REVISED - ----		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	03
		CONTRACT NO. 85628		
	ILLINOIS FED. AID PROJECT			

85628

20100210 - Tree Removal, Over 15 Units Diameter (UNIT)

Zenith Parkway Corridor	58
Parking Lot	0
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	0
Total	58

20100500 - Tree Removal, Acres (ACRE)

Zenith Parkway Corridor	0.00
Parking Lot	0.00
Loves Park Shared-Use Path	0.05
Rockford Park District Shared-Use Path	0.45
Total	0.50

20101100 - Tree Trunk Protection (EACH)

Zenith Parkway Corridor	25
Parking Lot	0
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	0
Total	25

20101350 - Tree Pruning (Over 10 Inch Diameter) (EACH)

Zenith Parkway Corridor	25
Parking Lot	0
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	0
Total	25

20101700 - Supplemental Watering (UNIT)

Zenith Parkway Corridor	10.4
Parking Lot	7.2
Loves Park Shared-Use Path	19.5
Rockford Park District Shared-Use Path	14.5
Total	51.6

21101615 - Topsoil Furnish and Place, 4" (SQ YD

Zenith Parkway Corridor	691
Parking Lot	480
Loves Park Shared-Use Path	1297
Rockford Park District Shared-Use Path	963
Total	3431

25200100 - Sodding (SQ YD)

Zenith Parkway Corridor	691
Parking Lot	480
Loves Park Shared-Use Path	1297
Rockford Park District Shared-Use Path	963
Total	3431

28000305 - Temporary Ditch Check (FOOT)

Zenith Parkway Corridor	0
Parking Lot	0
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	36
Total	36

28000400 - Perimeter Erosion Barrier (FOOT)

Zenith Parkway Corridor	904
Parking Lot	121
Loves Park Shared-Use Path	877
Rockford Park District Shared-Use Path	573
Total	2475

28000500 - Inlet Pipe Protection (EACH)

Zenith Parkway Corridor	2
Parking Lot	1
Loves Park Shared-Use Path	2
Rockford Park District Shared-Use Path	0
Total	5

28100127 - Stone Riprap, Class B4 (SQ YD)

Zenith Parkway Corridor	0
Parking Lot	12
Loves Park Shared-Use Path	12
Rockford Park District Shared-Use Path	0
Total	24

28100129 - Stone Riprap, Class B5 (SQ YD)

Zenith Parkway Corridor	0
Parking Lot	0
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	71
Total	71

35102200 - Aggregate Base Course, Type B 10" (SQ YD)

Zenith Parkway Corridor	57
Parking Lot	429
Loves Park Shared-Use Path	612
Rockford Park District Shared-Use Path	370
Total	1468

40600275 - Bituminous Materials (Prime Coat) (POUND)

Zenith Parkway Corridor	39
Parking Lot	291
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	0
Total	330

40600290 - Bituminous Materials (Tack Coat) (POUND)

Zenith Parkway Corridor	8
Parking Lot	59
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	0
Total	67

40603080 - Hot-Mix Asphalt Binder Course, IL-19.0, N50 (TON)

Zenith Parkway Corridor	6.5
Parking Lot	48.5
Loves Park Shared-Use Path	0.0
Rockford Park District Shared-Use Path	0.0
Total	55

40603310 - Hot-Mix Asphalt Surface Course, Mix "C", N50 (TON)

Zenith Parkway Corridor	6.5
Parking Lot	48.5
Loves Park Shared-Use Path	86.0
Rockford Park District Shared-Use Path	52.0
Total	193

42300400 - Portland Cement Concrete Driveway Pavement, 8 Inch (SQ YD)

Zenith Parkway Corridor	88
Parking Lot	84
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	0
Total	172

42400200 - Portland Cement Concrete Sidewalk 5 Inch (SQ FT)

Zenith Parkway Corridor	5118
Parking Lot	0
Loves Park Shared-Use Path	541
Rockford Park District Shared-Use Path	0
Total	5659

42400800 - Detectable Warnings (SQ FT)

Zenith Parkway Corridor	127
Parking Lot	12
Loves Park Shared-Use Path	20
Rockford Park District Shared-Use Path	0
Total	159

44000100 - Pavement Removal (SQ YD)

Zenith Parkway Corridor	145
Parking Lot	0
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	0
Total	145

44000500 - Combination Curb and Gutter Removal FOOT)

Zenith Parkway Corridor	147
Parking Lot	77
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	0
Total	224

50300300 - Protective Coat (SQ YD)

Zenith Parkway Corridor	699
Parking Lot	196
Loves Park Shared-Use Path	61
Rockford Park District Shared-Use Path	0
Total	956

54001001 - Box Culvert End Sections, Culvert No. 1 (EACH)

Zenith Parkway Corridor	0
Parking Lot	0
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	2
Total	2

54001002 - Box Culvert End Sections, Culvert No. 2 (EACH)

Zenith Parkway Corridor	0
Parking Lot	0
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	2
Total	2

54011006 - Precast Concrete Box Culverts 10' x 6' (FOOT)

Zenith Parkway Corridor	0
Parking Lot	0
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	60
Total	60

54213657 - Precast Reinforced Concrete Flared End Sections 12" (EACH)

Zenith Parkway Corridor	0
Parking Lot	1
Loves Park Shared-Use Path	1
Rockford Park District Shared-Use Path	0
Total	2

550A0050 - Storm Sewers, Class A, Type 1 12" (FOOT)

Zenith Parkway Corridor	0
Parking Lot	42
Loves Park Shared-Use Path	56
Rockford Park District Shared-Use Path	0
Total	98

56400400 - Fire Hydrant to be Relocated (EACH)

Zenith Parkway Corridor	0
Parking Lot	0
Loves Park Shared-Use Path	1
Rockford Park District Shared-Use Path	0
Total	1

60236200 - Inlets, Type A, Type 8 Grate (EACH)

Zenith Parkway Corridor	0
Parking Lot	0
Loves Park Shared-Use Path	1
Rockford Park District Shared-Use Path	0
Total	1

60248700 - Valve Vaults, Type A, 4' Diameter, Type 1 Frame, Closed Lid (EACH)

Zenith Parkway Corridor	0
Parking Lot	0
Loves Park Shared-Use Path	2
Rockford Park District Shared-Use Path	0
Total	2

60262700 - Inlets to be Reconstructed (EACH)

Zenith Parkway Corridor	1
Parking Lot	0
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	0
Total	1

60609800 - Combination Concrete Curb and Gutter, Type M-6.18 (FOOT)

Zenith Parkway Corridor	149
Parking Lot	403
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	0
Total	552

FILE NAME = g:\projects\14070 willow creek trailhead\dwg\engineering plans\03 schedule of quantities.dwg	USER NAME = Andrew Hess	DESIGNED - JGS	REVISED - ----
		DRAWN - AJH	REVISED - ----
	PLOT SCALE = 1:1	CHECKED - JSL	REVISED - ----
	PLOT DATE = 2/29/2016	DATE - 11/17/2015	REVISED - ----

ARC DESIGN RESOURCES, INC.

SCHEDULE OF QUANTITIES

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	04
		CONTRACT NO. 85628		
		ILLINOIS FED. AID PROJECT		

85628

72000100 - Sign Panel - Type 1 (SQ FT)

Zenith Parkway Corridor	1.9
Parking Lot	6.7
Loves Park Shared-Use Path	0.0
Rockford Park District Shared-Use Path	0.0
Total	8.6

72800100 - Telescoping Steel Sign Support (FOOT)

Zenith Parkway Corridor	0.0
Parking Lot	10.5
Loves Park Shared-Use Path	0.0
Rockford Park District Shared-Use Path	0.0
Total	10.5

73000100 - Wood Sign Support (FOOT)

Zenith Parkway Corridor	10
Parking Lot	10
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	0
Total	20

73100100 - Base for Telescoping Steel Sign Support (EACH)

Zenith Parkway Corridor	0
Parking Lot	1
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	0
Total	1

78000100 - Thermoplastic Pavement Marking - Letters and Symbols (SQ FT)

Zenith Parkway Corridor	3.1
Parking Lot	3.1
Loves Park Shared-Use Path	0.0
Rockford Park District Shared-Use Path	0.0
Total	6.2

78000200 - Thermoplastic Pavement Marking - Line 4" (FOOT)

Zenith Parkway Corridor	104
Parking Lot	223
Loves Park Shared-Use Path	117
Rockford Park District Shared-Use Path	78
Total	522

78001140 - Paint Pavement Marking - Line 8" (FOOT)

Zenith Parkway Corridor	64
Parking Lot	0
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	0
Total	64

78001150 - Paint Pavement Marking - Line 12" (FOOT)

Zenith Parkway Corridor	50
Parking Lot	0
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	0
Total	50

78300100 - Pavement Marking Removal (SQ FT)

Zenith Parkway Corridor	450
Parking Lot	126
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	0
Total	576

82500350 - Lighting Controller, Base Mounted, 240 Volt, 100 Amp (EACH)

Zenith Parkway Corridor	0
Parking Lot	1
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	0
Total	1

A2002566 - Tree, Carpinus Caroliniana (American Hornbeam), 6' Height, Shrub Form, Balled and Burlapped (EACH)

Zenith Parkway Corridor	0
Parking Lot	0
Loves Park Shared-Use Path	3
Rockford Park District Shared-Use Path	0
Total	3

A2005020 - Tree, Gymnocladus Dioicus (Kentucky Coffeetree), 2-1/2" Caliper, Balled and Burlapped (EACH)

Zenith Parkway Corridor	0
Parking Lot	2
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	2
Total	4

A2005420 - Tree, Liriodendron Tulipifera (Tulip Tree), 2-1/2" Caliper, Balled and Burlapped (EACH)

Zenith Parkway Corridor	0
Parking Lot	2
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	2
Total	4

A2006520 - Tree, Quercus Bicolor (Swamp White Oak), 2-1/2" Caliper, Balled and Burlapped (EACH)

Zenith Parkway Corridor	0
Parking Lot	0
Loves Park Shared-Use Path	4
Rockford Park District Shared-Use Path	0
Total	4

A2007620 -Tree, Taxodium Distichum (Common Bald Cypress), 2-1/2" Caliper, Balled and Burlapped (EACH)

Zenith Parkway Corridor	3
Parking Lot	0
Loves Park Shared-Use Path	2
Rockford Park District Shared-Use Path	0
Total	5

A2008820 -Tree, Ulmus Carpinifolia Homestead (Homestead Elm), 2-1/2" Caliper, Balled and Burlapped (EACH)

Zenith Parkway Corridor	0
Parking Lot	2
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	1
Total	3

B0001720 -Tree, Amelanchier X Grandiflora (Apple Serviceberry), 12' Height, Shrub Form, Balled and Burlapped (EACH)

Zenith Parkway Corridor	0
Parking Lot	0
Loves Park Shared-Use Path	3
Rockford Park District Shared-Use Path	0
Total	3

B2001666 -Tree, Crataegus Crusgalli Inermiz (Thornless Cockspur Hawthorn), 6' Height, Shrub Form, Balled and Burlapped (EACH)

Zenith Parkway Corridor	0
Parking Lot	5
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	0
Total	5

D2002972 - Evergreen, Pinus Strobus (Eastern White Pine), 6' Height, Balled and Burlapped (EACH)

Zenith Parkway Corridor	1
Parking Lot	0
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	0
Total	1

X0321158 - Park Benches (EACH)

Zenith Parkway Corridor	0
Parking Lot	0
Loves Park Shared-Use Path	4
Rockford Park District Shared-Use Path	0
Total	4

X6024240 - Inlets, Special (EACH)

Zenith Parkway Corridor	0
Parking Lot	1
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	0
Total	1

X6026050 - Sanitary Manholes To Be Adjusted (EACH)

Zenith Parkway Corridor	1
Parking Lot	0
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	0
Total	1

X6026632 - Valve Boxes To Be Removed (EACH)

Zenith Parkway Corridor	0
Parking Lot	0
Loves Park Shared-Use Path	2
Rockford Park District Shared-Use Path	0
Total	2

X8040102 - Electric Service Installation, Special (EACH)

Zenith Parkway Corridor	1
Parking Lot	0
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	0
Total	1

X8360120 - Light Pole Foundation, Special (EACH)

Zenith Parkway Corridor	0
Parking Lot	2
Loves Park Shared-Use Path	4
Rockford Park District Shared-Use Path	3
Total	9

Z0013797 - Stabilized Construction Entrance (SQ YD)

Zenith Parkway Corridor	0
Parking Lot	187
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	0
Total	187

XX000959 - Trash Receptacle (EACH)

Zenith Parkway Corridor	0
Parking Lot	0
Loves Park Shared-Use Path	2
Rockford Park District Shared-Use Path	0
Total	2

XX007295 - Lighting Unit A Complete (EACH)

Zenith Parkway Corridor	0
Parking Lot	2
Loves Park Shared-Use Path	0
Rockford Park District Shared-Use Path	0
Total	2

XX007296 - Lighting Unit B Complete (EACH)

Zenith Parkway Corridor	0
Parking Lot	0
Loves Park Shared-Use Path	4
Rockford Park District Shared-Use Path	3
Total	7

FILE NAME = g:\projects\14070 willow creek trailhead\dwg\engineering plans\04 schedule of quantities.dwg	USER NAME = Andrew Hess	DESIGNED - JGS	REVISED - ----
		DRAWN - AJH	REVISED - ----
	PLOT SCALE = 1:1	CHECKED - JSL	REVISED - ----
	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----

ARC DESIGN RESOURCES INC.

SCHEDULE OF QUANTITIES

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	05
		CONTRACT NO. 85628		
	ILLINOIS FED. AID PROJECT			

85628

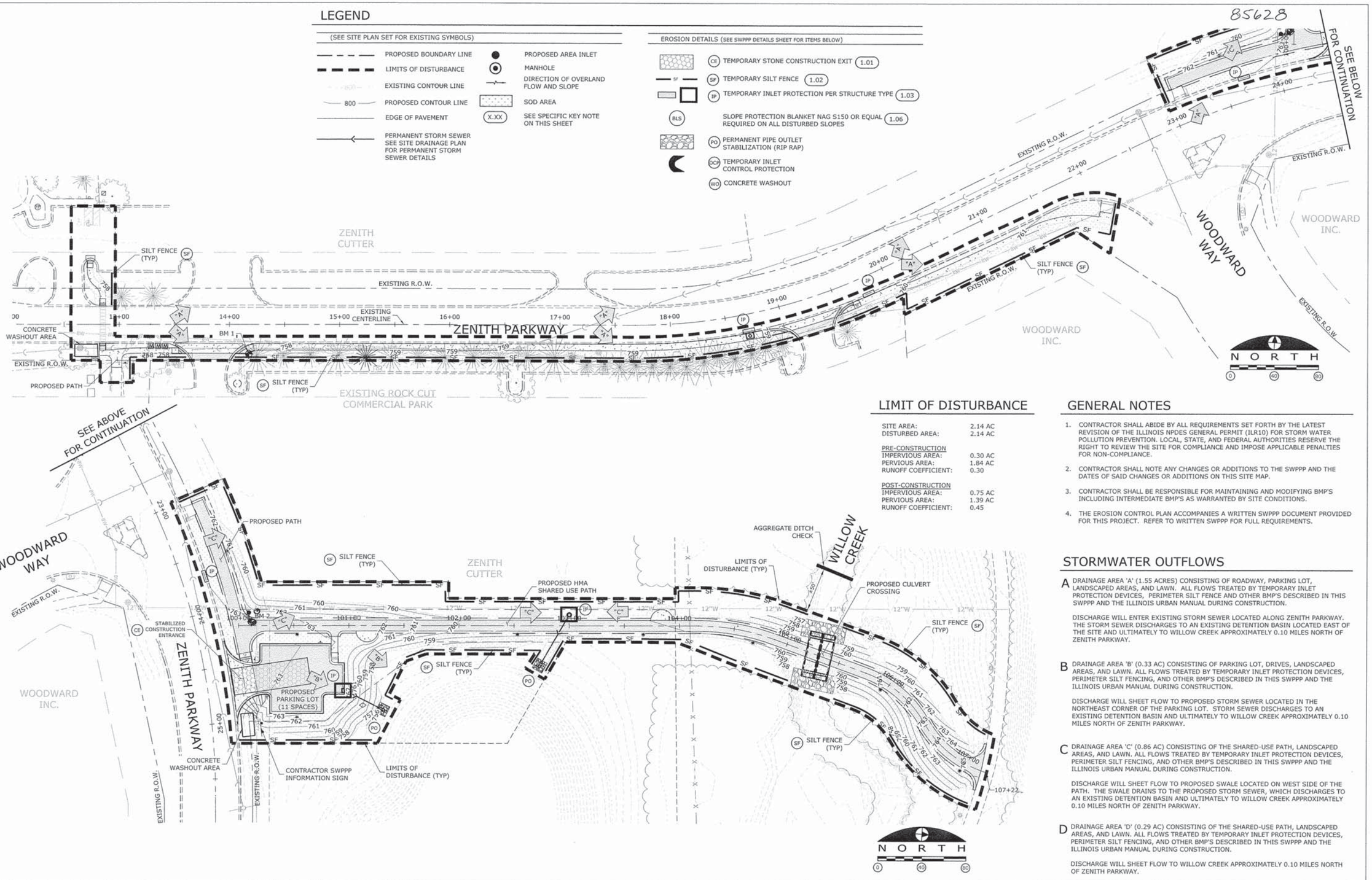
LEGEND

(SEE SITE PLAN SET FOR EXISTING SYMBOLS)

- PROPOSED BOUNDARY LINE
- LIMITS OF DISTURBANCE
- EXISTING CONTOUR LINE
- 800 PROPOSED CONTOUR LINE
- EDGE OF PAVEMENT
- PERMANENT STORM SEWER SEE SITE DRAINAGE PLAN FOR PERMANENT STORM SEWER DETAILS
- PROPOSED AREA INLET
- MANHOLE
- DIRECTION OF OVERLAND FLOW AND SLOPE
- SOD AREA
- X.XX SEE SPECIFIC KEY NOTE ON THIS SHEET

EROSION DETAILS (SEE SWPPP DETAILS SHEET FOR ITEMS BELOW)

- CE TEMPORARY STONE CONSTRUCTION EXIT 1.01
- SF TEMPORARY SILT FENCE 1.02
- IP TEMPORARY INLET PROTECTION PER STRUCTURE TYPE 1.03
- BLS SLOPE PROTECTION BLANKET NAG S150 OR EQUAL REQUIRED ON ALL DISTURBED SLOPES 1.06
- PO PERMANENT PIPE OUTLET STABILIZATION (RIP RAP)
- DCI TEMPORARY INLET CONTROL PROTECTION
- WO CONCRETE WASHOUT



LIMIT OF DISTURBANCE

SITE AREA:	2.14 AC
DISTURBED AREA:	2.14 AC
PRE-CONSTRUCTION	
IMPERVIOUS AREA:	0.30 AC
PERVIOUS AREA:	1.84 AC
RUNOFF COEFFICIENT:	0.30
POST-CONSTRUCTION	
IMPERVIOUS AREA:	0.75 AC
PERVIOUS AREA:	1.39 AC
RUNOFF COEFFICIENT:	0.45

GENERAL NOTES

1. CONTRACTOR SHALL ABIDE BY ALL REQUIREMENTS SET FORTH BY THE LATEST REVISION OF THE ILLINOIS NPDES GENERAL PERMIT (ILR10) FOR STORM WATER POLLUTION PREVENTION. LOCAL, STATE, AND FEDERAL AUTHORITIES RESERVE THE RIGHT TO REVIEW THE SITE FOR COMPLIANCE AND IMPOSE APPLICABLE PENALTIES FOR NON-COMPLIANCE.
2. CONTRACTOR SHALL NOTE ANY CHANGES OR ADDITIONS TO THE SWPPP AND THE DATES OF SAID CHANGES OR ADDITIONS ON THIS SITE MAP.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND MODIFYING BMP'S INCLUDING INTERMEDIATE BMP'S AS WARRANTED BY SITE CONDITIONS.
4. THE EROSION CONTROL PLAN ACCOMPANIES A WRITTEN SWPPP DOCUMENT PROVIDED FOR THIS PROJECT. REFER TO WRITTEN SWPPP FOR FULL REQUIREMENTS.

STORMWATER OUTFLOWS

A DRAINAGE AREA 'A' (1.55 ACRES) CONSISTING OF ROADWAY, PARKING LOT, LANDSCAPED AREAS, AND LAWN. ALL FLOWS TREATED BY TEMPORARY INLET PROTECTION DEVICES, PERIMETER SILT FENCE AND OTHER BMP'S DESCRIBED IN THIS SWPPP AND THE ILLINOIS URBAN MANUAL DURING CONSTRUCTION.

DISCHARGE WILL ENTER EXISTING STORM SEWER LOCATED ALONG ZENITH PARKWAY. THE STORM SEWER DISCHARGES TO AN EXISTING DETENTION BASIN LOCATED EAST OF THE SITE AND ULTIMATELY TO WILLOW CREEK APPROXIMATELY 0.10 MILES NORTH OF ZENITH PARKWAY.

B DRAINAGE AREA 'B' (0.33 AC) CONSISTING OF PARKING LOT, DRIVES, LANDSCAPED AREAS, AND LAWN. ALL FLOWS TREATED BY TEMPORARY INLET PROTECTION DEVICES, PERIMETER SILT FENCING, AND OTHER BMP'S DESCRIBED IN THIS SWPPP AND THE ILLINOIS URBAN MANUAL DURING CONSTRUCTION.

DISCHARGE WILL SHEET FLOW TO PROPOSED STORM SEWER LOCATED IN THE NORTHEAST CORNER OF THE PARKING LOT. STORM SEWER DISCHARGES TO AN EXISTING DETENTION BASIN AND ULTIMATELY TO WILLOW CREEK APPROXIMATELY 0.10 MILES NORTH OF ZENITH PARKWAY.

C DRAINAGE AREA 'C' (0.86 AC) CONSISTING OF THE SHARED-USE PATH, LANDSCAPED AREAS, AND LAWN. ALL FLOWS TREATED BY TEMPORARY INLET PROTECTION DEVICES, PERIMETER SILT FENCING, AND OTHER BMP'S DESCRIBED IN THIS SWPPP AND THE ILLINOIS URBAN MANUAL DURING CONSTRUCTION.

DISCHARGE WILL SHEET FLOW TO PROPOSED SWALE LOCATED ON WEST SIDE OF THE PATH. THE SWALE DRAINS TO THE PROPOSED STORM SEWER, WHICH DISCHARGES TO AN EXISTING DETENTION BASIN AND ULTIMATELY TO WILLOW CREEK APPROXIMATELY 0.10 MILES NORTH OF ZENITH PARKWAY.

D DRAINAGE AREA 'D' (0.29 AC) CONSISTING OF THE SHARED-USE PATH, LANDSCAPED AREAS, AND LAWN. ALL FLOWS TREATED BY TEMPORARY INLET PROTECTION DEVICES, PERIMETER SILT FENCING, AND OTHER BMP'S DESCRIBED IN THIS SWPPP AND THE ILLINOIS URBAN MANUAL DURING CONSTRUCTION.

DISCHARGE WILL SHEET FLOW TO WILLOW CREEK APPROXIMATELY 0.10 MILES NORTH OF ZENITH PARKWAY.

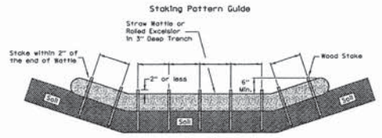
FILE NAME = g:\projects\14070 willow creek trailhead\dwg\engineering plans\05 swppp site plan.dwg	USER NAME = Andrew Hess	DESIGNED - JGS	REVISED - ----
		DRAWN - AJH	REVISED - ----
	PLOT SCALE = 1:1	CHECKED - JSL	REVISED - ----
	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----

ARC DESIGN RESOURCES INC.

SWPPP SITE PLAN

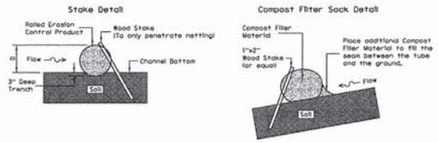
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	06
		CONTRACT NO. 85628		
	ILLINOIS FED. AID PROJECT			

ROLLED EROSION CONTROL PRODUCTS



Notes:

1. Overlap minimum is the diameter of the roll.
2. 4' spacing for wattles.
3. 2' spacing for rolled excelsior.
4. Or space according to manufacturer's specifications.



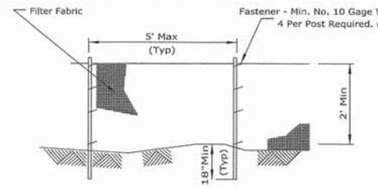
When compost filter sock ditch check is used, place a compost berm upstream of the filter sock (see IUM 805). A trench is not required.

Notes:

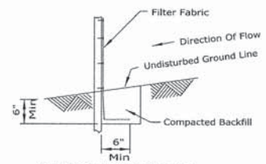
1. Drawings are not to scale.
2. Ends of wattles or rolled excelsior shall be turned at least 6" upslope.
3. Recommended stakes are 1 1/8" wide x 1 1/8" thick x 30" long.
4. Stakes shall not extend above the straw wattle more than 2".
5. Spacing. The toe of the upstream ditch check shall create a horizontal line with the top of the downstream ditch check.
6. When compost filter sock ditch check is used, place a compost berm upstream of the filter sock (see IUM 805). A trench is not required.

REFERENCE		STANDARD DWG. NO.
Project		IUM-514
Designed ____ Date ____		SHEET 1 OF 1
Checked ____ Date ____		DATE 8-19-11
Approved ____ Date ____		

SILT FENCE PLAN



ELEVATION



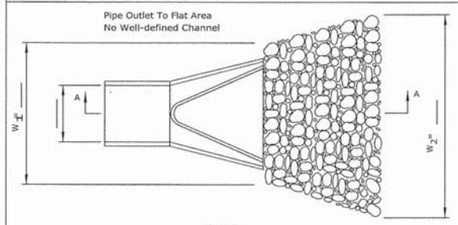
FABRIC ANCHOR DETAIL

NOTES:

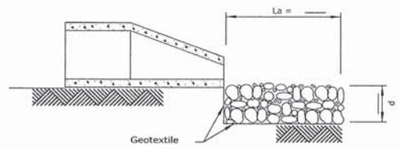
1. Temporary sediment fence shall be installed prior to any grading work in the area to be protected. They shall be maintained throughout the construction period and removed in conjunction with the final grading and site stabilization.
2. Filter fabric shall meet the requirements of material specification 592 Geotextile Table 1 or 2, Class with equivalent opening size of at least 30 for nonwoven and 40 for woven.
3. Fence posts shall be either standard steel post or wood post with a minimum cross-sectional area of 3.0 sq. in.

REFERENCE		STANDARD DWG. NO.
Project		IUM-620A
Designed ____ Date ____		SHEET 1 OF 2
Checked ____ Date ____		DATE 3-16-12
Approved ____ Date ____		

PIPE OUTLET TO FLAT AREA



PLAN



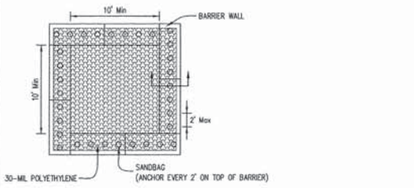
SECTION A-A

NOTES:

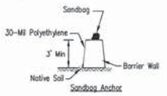
1. The filter fabric shall meet the requirements in material specifications 592 GEOTEXTILE Table 1 or 2, class I, II or III.
2. The rock riprap shall shall meet the IDOT requirements for the following gradation: B5.
3. The riprap shall be placed according to construction specification 61 LOOSE ROCK RIPRAP. The rock may be equipment placed.

REFERENCE		STANDARD DWG. NO.
Project		IL-610
Designed ____ Date ____	NRCS Natural Resources Conservation Service	SHEET 1 OF 1
Checked ____ Date ____		DATE 9-15-93
Approved ____ Date ____		

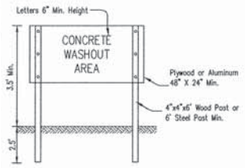
85628



PLAN VIEW



BARRIER WALL ANCHOR SECTION



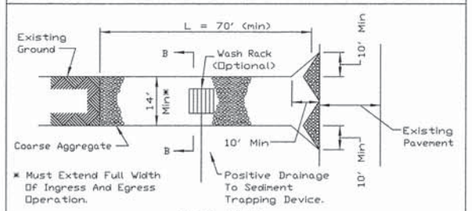
SIGN DETAIL

NOTES:

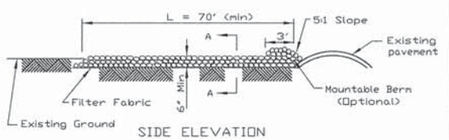
1. Maintaining temporary concrete washout facilities shall include removing and disposing of hardend concrete and/or slurry and returning the facilities to a functional condition.
2. Facility shall be cleaned or reconstructed in a new area once washout becomes two-thirds full.

TEMPORARY CONCRETE WASHOUT FACILITY – BARRIER WALL

STABILIZED CONSTRUCTION ENTRANCE PLAN



PLAN VIEW



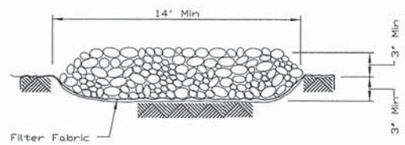
SIDE ELEVATION

NOTES:

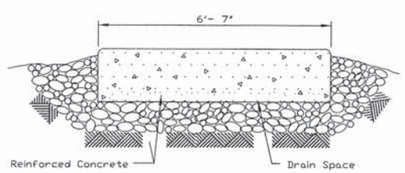
1. Filter fabric shall meet the requirements of material specification 592 GEOTEXTILE, Table I or 2, Class I, II or IV and shall be placed over the cleared area prior to the placing of rock.
2. Rock or reclaimed concrete shall meet one of the following IDOT coarse aggregate gradation, CA-1, CA-2, CA-3 or CA-4 and be placed according to construction specification 25 ROCKFILL using placement Method 1 and Class III compaction.
3. Any drainage facilities required because of washing shall be constructed according to manufacturers specifications.
4. If wash racks are used they shall be installed according to the manufacturer's specifications.

REFERENCE		STANDARD DWG. NO.
Project		IL-630
Designed ____ Date ____	NRCS Natural Resources Conservation Service	SHEET 1 OF 2
Checked ____ Date ____		DATE 8-18-94
Approved ____ Date ____		

STABILIZED CONSTRUCTION ENTRANCE PLAN



SECTION A-A



SECTION B-B

REFERENCE		STANDARD DWG. NO.
Project		IL-630
Designed ____ Date ____	NRCS Natural Resources Conservation Service	SHEET 2 OF 2
Checked ____ Date ____		DATE 8-18-94
Approved ____ Date ____		

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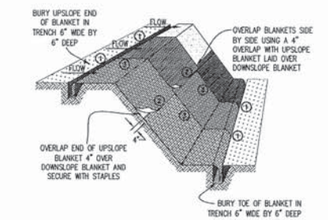
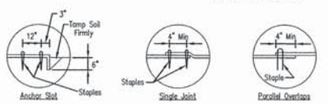
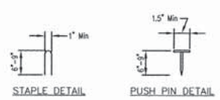




DETAIL 1 DETAIL 2 DETAIL 3



STAPLE DETAIL PUSH PIN DETAIL

NOTES:

1. Staples shall be placed in a diamond pattern at 2 per s.y. for stiched blankets. Non-stiched shall use 4 staples per s.y. of material. This equates to 200 staples with stiched blanket and 400 staples with non-stiched blanket per 100 s.y. of material.
2. Staple or push pin lengths shall be selected based on soil type and conditions. (minimum staple length is 6")
3. Erosion control material shall be placed in contact with the soil over a prepared seedbed.
4. All anchor slots shall be stapled at approximately 12" intervals.

EROSION CONTROL BLANKET INSTALLATION DETAILS

ALSO SEE STANDARD 280001-07 FOR ADDITIONAL STATE OF ILLINOIS APPROVED DETAILS.

FILE NAME = gs\projects\14070 willow creek trailhead\dwg\engineering plans\06 swppp details.dwg	USER NAME = Andrew Hess	DESIGNED - JGS	REVISED - ----
		DRAWN - AJH	REVISED - ----
	PLOT SCALE = 1:1	CHECKED - JSL	REVISED - ----
	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----

ARC DESIGN RESOURCES INC.

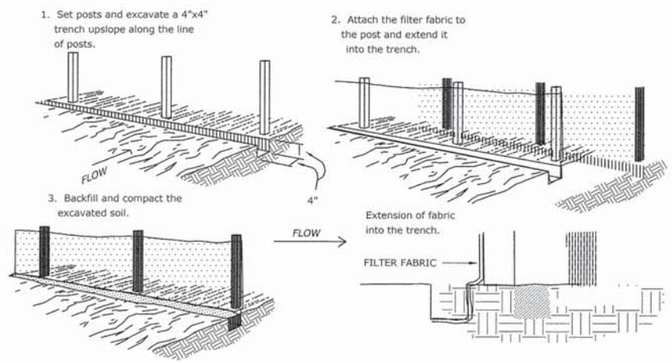
SWPPP DETAILS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	07
		CONTRACT NO. 85628		
	ILLINOIS	FED. AID PROJECT		

85628

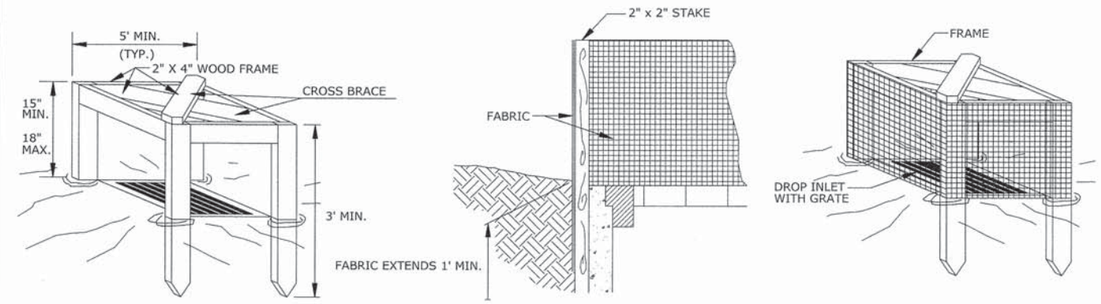
TEMP. SILT FENCE (PERIMETER) DETAIL (PSF) CONSTRUCTION OF A SILT FENCE

NOT TO SCALE



TEMP. SILT FENCE INLET PROTECTION (IP1)

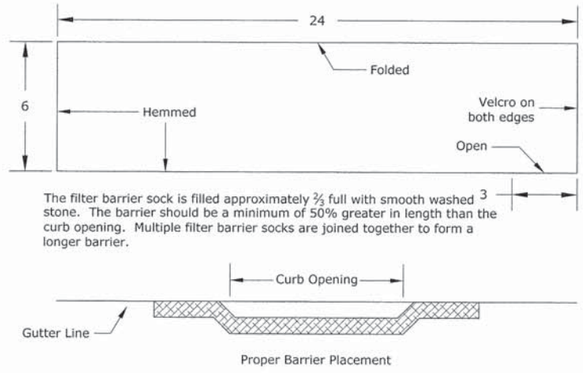
NOT TO SCALE



ALSO SEE STANDARD 280001-07 FOR ADDITIONAL STATE OF ILLINOIS APPROVED DETAILS.

FILTER BARRIER SOCK

NOT TO SCALE



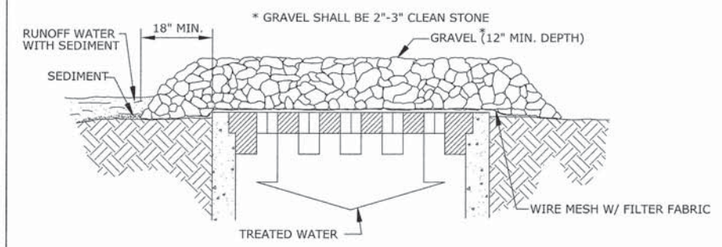
The filter barrier sock is filled approximately ⅔ full with smooth washed stone. The barrier should be a minimum of 50% greater in length than the curb opening. Multiple filter barrier socks are joined together to form a longer barrier.

Proper Barrier Placement

NOTES:
The filter barrier sock shall be fabricated from a non-woven polypropylene having a minimum weight of 6 oz./sq. yd. The sock(s) shall have a self contained positive closure/attachment mechanism. The barriers shall be inspected regularly and any accumulated sediment and debris shall be removed as needed.

TEMP. GRAVEL AND WIRE MESH INLET SEDIMENT FILTER (IP2)

NOT TO SCALE



SWPPP INFORMATION SIGN

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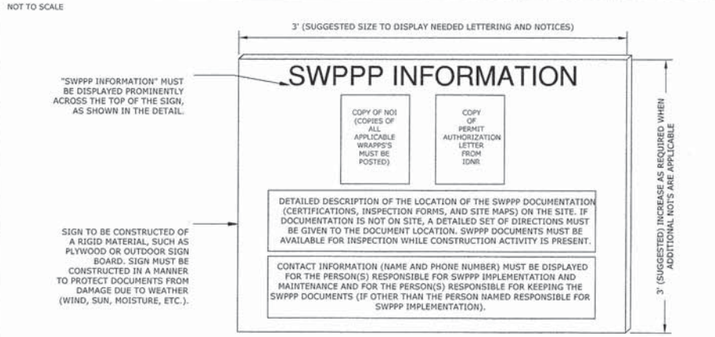

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		DRAWN - AJH	REVISED - ----
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	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----

ARC DESIGN RESOURCES INC.

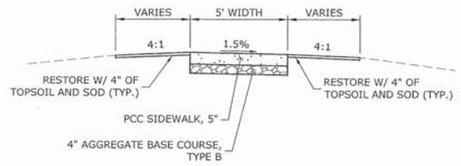
SWPPP DETAILS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	08
		CONTRACT NO. 85628		
	ILLINOIS	FED. AID PROJECT		

85628

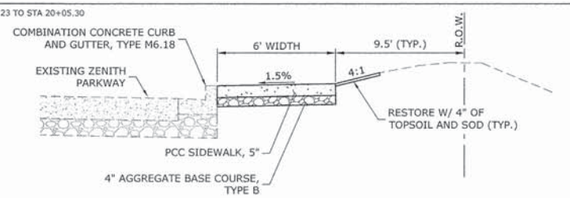
TYPICAL SECTION - 5' SIDEWALK NORTH OF ZENITH PARKWAY

STA 0+77.40 TO STA 1+70.13



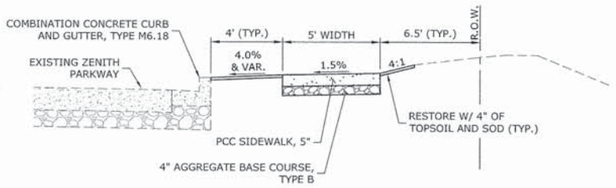
TYPICAL SECTION - SIDEWALK AT BACK-OF-CURB

STA 14+27.23 TO STA 20+05.30



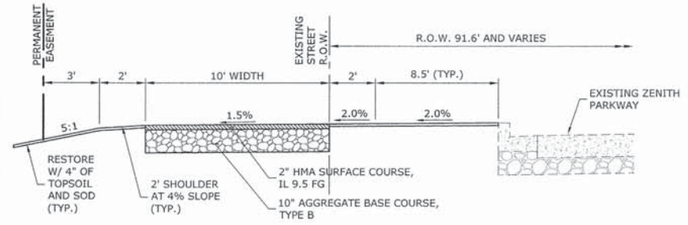
TYPICAL SECTION - 5' SIDEWALK SOUTH OF ZENITH PARKWAY

STA 12+81.98 TO STA 14+27.23, STA 20+05.30 TO STA 21+97.97



TYPICAL SECTION - SHARED-USE PATH NORTH ZENITH PARKWAY

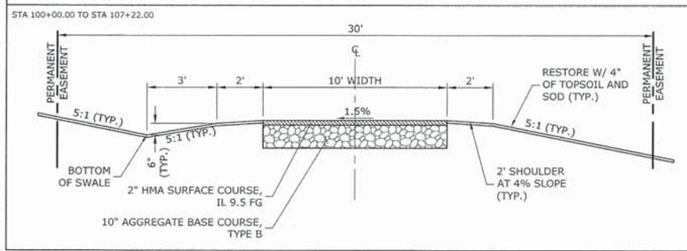
STA 23+05.60 TO STA 24+42.00



HMA CHART	
USAGE	SURFACE
AC	PG 64-22
Voids	4.0 @ N50
20 Yr ESAL	
Mix	IL 9.5 FG
Friction Agg	C
Mix Unit Weight	

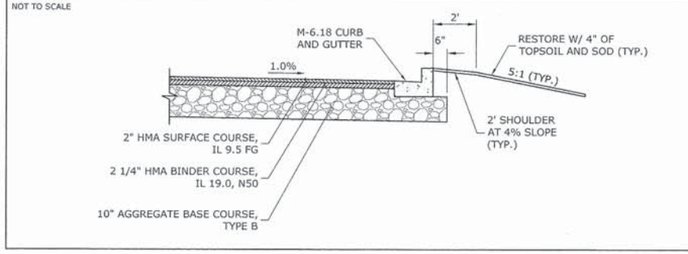
TYPICAL SECTION - SHARED-USE PATH

STA 100+00.00 TO STA 107+22.00



TYPICAL SECTION - TRAILHEAD PARKING LOT (RT STA. 100+50)

NOT TO SCALE



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		DRAWN - AJH	REVISED - ----		
	PLOT SCALE = 1:1	CHECKED - JSL	REVISED - ----		
	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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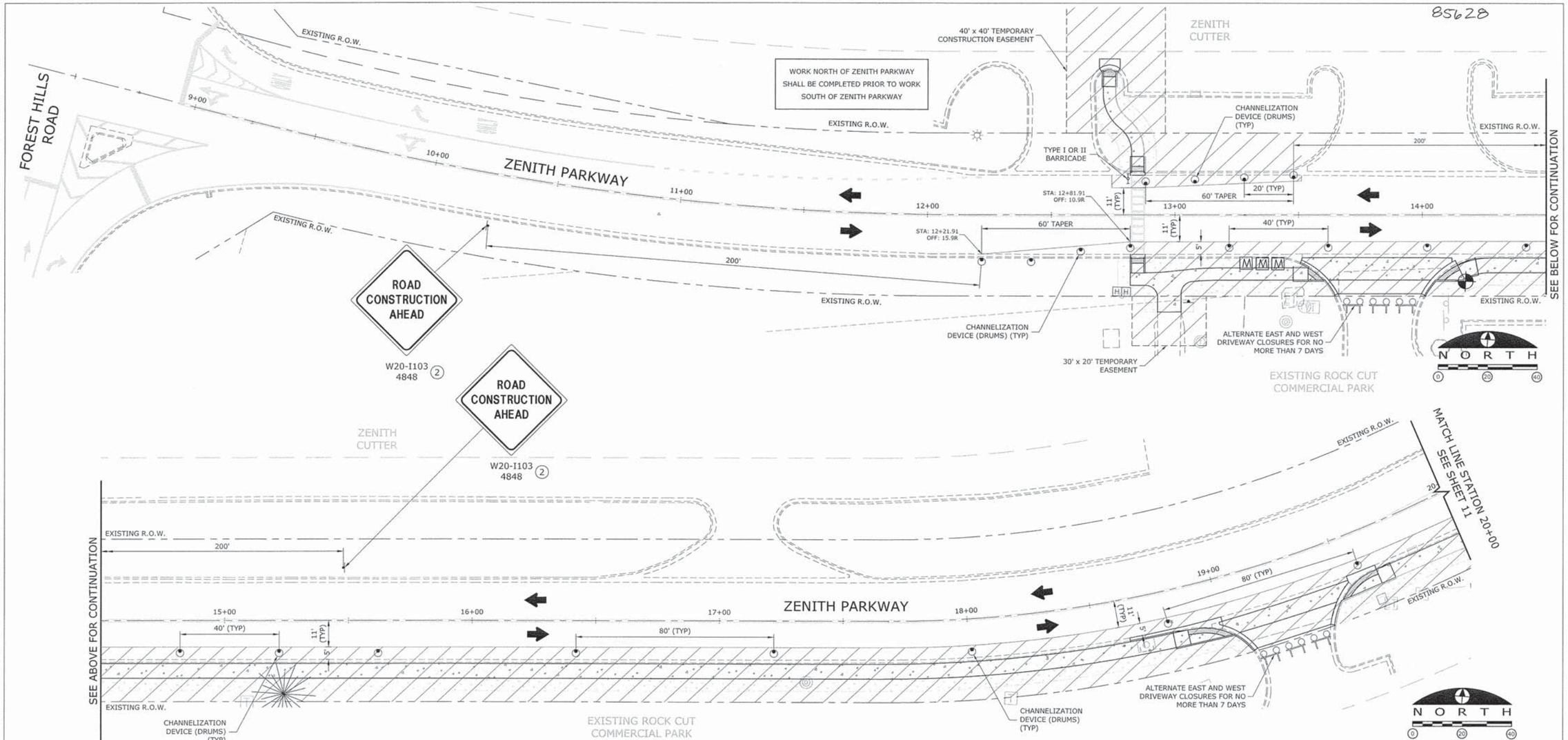
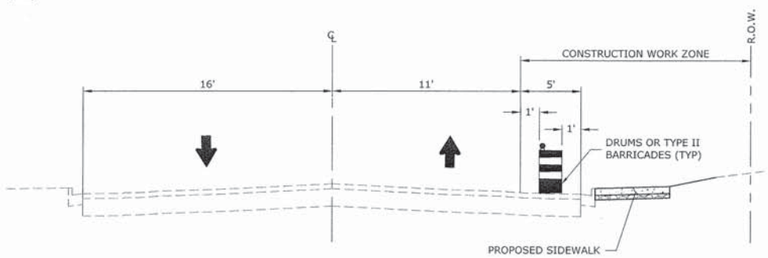
		CONTRACT NO. 85628		
	ILLINOIS	FED. AID PROJECT		

85628





TYPICAL SECTION - ZENITH PARKWAY TRAFFIC CONTROL

TRAFFIC CONTROL NOTES

GENERAL

1. All traffic control and traffic control devices shall be in accordance with the IDOT Standard Specifications for Road and Bridge Construction and the Manual for Uniform Traffic Control Devices (MUTCD), current editions.
2. The Contractor shall be responsible for providing a safe jobsite for construction personnel, motorists and pedestrians at all times.
3. Temporary Pavement Marking shall be completed in accordance with IDOT Section 703, and consist of marking tape on permanent pavement and paint on pavement to be removed.
4. Contractor shall phase storm sewer construction to ensure proper drainage is provided for the duration of the project.
5. No construction activities may be performed within 2' of the edge-of-pavement in an active driving lane.

PRE-CONSTRUCTION NOTES

1. A formal kick-off meeting shall be scheduled by the Contractor one week prior to the start of construction.

STAGING NOTES

1. Zenith Parkway Station 12+00 to Station 25+50.
   a. Existing curb and gutter and driveway pavement shall be removed. However, one driveway south of Zenith Parkway (STA. 13+83 or STA. 19+27) must remain open at all times.
   b. Sidewalk south of Zenith Parkway shall be constructed and the driveway entrances shall be reconstructed.
   c. Flaggers must be present during removal and concrete pouring operations.

LEGEND

- CHANNELIZATION DEVICE (DRUMS, TYPE 1 OR II BARRICADE)
- WORK ZONE
- TYPE III BARRICADE
- SIGN
- DIRECTION OF TRAFFIC FLOW

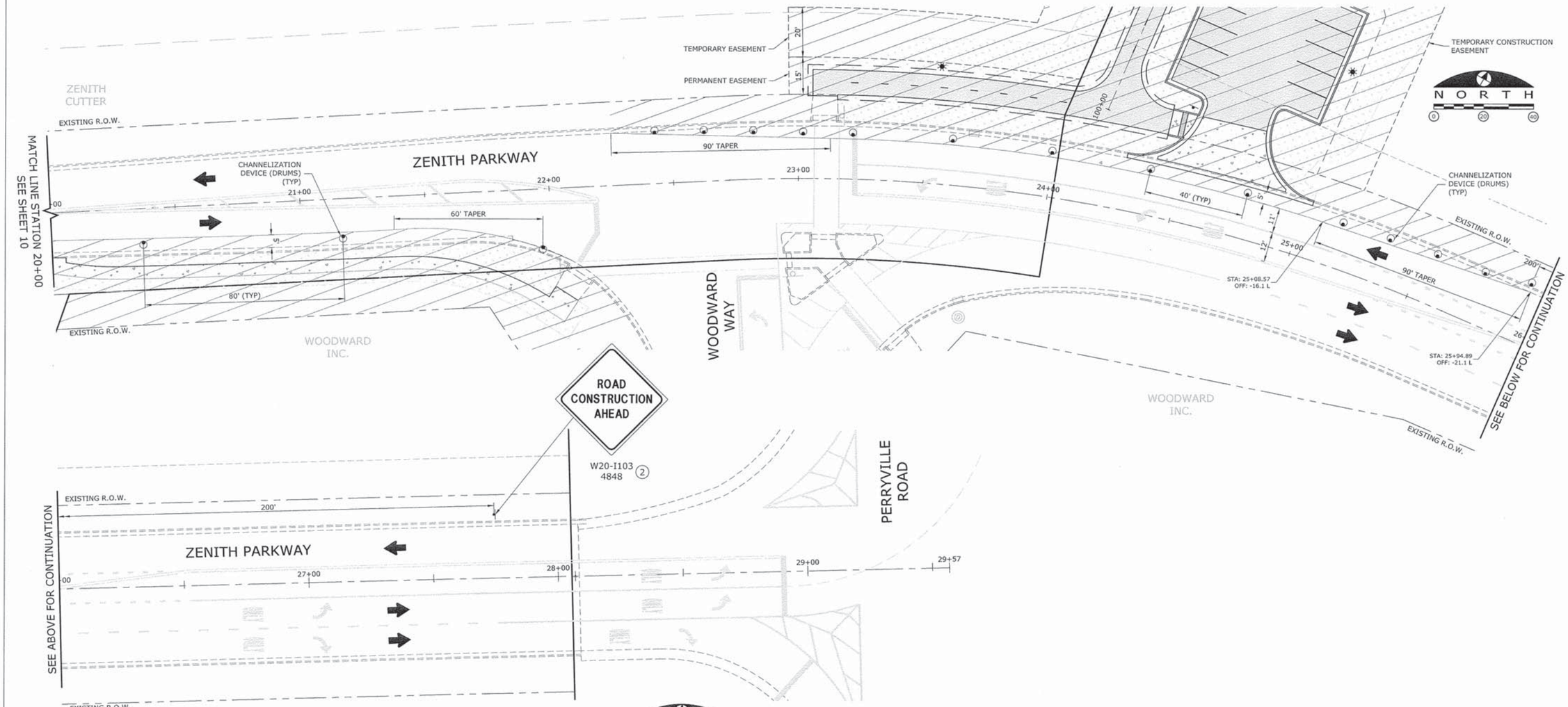
FILE NAME = gi\projects\14070 willow creek trailhead\dwg\engineering plans\08 traffic control plan.dwg	USER NAME = Andrew Hess	DESIGNED - JGS	REVISED - ----
		DRAWN - AJH	REVISED - ----
	PLOT SCALE = 1:1	CHECKED - JSL	REVISED - ----
	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----

ARC DESIGN RESOURCES INC.

TRAFFIC CONTROL PLAN

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	10
		CONTRACT NO. 85628		
	ILLINOIS FED. AID PROJECT			

85628



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- CHANNELIZATION DEVICE (DRUMS, TYPE 1 OR II BARRICADE)
- WORK ZONE
- TYPE III BARRICADE
- SIGN
- DIRECTION OF TRAFFIC FLOW

FILE NAME = g:\projects\14070 willow creek trailhead\dwg\engineering plans\09 traffic control plan.dwg	USER NAME = Andrew Hess	DESIGNED - JGS	REVISED - ----	ARC DESIGN RESOURCES INC.	TRAFFIC CONTROL PLAN
		DRAWN - AJH	REVISED - ----		
	PLOT SCALE = 1:1	CHECKED - JSL	REVISED - ----		
	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		CONTRACT NO. 85628		
	ILLINOIS	FED. AID PROJECT		

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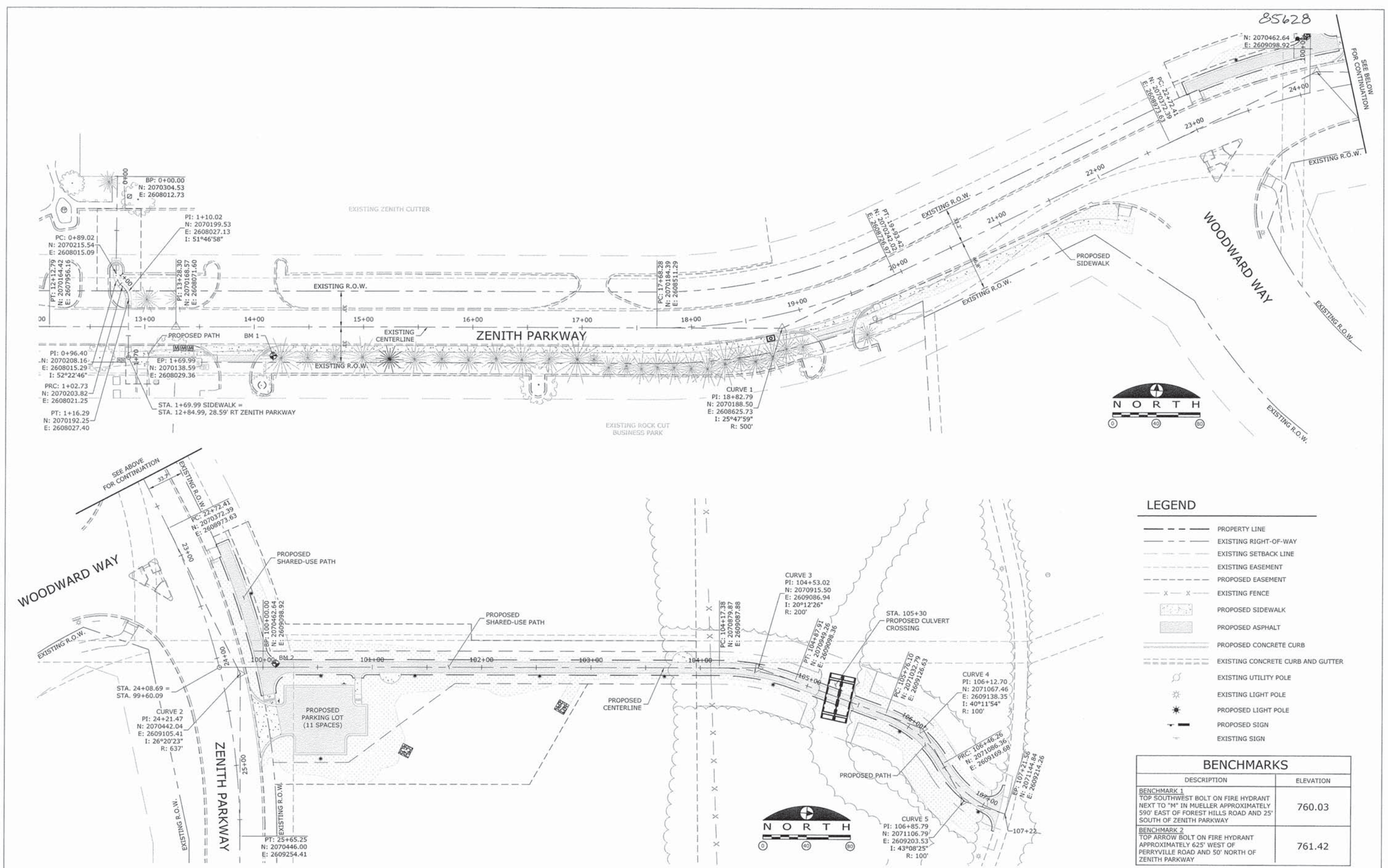

LEGEND

- PROPERTY LINE
- EXISTING RIGHT-OF-WAY
- EXISTING SETBACK LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- EXISTING FENCE
- PROPOSED SIDEWALK
- PROPOSED ASPHALT
- PROPOSED CONCRETE CURB
- EXISTING CONCRETE CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- PROPOSED LIGHT POLE
- PROPOSED SIGN
- EXISTING SIGN

BENCHMARKS

DESCRIPTION	ELEVATION
BENCHMARK 1 TOP SOUTHWEST BOLT ON FIRE HYDRANT NEXT TO "M" IN MUELLER APPROXIMATELY 590' EAST OF FOREST HILLS ROAD AND 25' SOUTH OF ZENITH PARKWAY	760.03
BENCHMARK 2 TOP ARROW BOLT ON FIRE HYDRANT APPROXIMATELY 625' WEST OF PERRYVILLE ROAD AND 50' NORTH OF ZENITH PARKWAY	761.42

FILE NAME = gi\projects\14070 willow creek trailhead\dwg\engineering plans\10 general alignment and benchmarks.dwg	USER NAME = Andrew Hess	DESIGNED - JGS	REVISED - ----
		DRAWN - AJH	REVISED - ----
	PLOT SCALE = 1d	CHECKED - JSL	REVISED - ----
	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----

ARC DESIGN RESOURCES INC.

GENERAL ALIGNMENT AND BENCHMARKS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	12
		CONTRACT NO. 85628		
	ILLINOIS FED. AID PROJECT			

85628

PROPERTY OWNER TO REMOVE "CUSTOMER PARKING" SIGN ASSEMBLY AND REPLACE WITH ADA SIGN AFTER CONSTRUCTION IS COMPLETED.

BLACK OUT EXISTING PAVEMENT MARKING AND SYMBOL

9 L.F. OF EXISTING CURB & GUTTER REMOVAL

STA.: 12+69.5 OFFSET: L59'

STA.: 12+77.8 OFFSET: L59'

6 L.F. OF EXISTING CURB & GUTTER REMOVAL

STA.: 12+82.0 OFFSET: L16'

STA.: 12+88.0 OFFSET: L16'

STA.: 12+82.0 OFFSET: R16'

STA.: 12+88.0 OFFSET: R16'

6 L.F. OF EXISTING CURB & GUTTER REMOVAL

EXISTING R.O.W.

22 L.F. OF EXISTING CURB & GUTTER REMOVAL

STA.: 13+65.9 OFFSET: R32'

SEE ABOVE FOR CONTINUATION

TRIM ALL TREES TO REMAIN SO BRANCH HEIGHT IS > 7' OVER PROPOSED SIDEWALK

RECONSTRUCT EXISTING INLET TO MATCH PROPOSED SIDEWALK GRADES

STA.: 18+63.5 OFFSET: R16'

EXISTING R.O.W.

STA.: 13+51.2 OFFSET: R18'

STA.: 14+13.3 OFFSET: R19'

SAWCUT (TYP)

BM 1

EXISTING CENTERLINE

ZENITH PARKWAY

REMOVE EXISTING TREE STA.: 18+04.44 OFFSET: R24'

20 L.F. OF EXISTING CURB & GUTTER REMOVAL

STA.: 13+99.7 OFFSET: R32'

REMOVE EXISTING TREE STA.: 15+23.75 OFFSET: R30'

EXISTING ROCK CUT COMMERCIAL PARK

EXISTING TREES TO BE PROTECTED (TYP)

REMOVE EXISTING TREE STA.: 18+57.80 OFFSET: R26'

SAWCUT (TYP)

EXISTING SIGN TO BE RELOCATED

STA.: 19+63.7 OFFSET: R17'

30 L.F. OF EXISTING CURB & GUTTER REMOVAL

STA.: 19+39.7 OFFSET: R32'

30 L.F. OF EXISTING CURB & GUTTER REMOVAL

STA.: 19+10.5 OFFSET: R32'

SEE BELOW FOR CONTINUATION

EXISTING R.O.W.

WOODWARD WAY

WOODWARD INC.

NORTH

0 40 80

FOR ADDITIONAL DEMOLITION NOTES REFER TO SHEET 02

WOODWARD WAY

EXISTING R.O.W.

PERMANENT EASEMENT

TEMPORARY EASEMENT

EXISTING FIRE HYDRANT ASSEMBLY TO BE RELOCATED STA.: 100+12.5 OFFSET: L5'

VALVE BOX TO BE REMOVED

BM 2

VALVE BOX TO BE REMOVED

STA.: 24+28.4 OFFSET: L21'

77 L.F. OF EXISTING CURB & GUTTER REMOVAL

STA.: 25+02.8 OFFSET: L21'

ZENITH PARKWAY

EXISTING R.O.W.

TEMPORARY EASEMENT

PROPOSED SHARED-USE PATH CENTERLINE

TEMPORARY EASEMENT

EXISTING DETENTION BASIN

TREE REMOVAL 0.23 ACRES

STA.: 104+09.3 OFFSET: L10'

20 L.F. OF EXISTING FENCE TO BE REMOVED

STA.: 104+10.0 OFFSET: R10'

TEMPORARY EASEMENT

ESR AVOIDANCE ZONE. NO CONSTRUCTION ACTIVITY.

TREE REMOVAL 0.27 ACRES

TEMPORARY EASEMENT

PERMANENT EASEMENT

NORTH

0 40 80

LEGEND

- EXISTING PAVEMENT TO BE REMOVED
- EXISTING CURB AND GUTTER TO BE REMOVED
- EXISTING WATER MAIN
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- E — EXISTING BURIED ELECTRIC
- 750 — EXISTING CONTOUR
- EXISTING ASPHALT OR CONCRETE PAVEMENT SURFACE REMOVAL
- EXISTING TREE REMOVAL
- EXISTING FIRE HYDRANT ASSEMBLY
- EXISTING WATER VALVE
- EXISTING MANHOLE OR CATCH BASIN
- EXISTING SANITARY MANHOLE
- EXISTING LIGHT POLE
- TREE TO BE REMOVED, APPROXIMATE DIAMETER
- TREE TO BE PROTECTED
- DECIDUOUS TREE
- EVERGREEN TREE
- BUSH
- EXISTING SIGN
- GAS METER
- E ELECTRIC METER
- SANITARY CLEANOUT
- ESR ENVIRONMENTAL SURVEY REQUEST

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	PLOT SCALE = 1:1	CHECKED - JSL	REVISED - ----
	PLOT DATE = 2/29/2016	DATE - 11/17/2015	REVISED - ----

ARC DESIGN

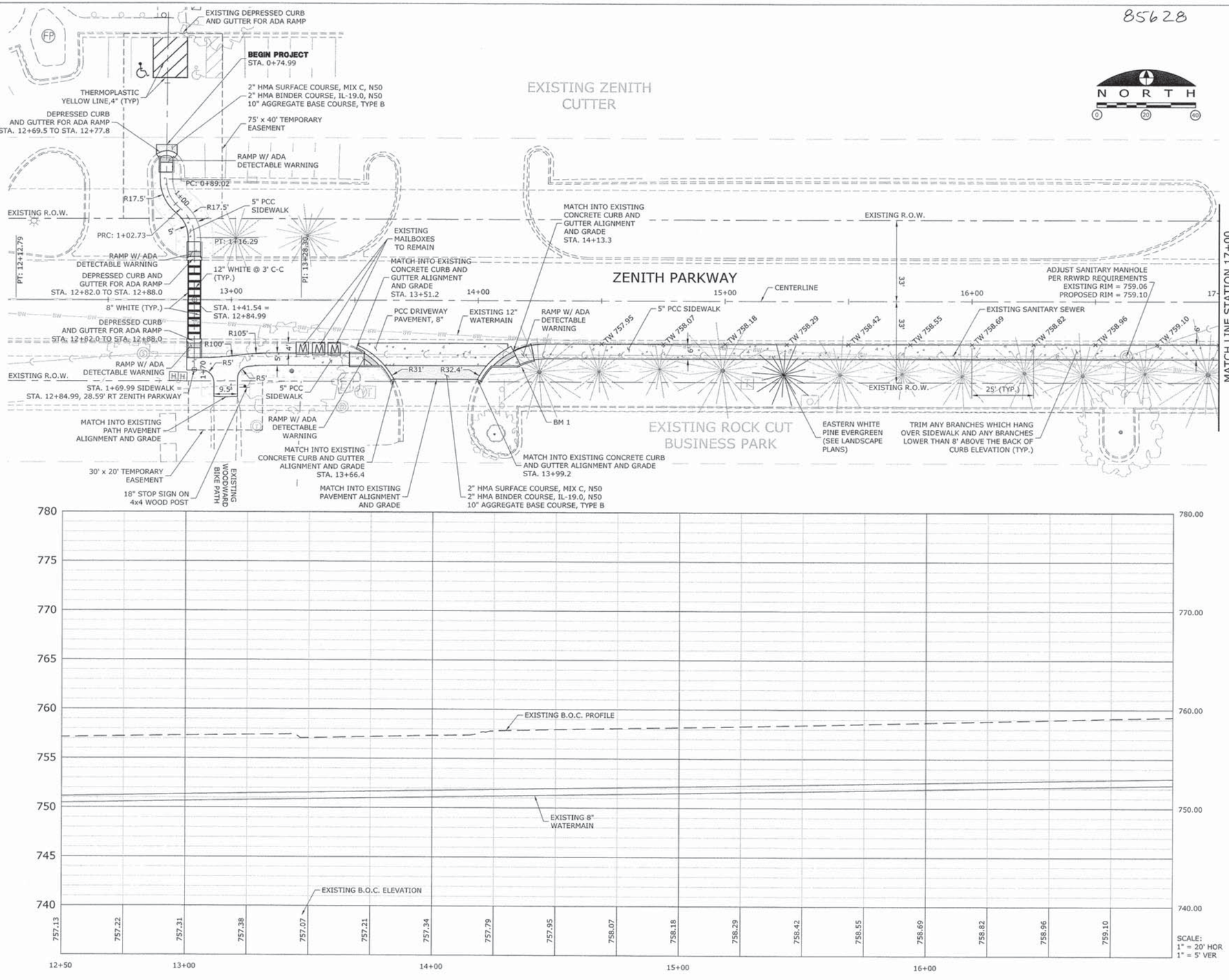
REMOVALS PLAN

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	13
		CONTRACT NO. 85628		
	ILLINOIS	FED. AID PROJECT		

85628

LEGEND

- PROPERTY LINE
- EXISTING RIGHT-OF-WAY
- LOT LINE
- PROPOSED EASEMENT LINE
- PROPOSED CENTERLINE
- EXISTING CONCRETE CURB AND GUTTER
- PROPOSED CONCRETE CURB AND GUTTER
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- W — EXISTING WATER TO REMAIN
- O/U — EXISTING OVERHEAD UTILITIES
- EXISTING SANITARY SEWER TO REMAIN
- EXISTING SANITARY SEWER TO REMAIN
- EXISTING STORM SEWER TO REMAIN
- EXISTING STORM SEWER
- PROPOSED STORM SEWER STRUCTURE
- PROPOSED STORM SEWER
- EXISTING WATER TO REMAIN
- BUSH
- EXISTING SIGN
- G — GAS METER
- E — ELECTRICAL METER
- A/C UNIT
- BOLLARD
- SANITARY CLEAN OUT
- M — MAILBOX
- EXISTING LIGHT POLE TO REMAIN
- PROPOSED LIGHT POLE
- BENCHMARK



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		DRAWN - AJH	REVISED - ----				14-00076-00-BT	WINNEBAGO	38	14
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	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----					ILLINOIS FED. AID PROJECT		

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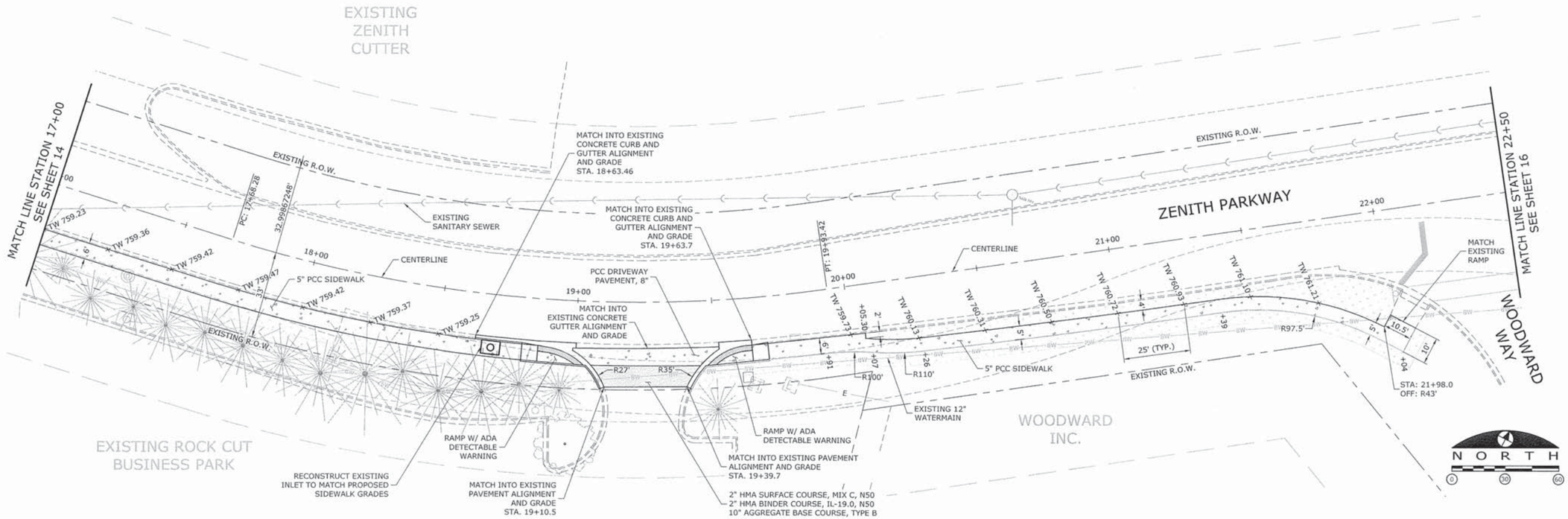

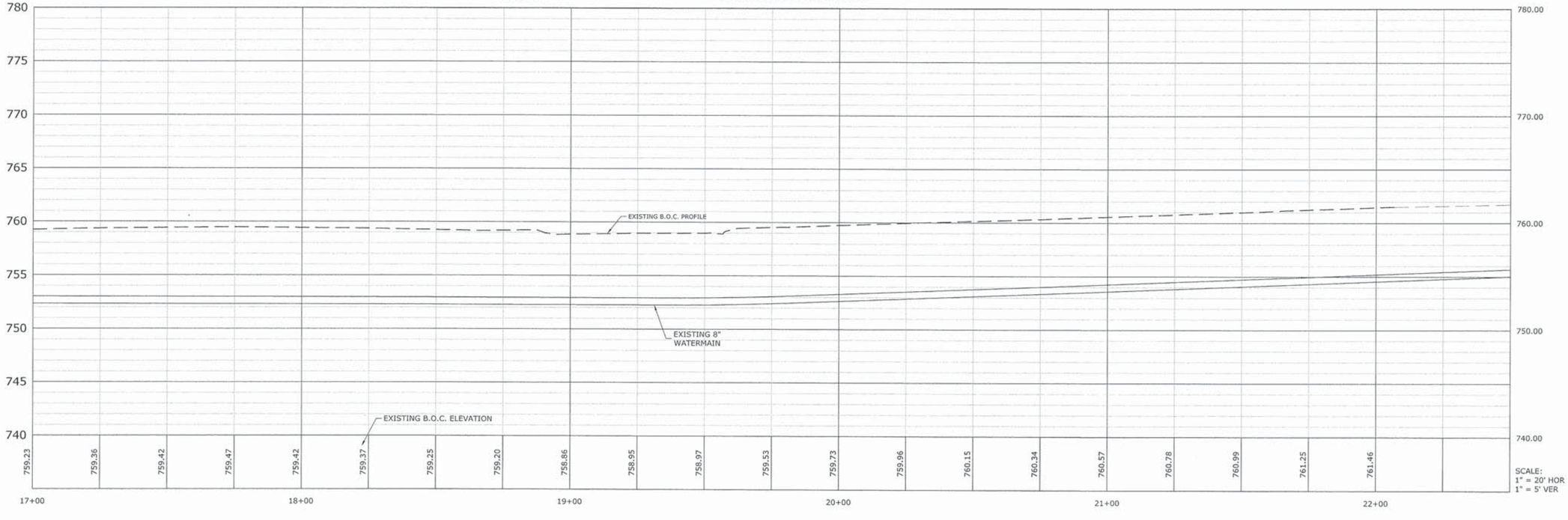

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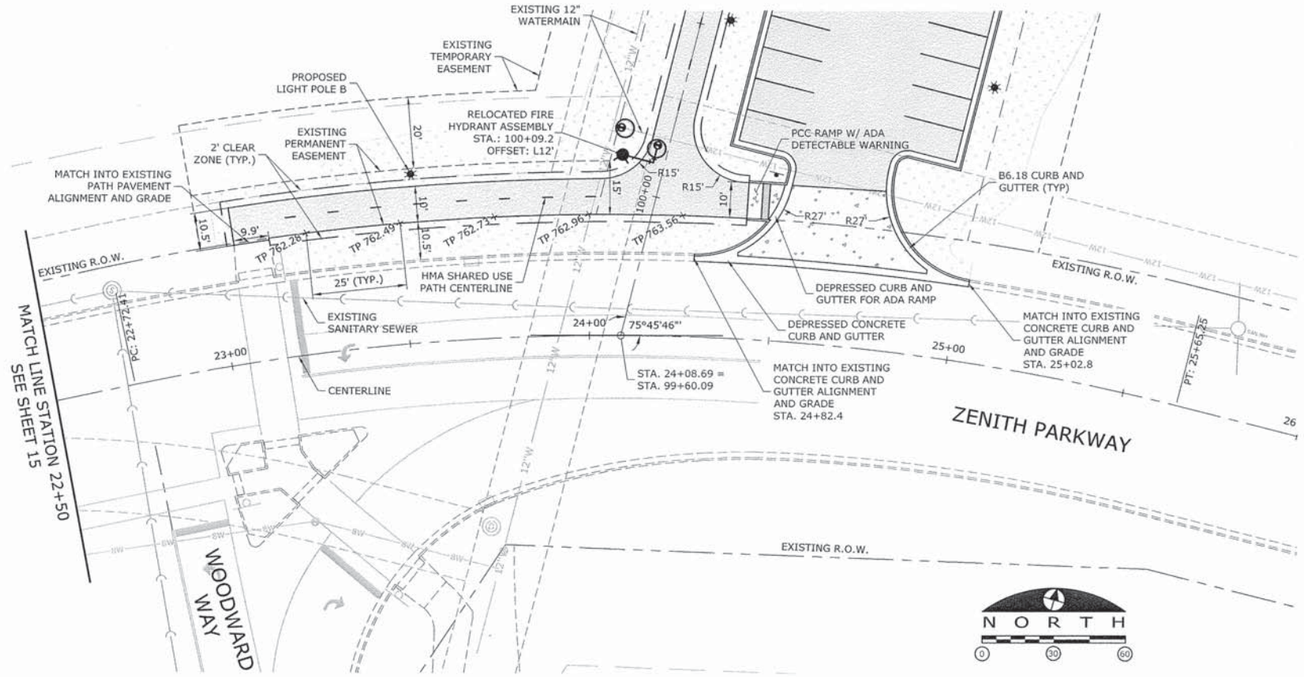
	PLOT SCALE = 1:1	CHECKED - JSL	REVISED - ----
	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----

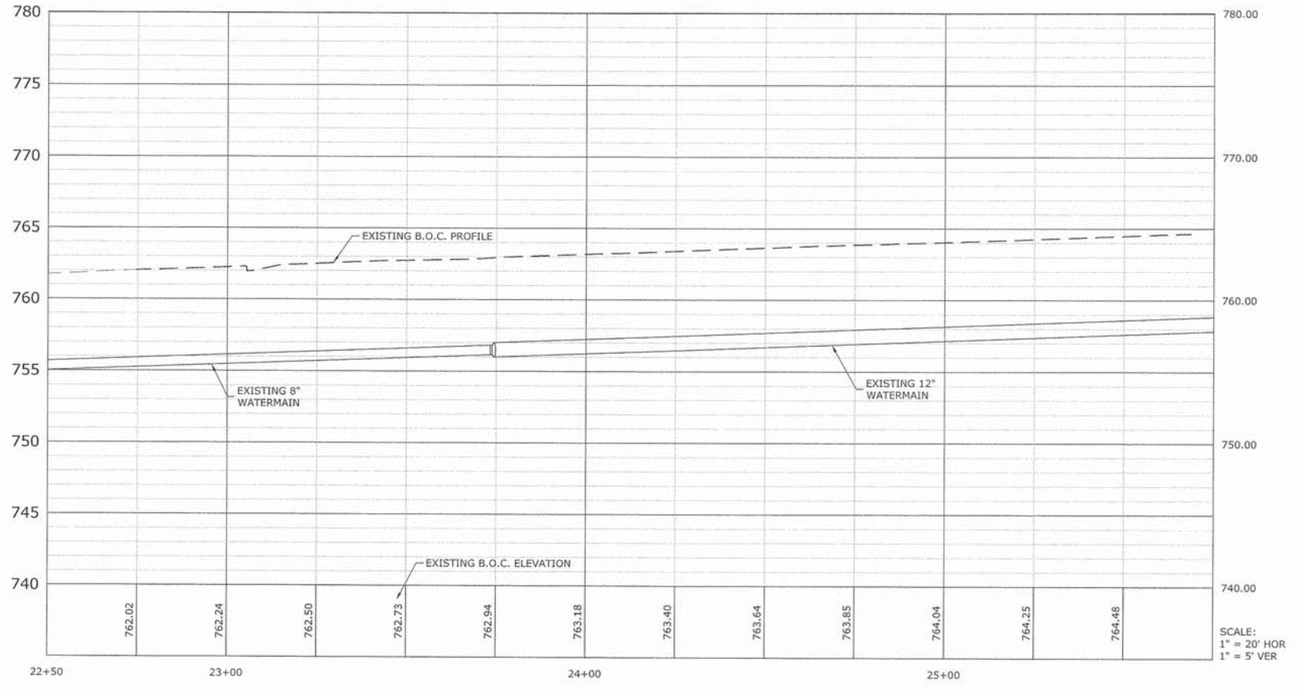
ARC DESIGN RESOURCES INC.

SIDEWALK PLAN AND PROFILE STA. 17+00 - 22+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	30	15
		CONTRACT NO. 85628		
	ILLINOIS FED. AID PROJECT			

85628





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	PLOT SCALE = 1:1	CHECKED - JSL	REVISED - ----
	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----

ARC DESIGN RESOURCES INC.

SHARED-USE PATH PLAN AND PLAN AND PROFILE STA. 22+50 - 25+75

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	16
		CONTRACT NO. 85628		
	ILLINOIS FED. AID PROJECT			

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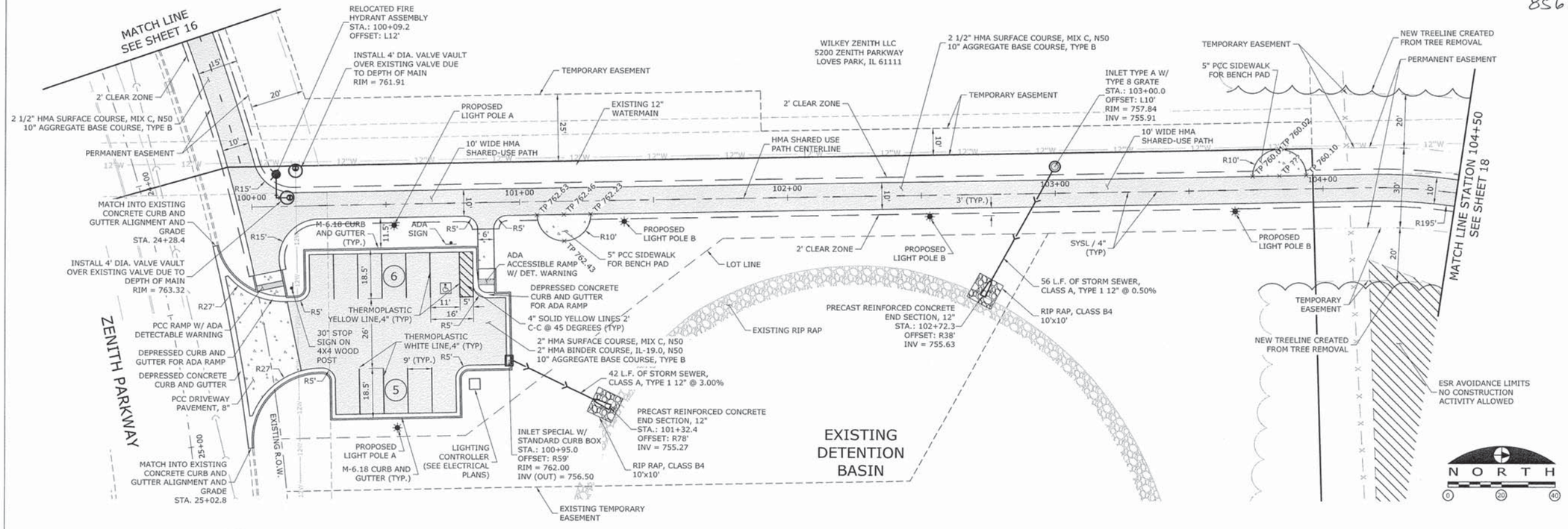

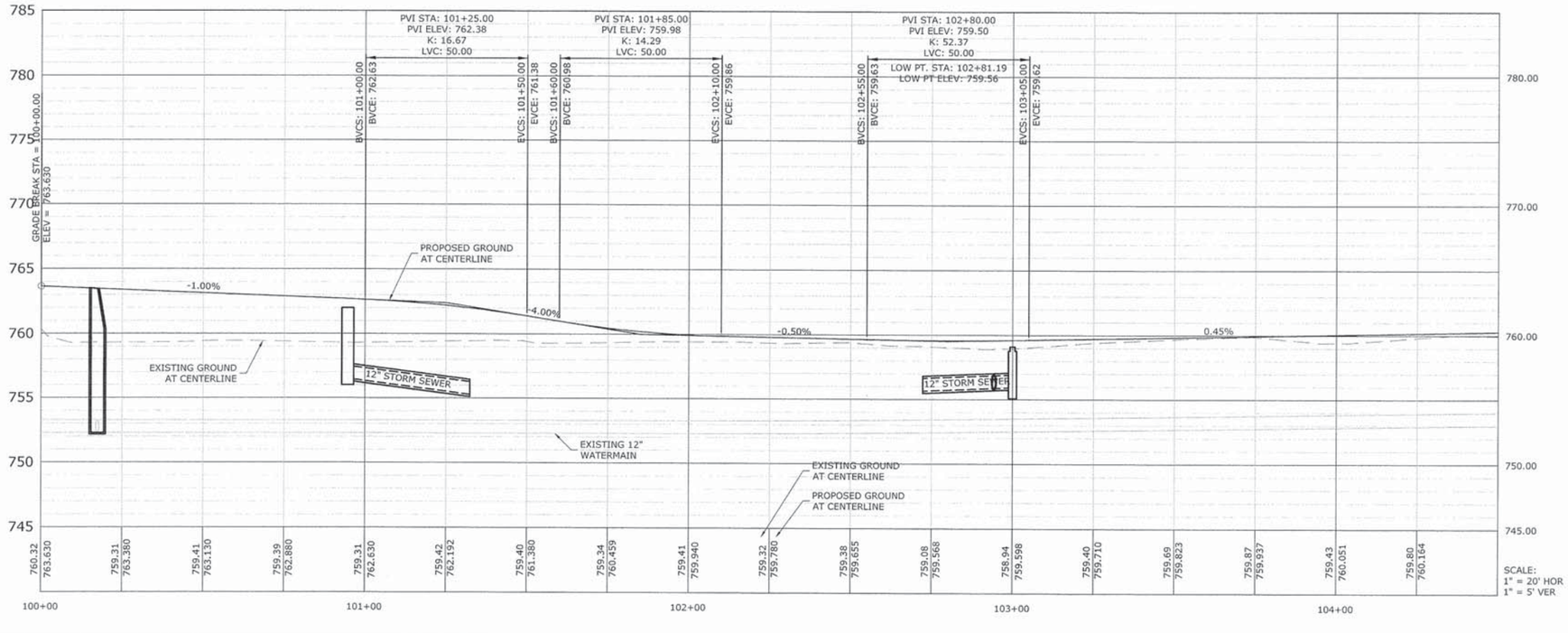

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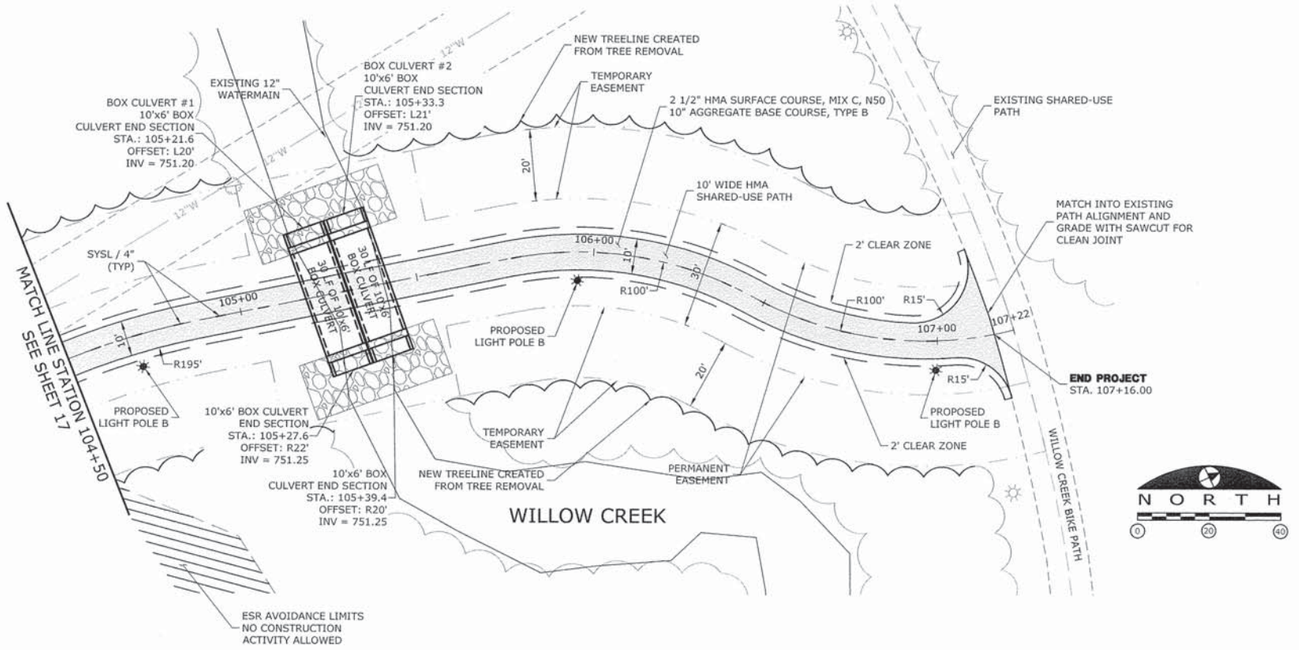
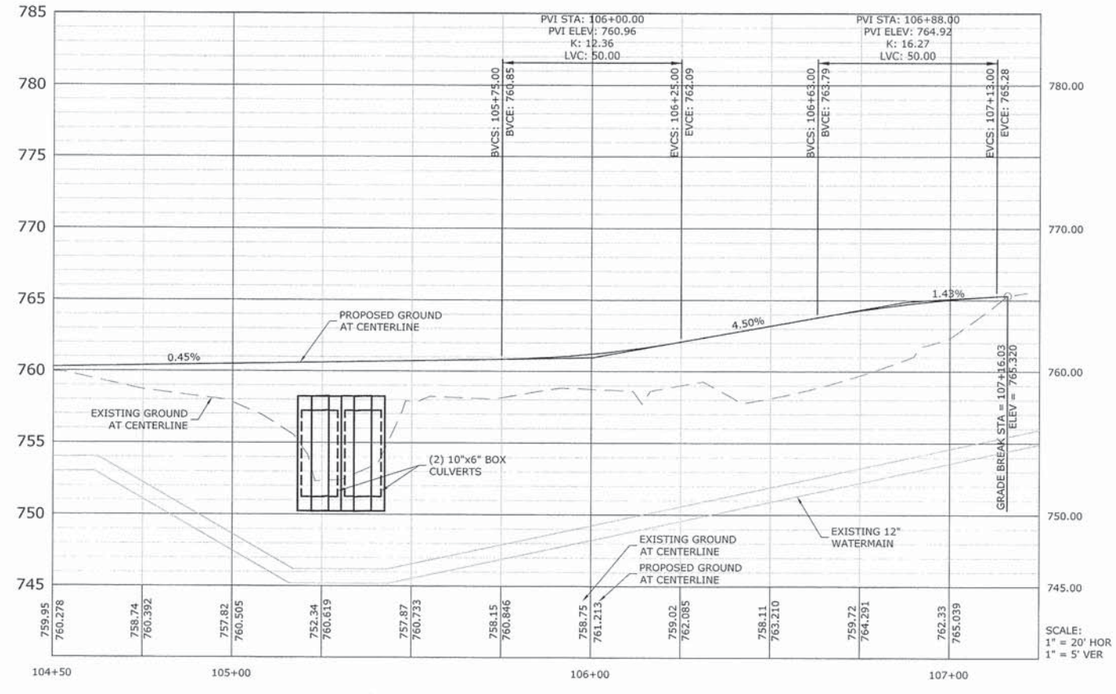
		DRAWN - AJH	REVISED - ----		
	PLOT SCALE = 1:1	CHECKED - JSL	REVISED - ----		
	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	17
		CONTRACT NO. 85628		
		ILLINOIS FED. AID PROJECT		

85628

SEE CULVERT DETAILS ON SHEET 21.





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	PLOT SCALE = 1:1	CHECKED - JSL	REVISED - ----
	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----

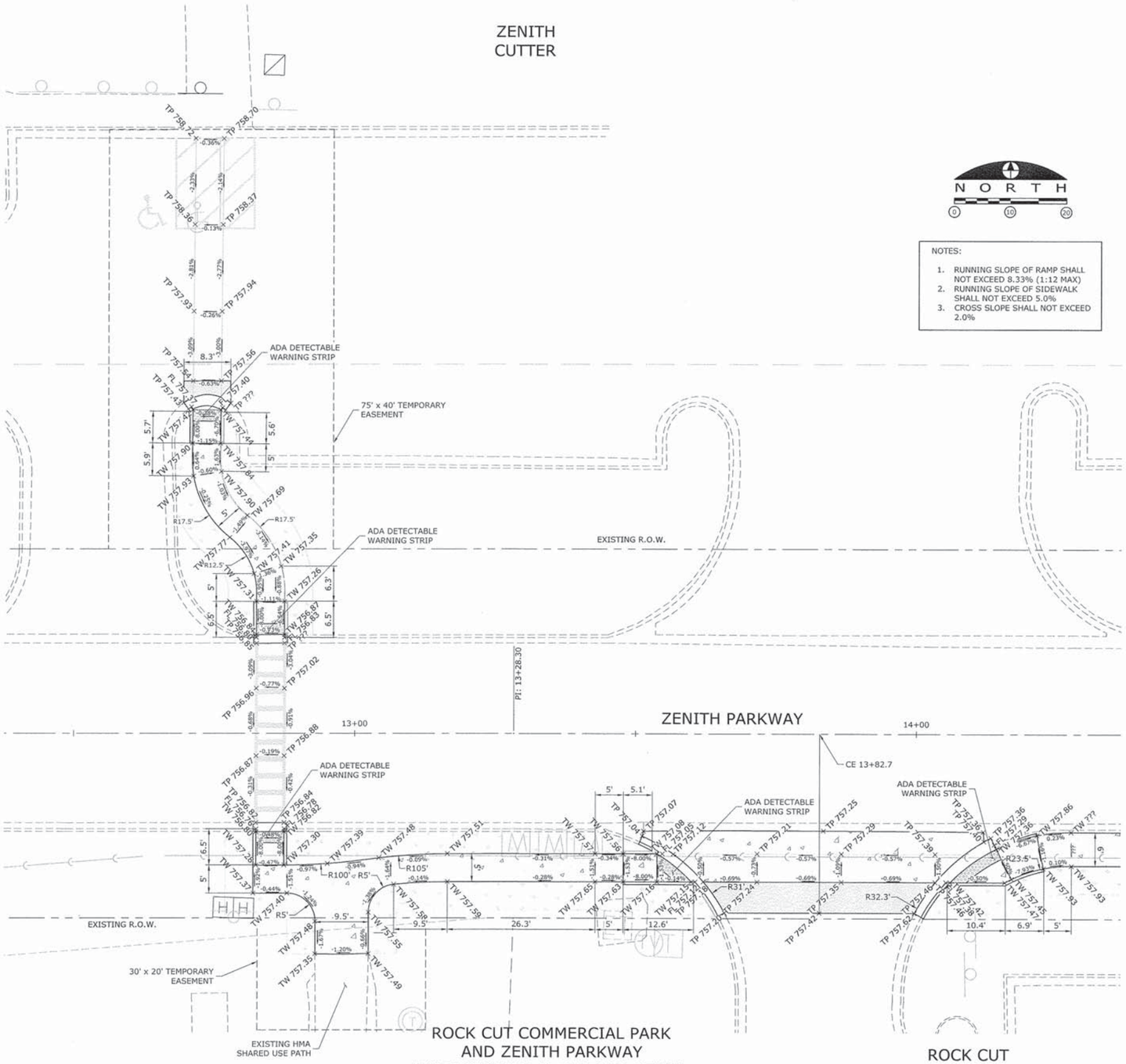
ARC DESIGN RESOURCES INC.

SHARED-USE PATH PLAN AND PROFILE STA. 104+50 - 107+25

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	18
		CONTRACT NO. 85628		
	ILLINOIS FED. AID PROJECT			

85628

ZENITH
CUTTER

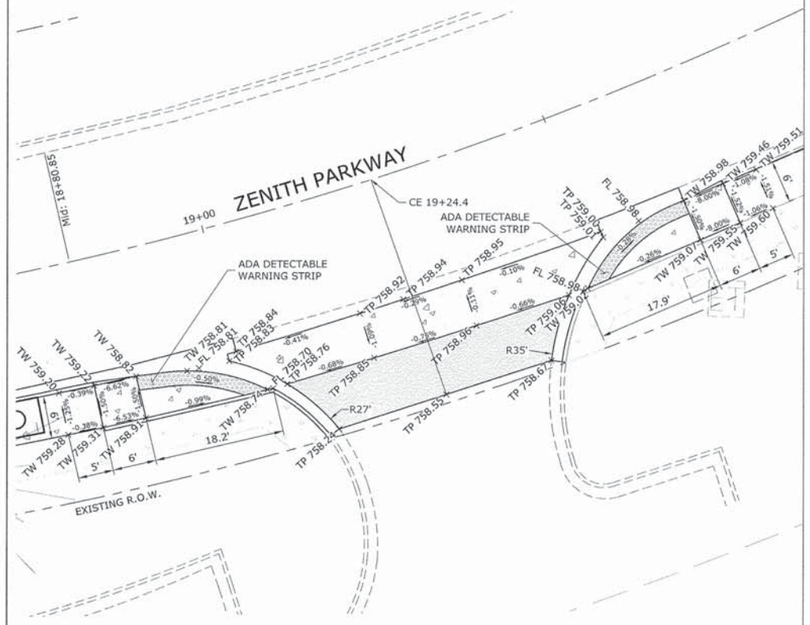


NOTES:

1. RUNNING SLOPE OF RAMP SHALL NOT EXCEED 8.33% (1:12 MAX)
2. RUNNING SLOPE OF SIDEWALK SHALL NOT EXCEED 5.0%
3. CROSS SLOPE SHALL NOT EXCEED 2.0%

ROCK CUT
COMMERCIAL PARK

ROCK CUT COMMERCIAL PARK
AND ZENITH PARKWAY
INTERSECTION ELEVATION DETAIL



NOTES:

1. RUNNING SLOPE OF RAMP SHALL NOT EXCEED 8.33% (1:12 MAX)
2. RUNNING SLOPE OF SIDEWALK SHALL NOT EXCEED 5.0%
3. CROSS SLOPE SHALL NOT EXCEED 2.0%

ROCK CUT COMMERCIAL PARK
AND ZENITH PARKWAY
INTERSECTION ELEVATION DETAIL

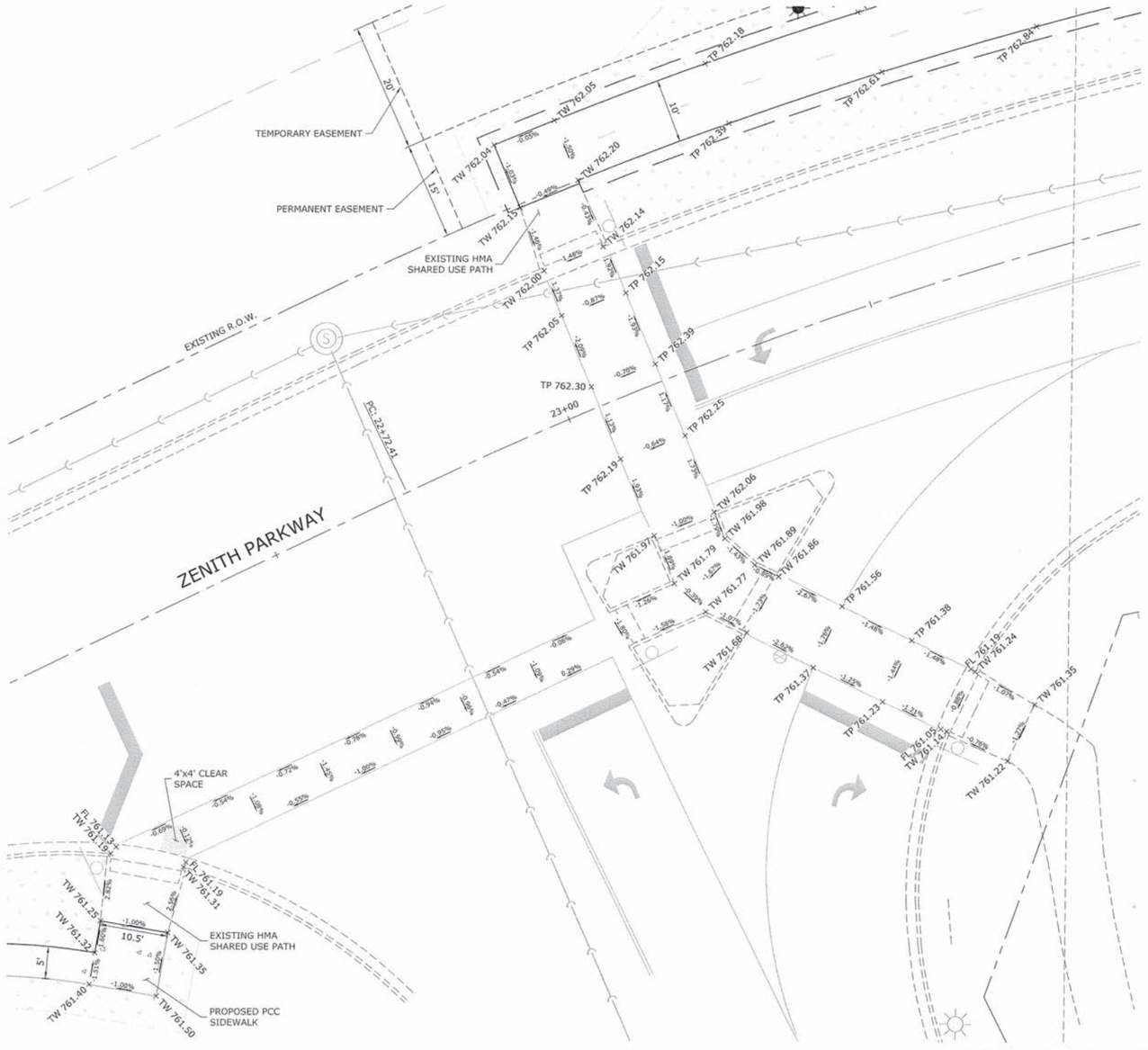
FILE NAME = g:\projects\14070 willow creek trailhead\dwg\engineering plans\17 ada ramp details.dwg	USER NAME = Andrew Hess	DESIGNED - JGS	REVISED - ----
		DRAWN - AJH	REVISED - ----
	PLOT SCALE = 1:1	CHECKED - JSL	REVISED - ----
	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----

ARC DESIGN RESOURCES INC.

ADA RAMP DETAILS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	19
		CONTRACT NO. 85628		
	ILLINOIS	FED. AID PROJECT		

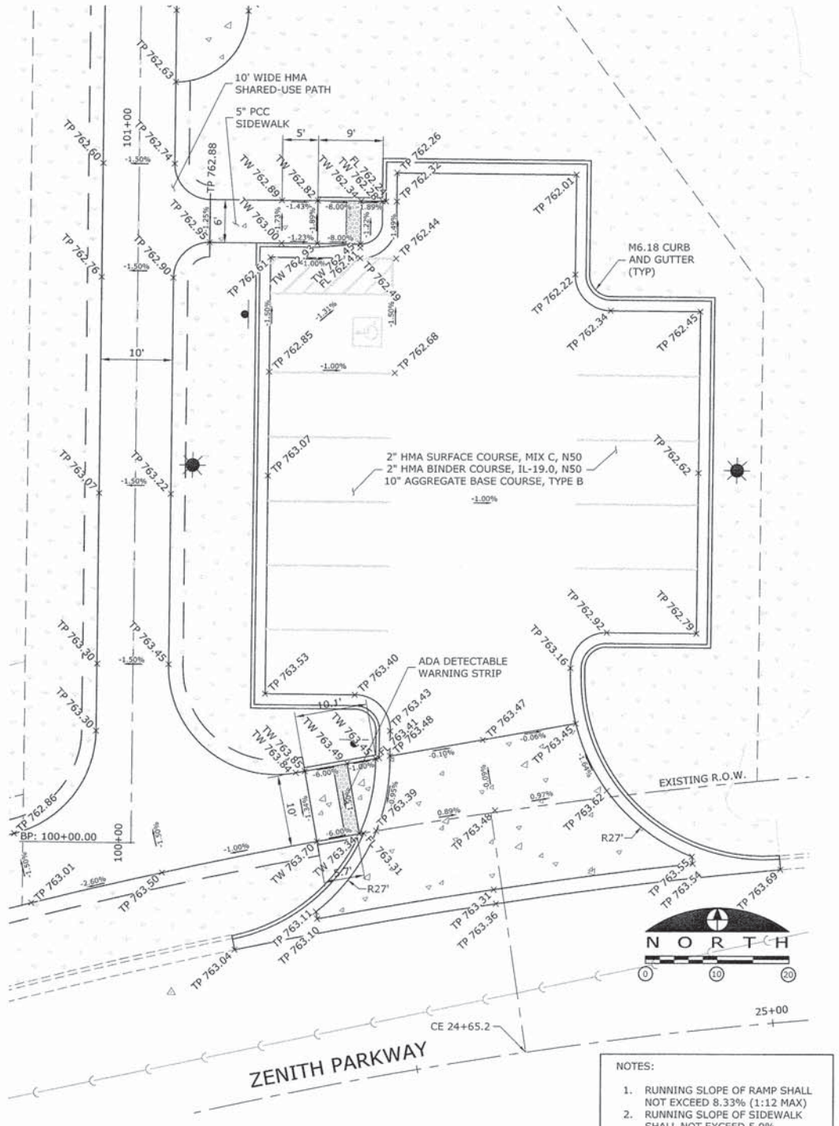
85628



NOTES:

1. RUNNING SLOPE OF RAMP SHALL NOT EXCEED 8.33% (1:12 MAX)
2. RUNNING SLOPE OF SIDEWALK SHALL NOT EXCEED 5.0%
3. CROSS SLOPE SHALL NOT EXCEED 2.0%

ZENITH PARKWAY AND
WOODWARD WAY
INTERSECTION ELEVATION DETAIL



NOTES:

1. RUNNING SLOPE OF RAMP SHALL NOT EXCEED 8.33% (1:12 MAX)
2. RUNNING SLOPE OF SIDEWALK SHALL NOT EXCEED 5.0%
3. CROSS SLOPE SHALL NOT EXCEED 2.0%

ZENITH PARKWAY AND
PARKING LOT
INTERSECTION ELEVATION DETAIL

FILE NAME = g:\projects\14070 willow creek trailhead\dwg\engineering plans\18 ada ramp details.dwg	USER NAME = Andrew Hess	DESIGNED - JGS	REVISED - ----
		DRAWN - AJH	REVISED - ----
	PLOT SCALE = 1:1	CHECKED - JSL	REVISED - ----
	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----

ARC DESIGN RESOURCES INC.

ADA RAMP DETAILS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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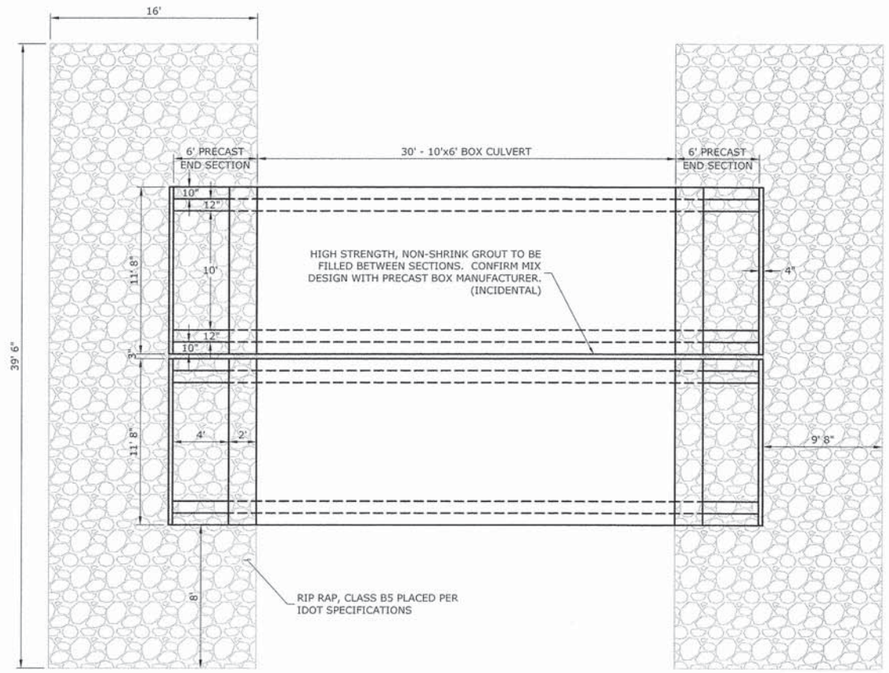
		CONTRACT NO. 85628		
	ILLINOIS FED. AID PROJECT			

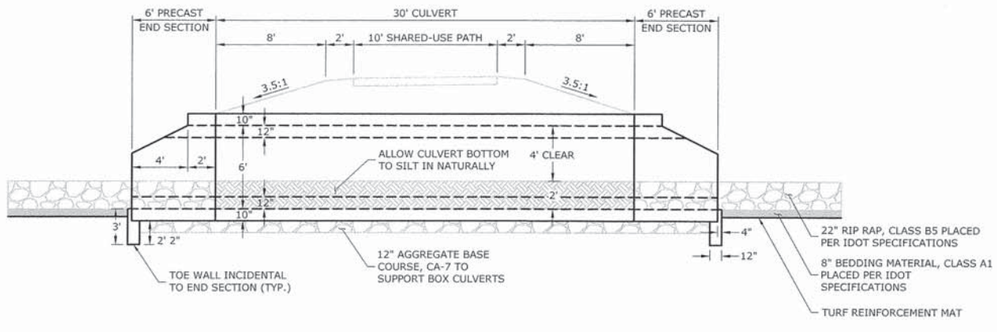
85628



CULVERT PLAN VIEW

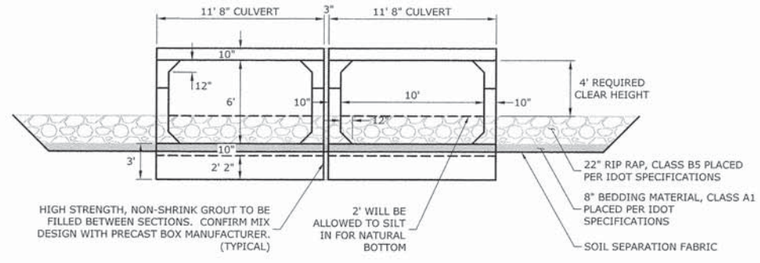
NO SCALE

WATERWAY INFORMATION			
Q (CFS)	FREQUENCY YEAR	HEADWATER ELEV. (FT)	
		EXISTING	PROPOSED
720	2	757.47	758.72
1720	10	759.58	760.54
3240	100	761.20	761.44
4410	500	762.03	762.10



CULVERT PROFILE VIEW

NO SCALE



CULVERT SECTION VIEW

NO SCALE

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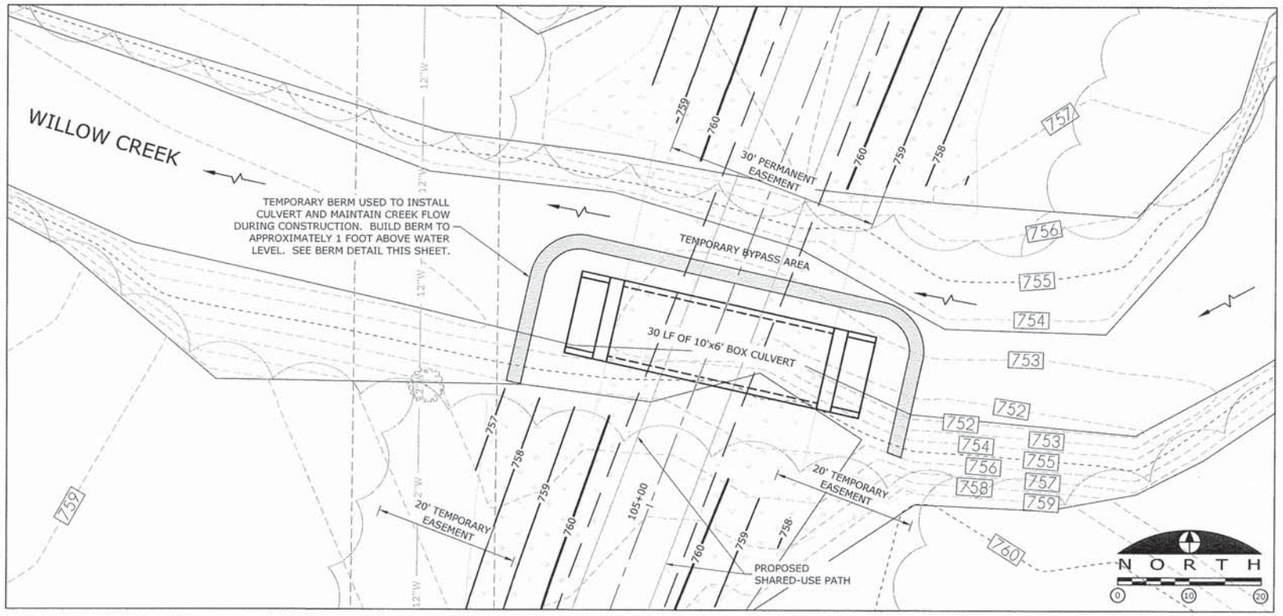
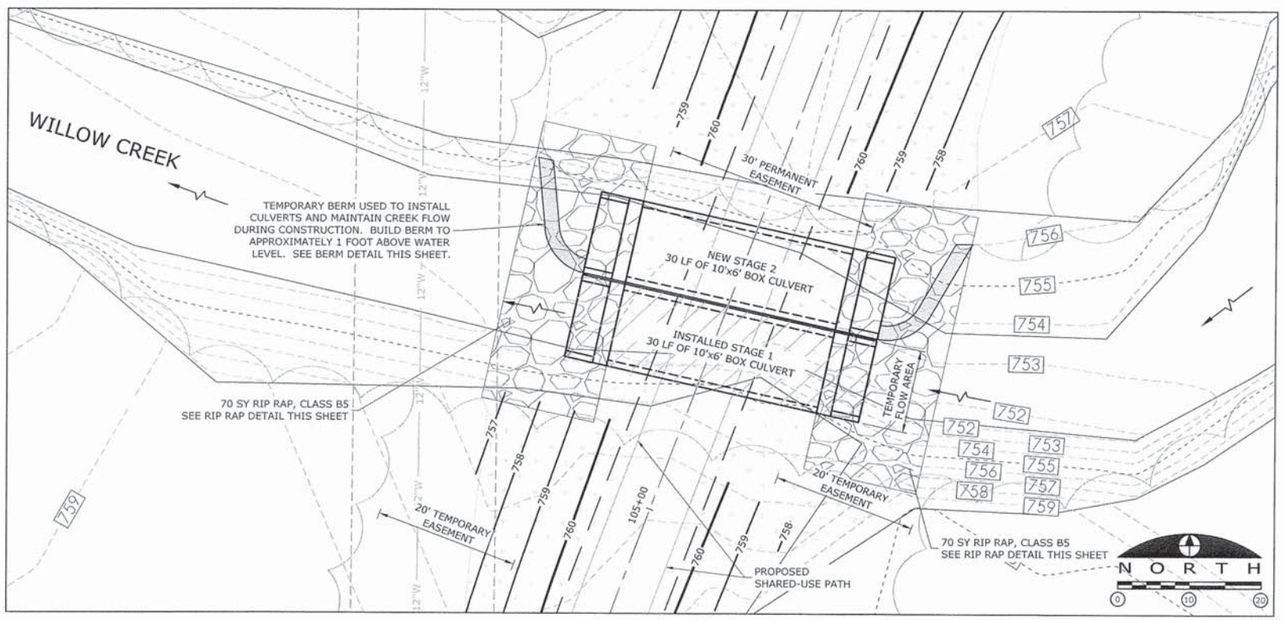
		DRAWN - AJH	REVISED - ----		
	PLOT SCALE = 1:1	CHECKED - JSL	REVISED - ----		
	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	21
		CONTRACT NO. 85628		
		ILLINOIS FED. AID PROJECT		

85628



STAGE 1



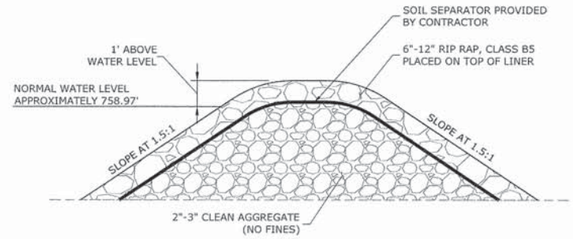
STAGE 2

LEGEND

- PROPERTY LINE
- EXISTING RIGHT-OF-WAY
- LOT LINE
- PROPOSED EASEMENT LINE
- PROPOSED CENTERLINE
- PROPOSED SHARED-USE PATH
- 12"W — EXISTING WATER TO REMAIN
- PROPOSED STORM SEWER
- 800 — EXISTING CONTOUR LINE
- 800 — PROPOSED CONTOUR LINE

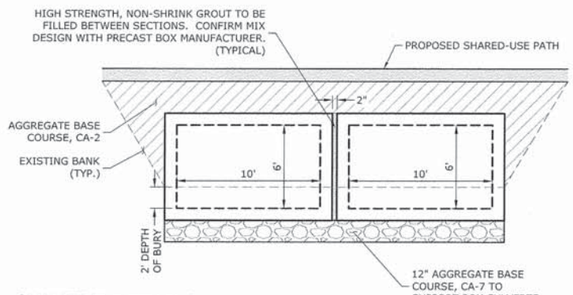
STAGING NOTES

1. Contractor to stage culvert installation in order to maintain creek flow at all times.
2. All temporary structures shall be removed following each stage.
3. All disturbed areas are to be restored.



BERM DETAIL

NO SCALE



CULVERT DETAILS

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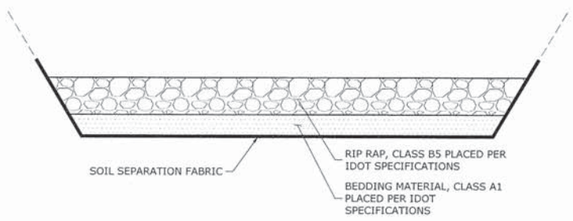

RIP RAP DETAILS

NO SCALE

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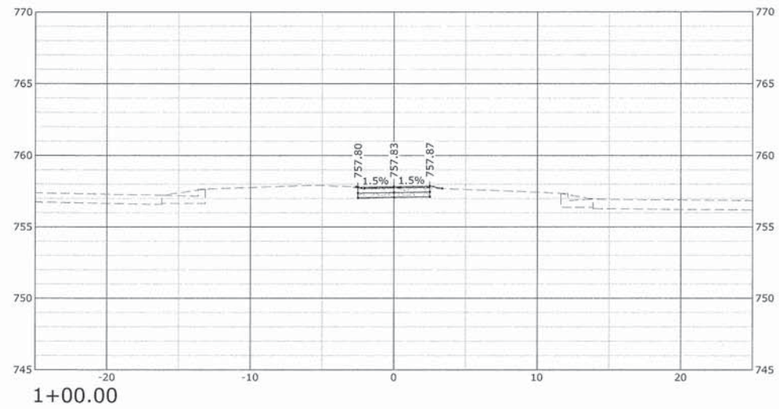
		DRAWN - AJH	REVISED - ----
	PLOT SCALE = 1:1	CHECKED - JSL	REVISED - ----
	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----

ARC DESIGN RESOURCES INC.

CULVERT CONSTRUCTION STAGING PLAN

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	22
		CONTRACT NO. 85628		
	ILLINOIS	FED. AID PROJECT		

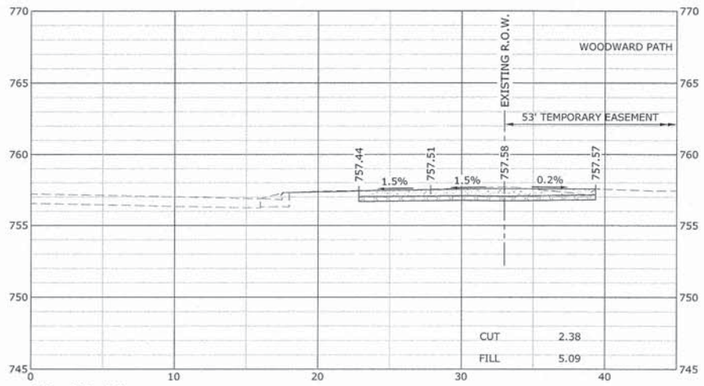
85628



1+00.00

FILE NAME =	USER NAME = Andrew Hoss	DESIGNED = JDS	REVISED = ----				

85628



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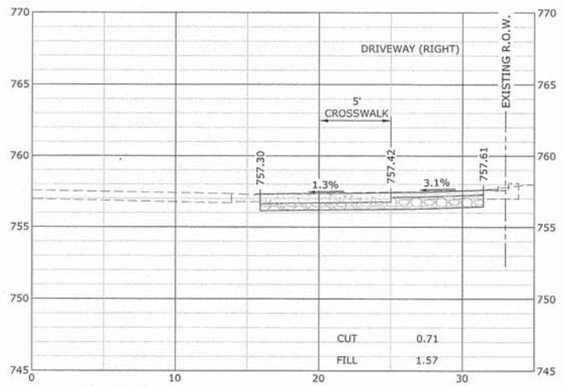

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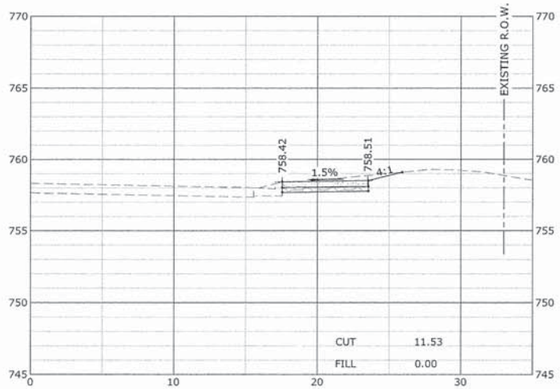

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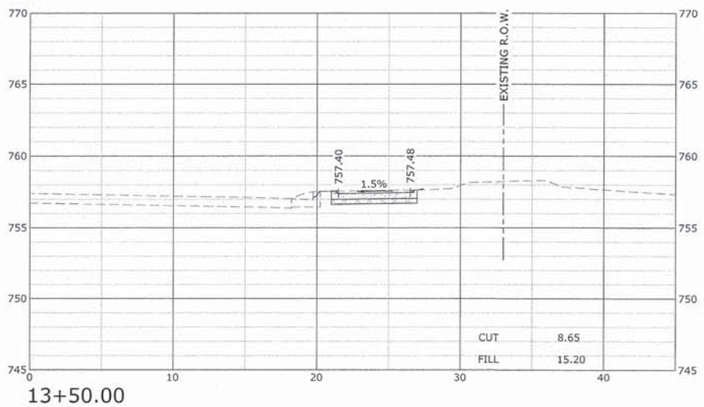

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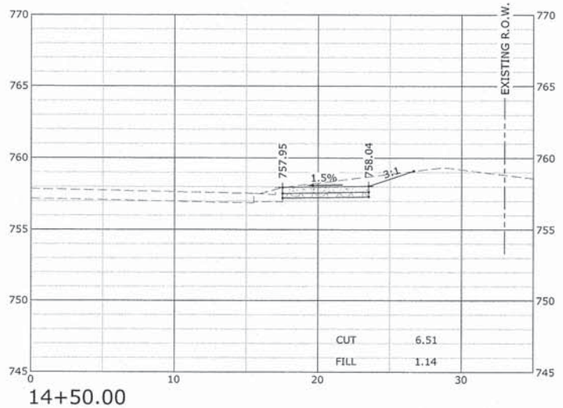

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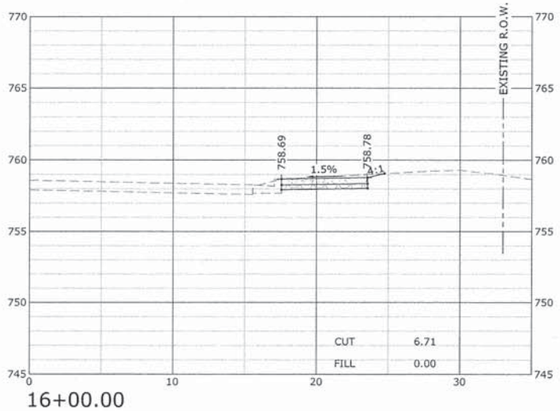
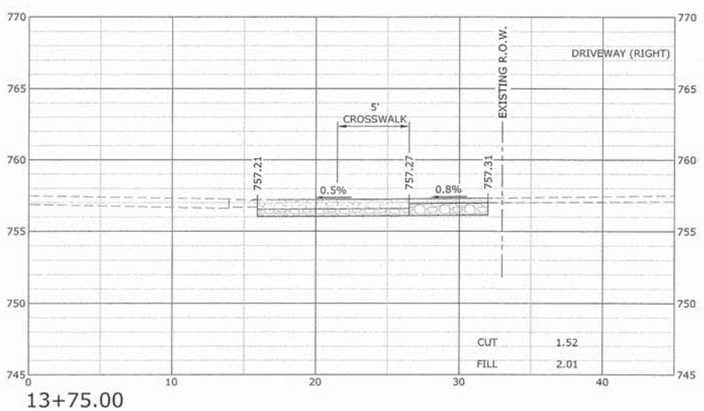


16+00.00



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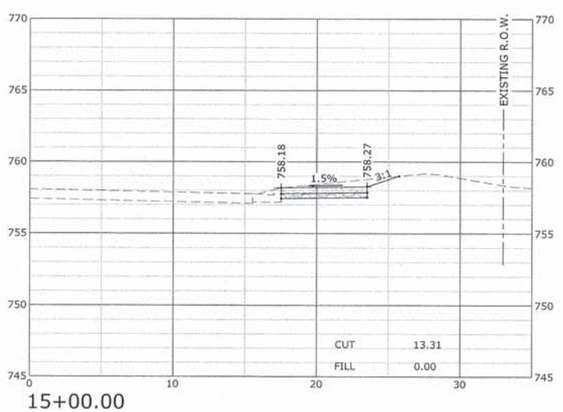

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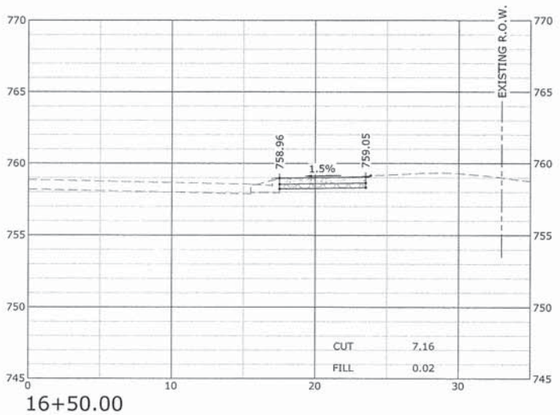

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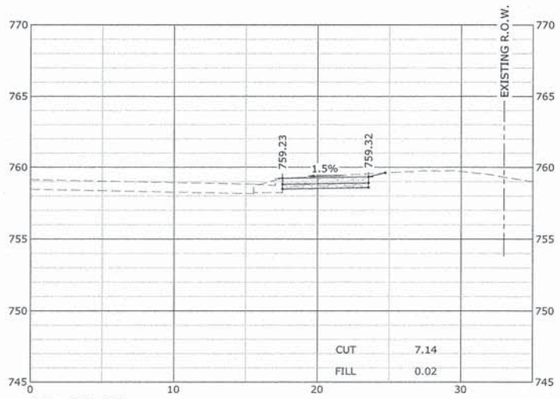
		DRAWN - AJH	REVISED - ----
	PLOT SCALE = 1:1	CHECKED - JSL	REVISED - ----
	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----

ARC DESIGN RESOURCES INC.

ZENITH PARKWAY CROSS SECTIONS 13+00 - 16+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	24
		CONTRACT NO. 85628		
	ILLINOIS FED. AID PROJECT			

85628



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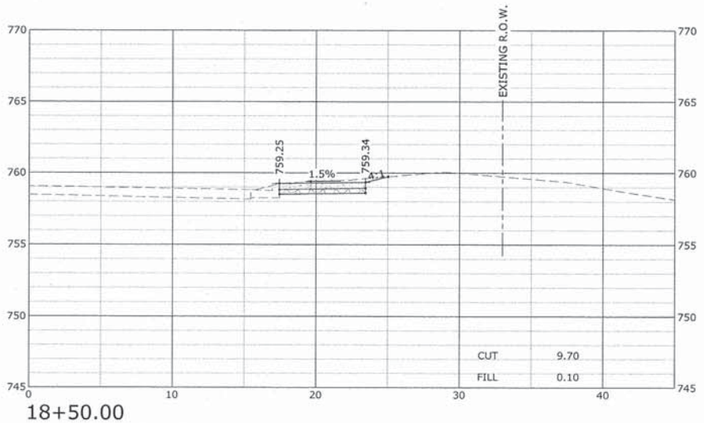

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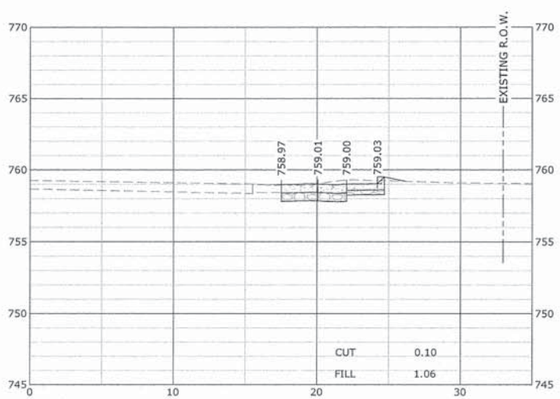

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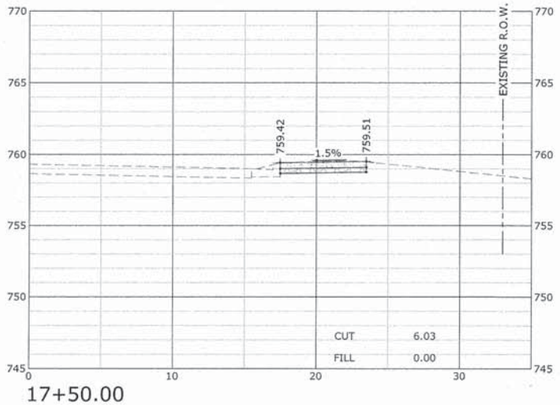

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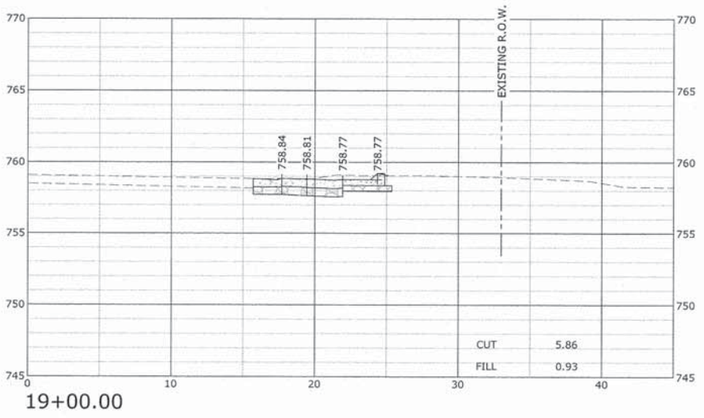

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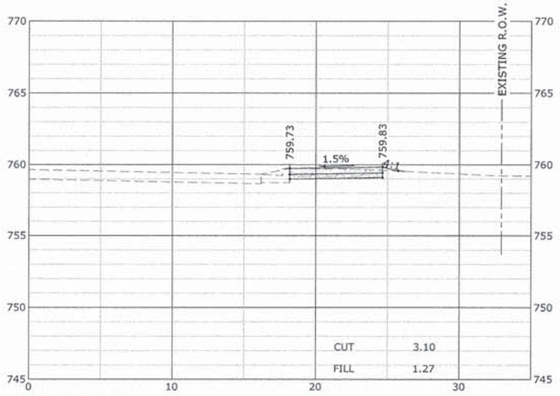

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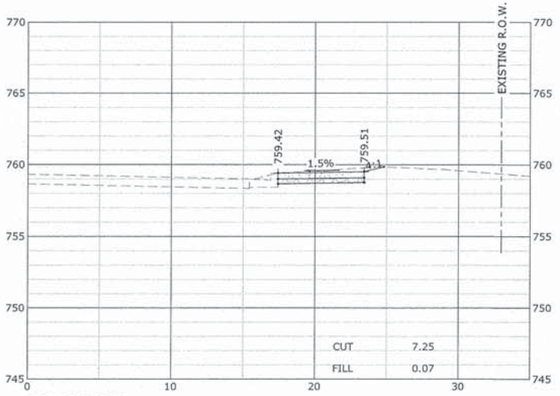

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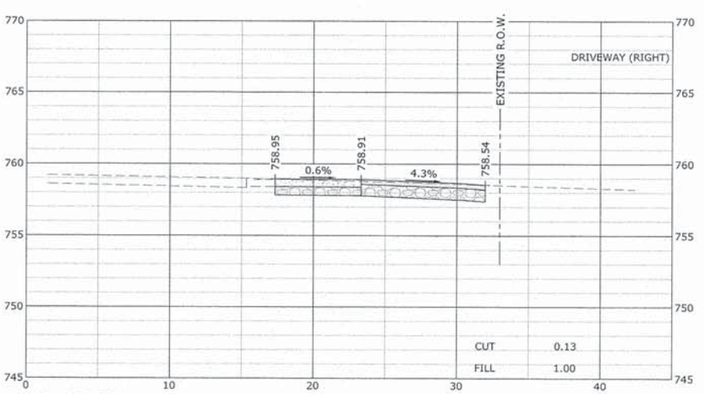
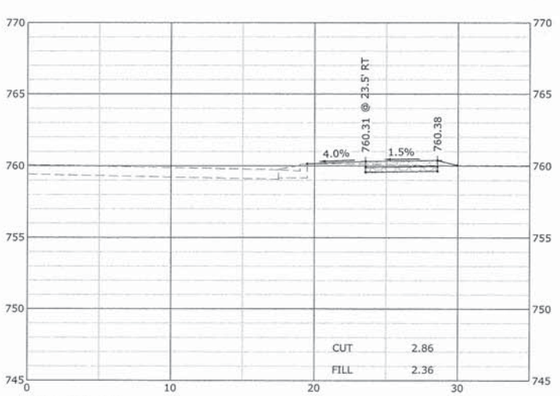


19+25.00



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FILE NAME = g:\projects\14070 willow creek trailhead\dwg\engineering plans\20 - 23 zenith parkway cross sections 13+00 - 24+60.dwg	USER NAME = Andrew Hess	DESIGNED - JGS	REVISED - ----
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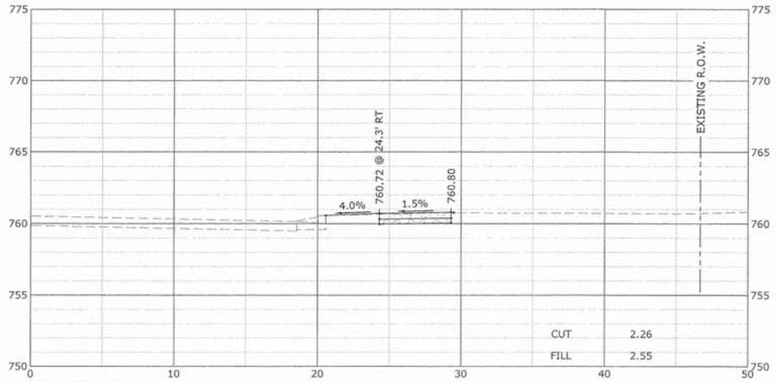
	PLOT SCALE = 1:1	CHECKED - JSL	REVISED - ----
	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----

ARC DESIGN RESOURCES INC.

ZENITH PARKWAY CROSS SECTIONS 17+00 - 20+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	25
		CONTRACT NO. 85628		
	ILLINOIS FED. AID PROJECT			

85628



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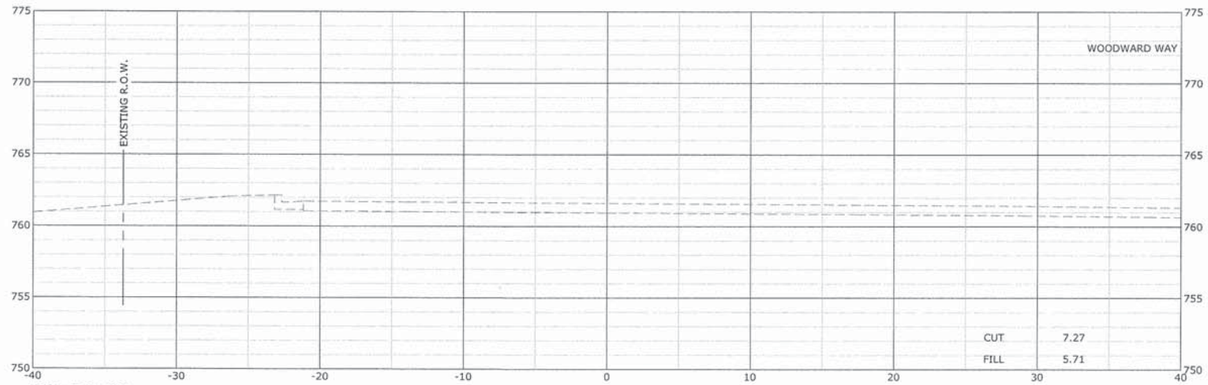

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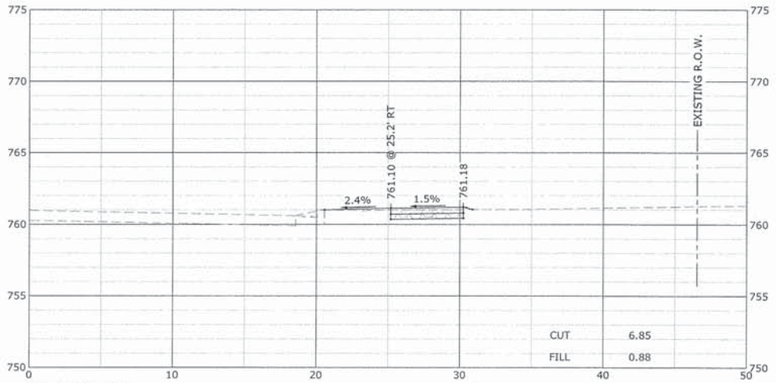

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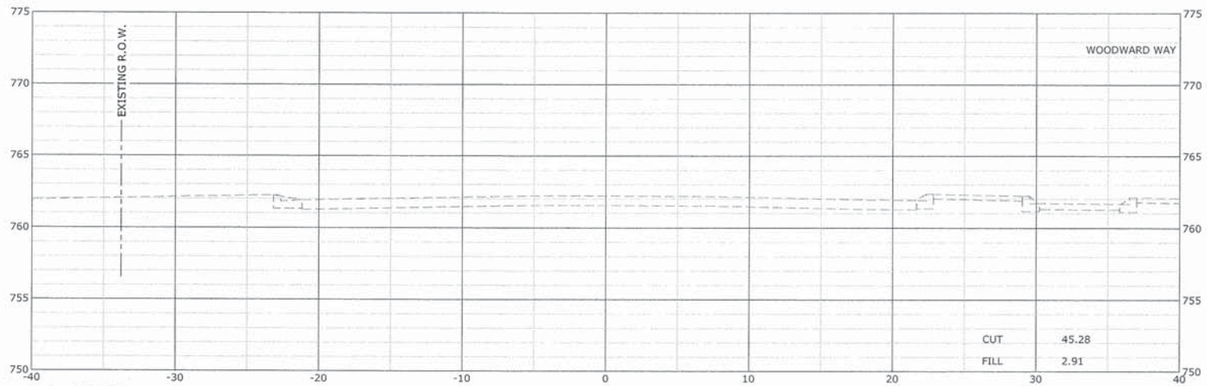

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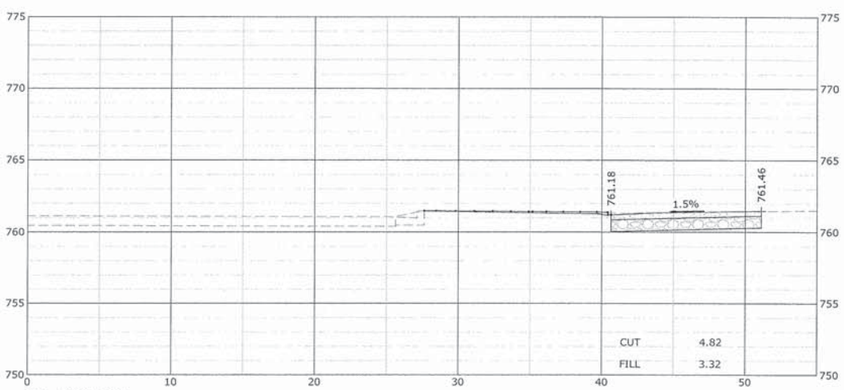

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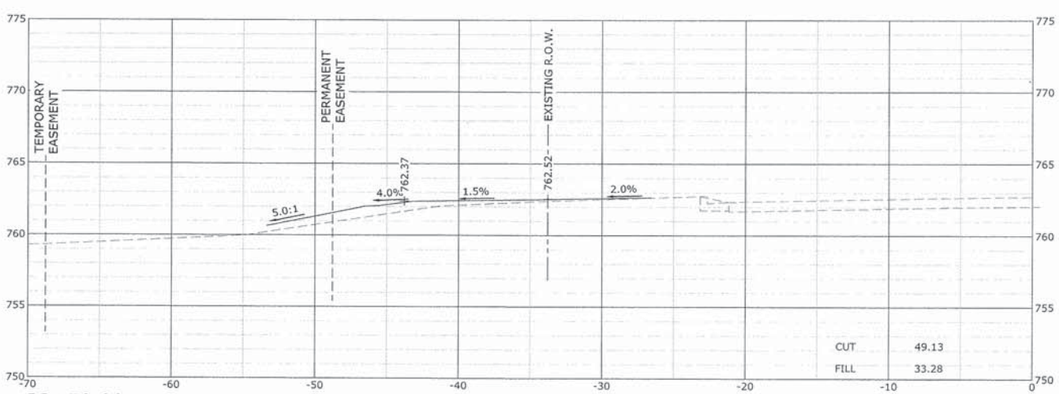

23+50.00

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		DRAWN - AJH	REVISED - ----				14-00076-00-BT	WINNEBAGO	38	26
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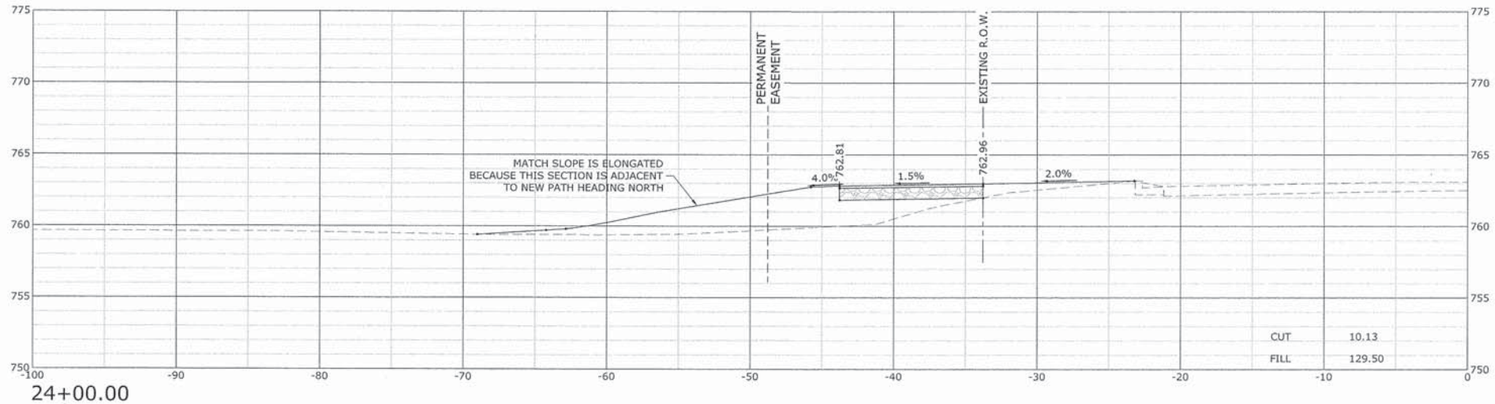
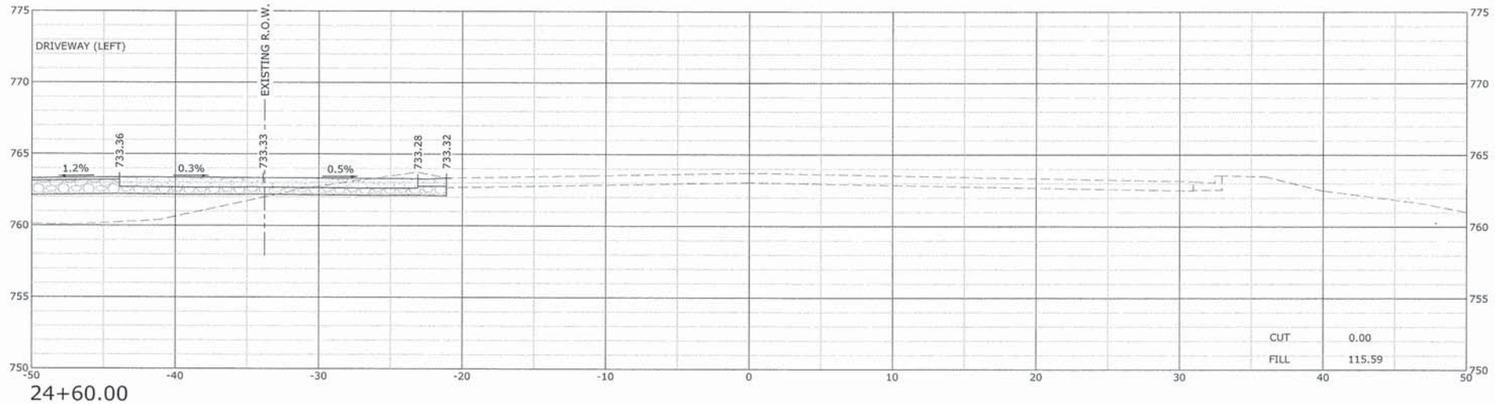
	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----					ILLINOIS FED. AID PROJECT		

85628



24+00.00



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	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----

ARC DESIGN RESOURCES INC.

ZENITH PARKWAY CROSS SECTIONS 24+00 - 24+60

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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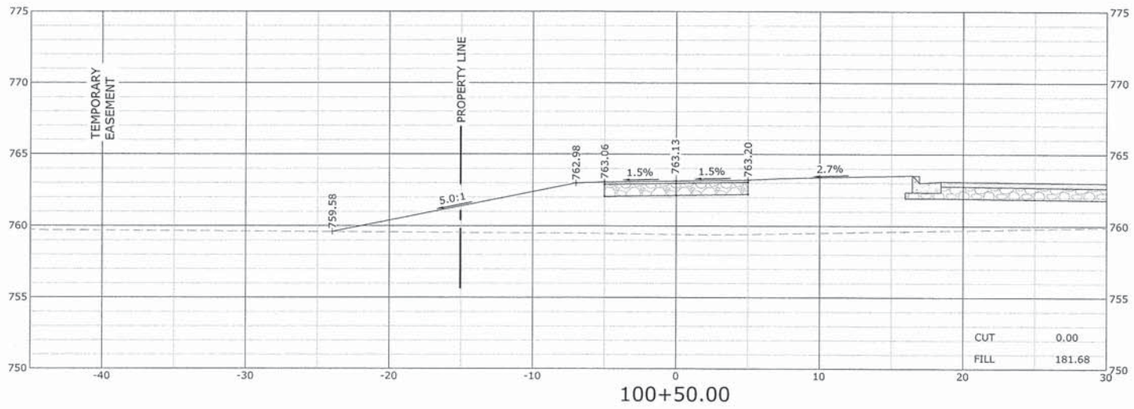
		CONTRACT NO. 85628		
	ILLINOIS	FED. AID PROJECT		

85628



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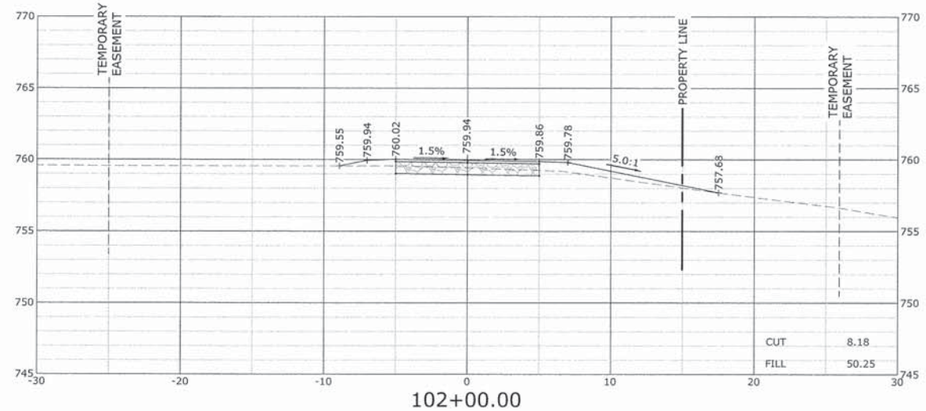
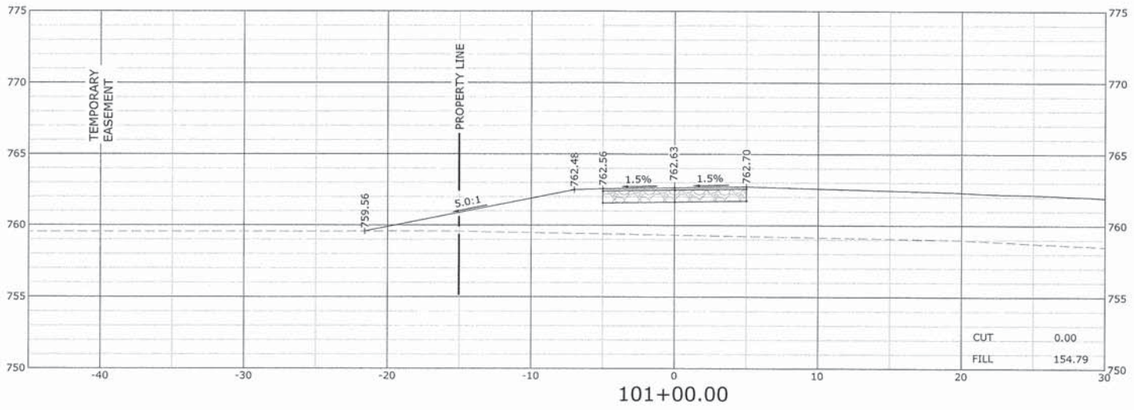
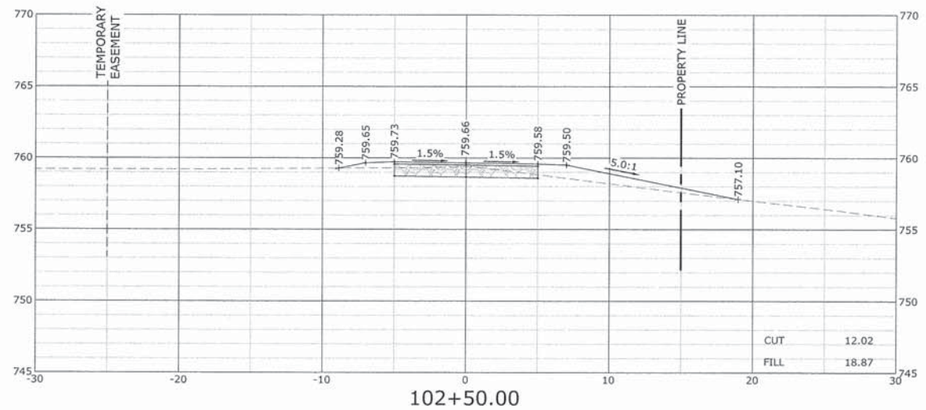


102+00.00



101+00.00



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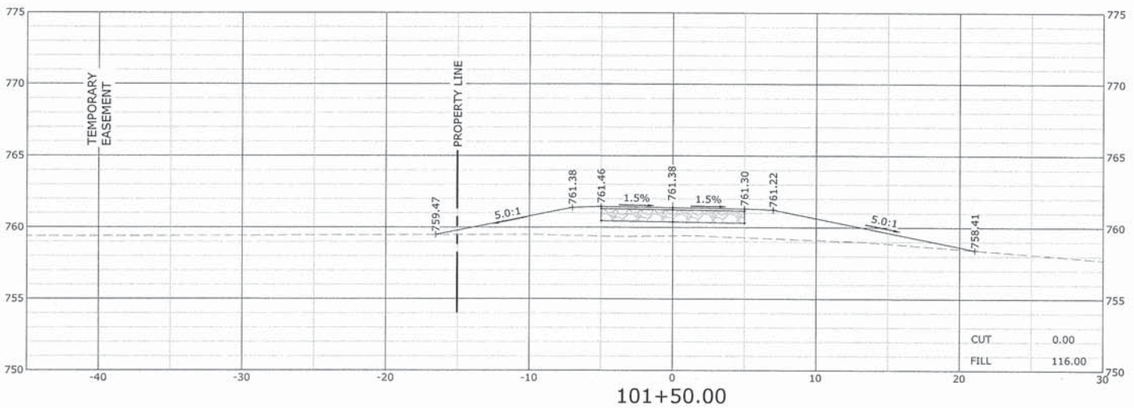

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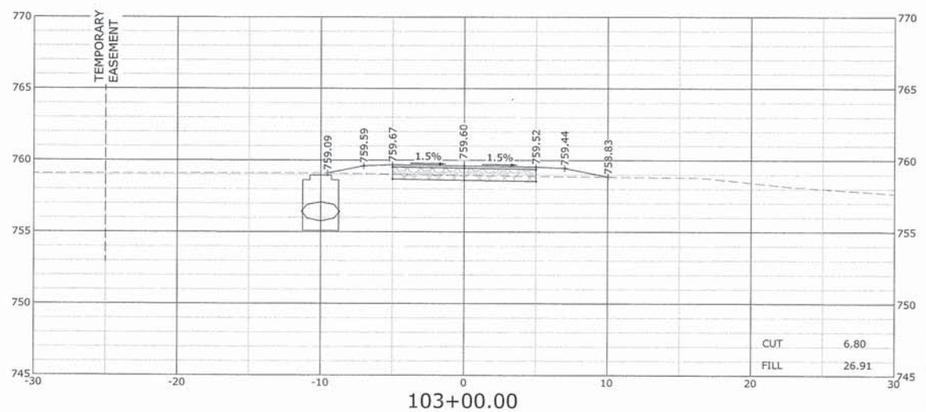

103+00.00

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		DRAWN - AJH	REVISED - ----
	PLOT SCALE = 1d	CHECKED - JSL	REVISED - ----
	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----

ARC DESIGN RESOURCES INC.

SHARED-USE PATH CROSS SECTIONS 100+50 - 103+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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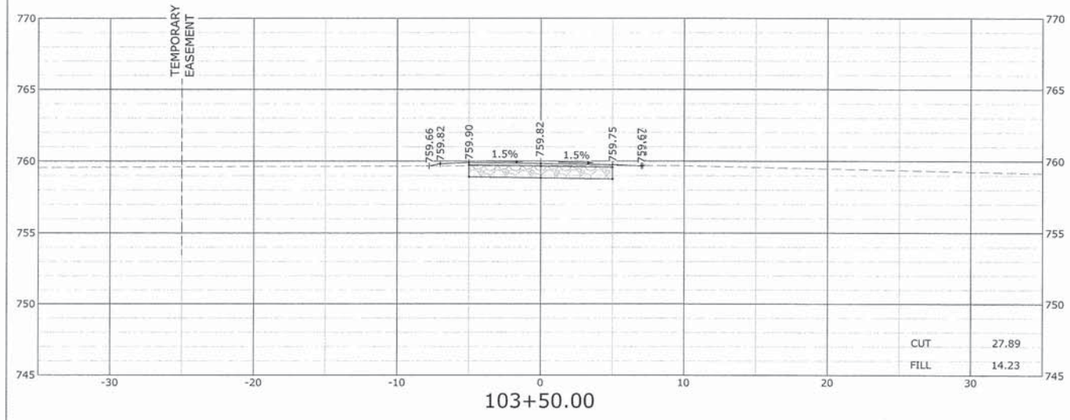
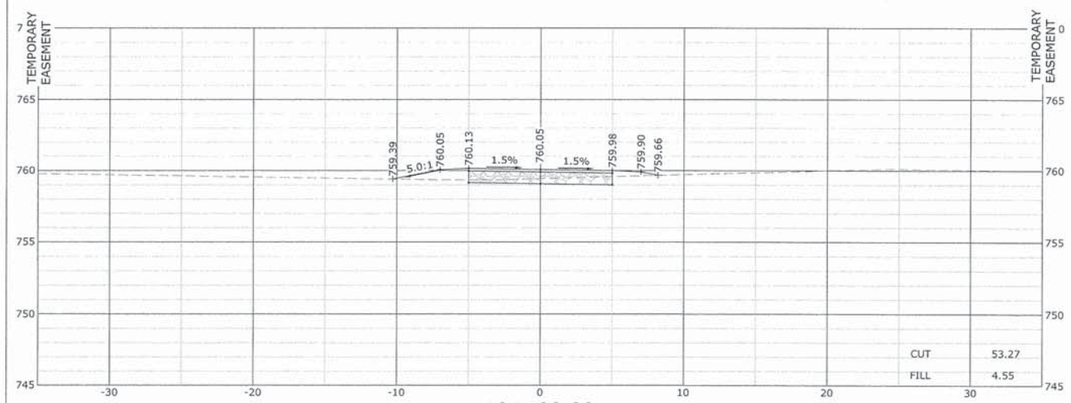
		CONTRACT NO. 85628		
	ILLINOIS FED. AID PROJECT			

85628



103+50.00



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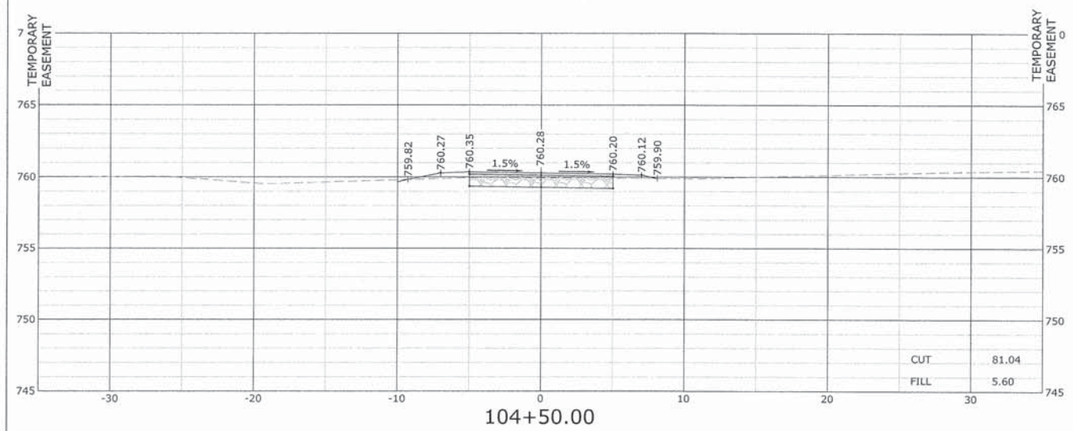
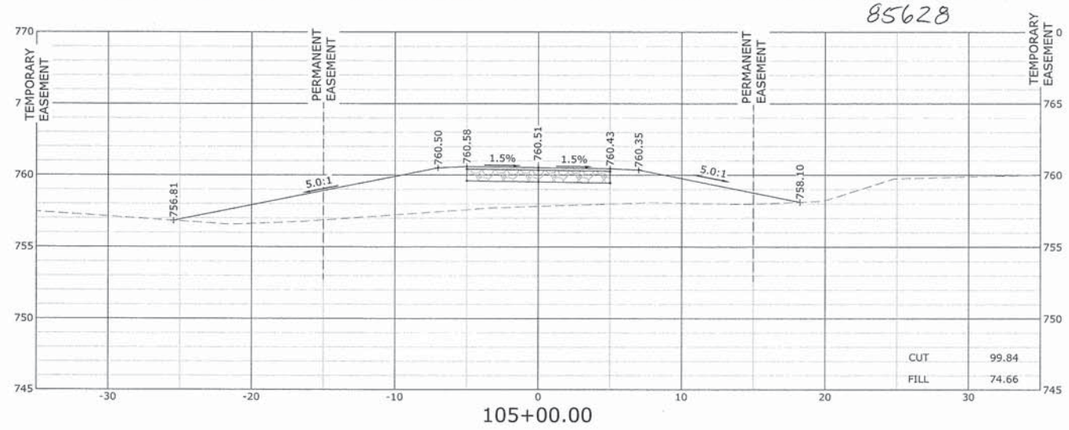


104+50.00



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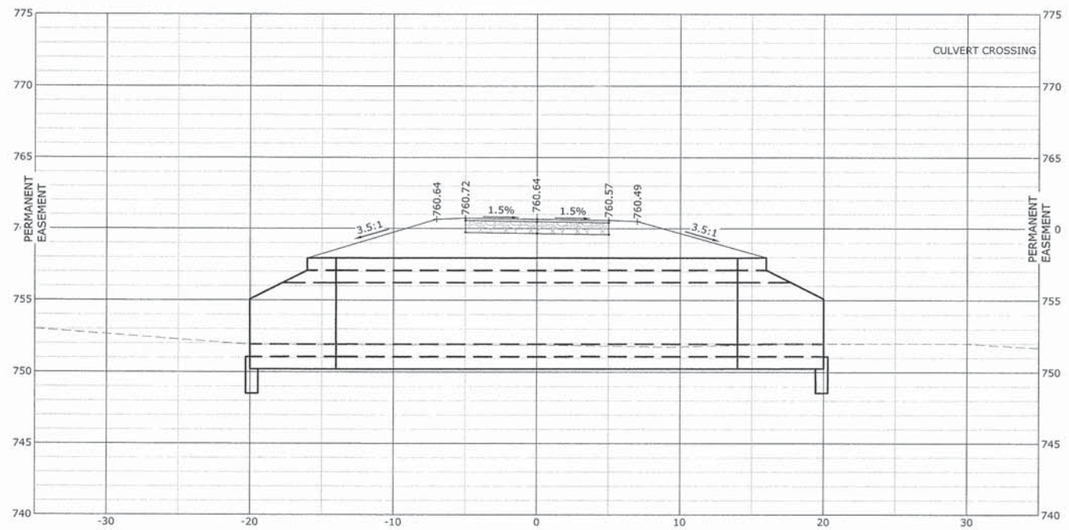
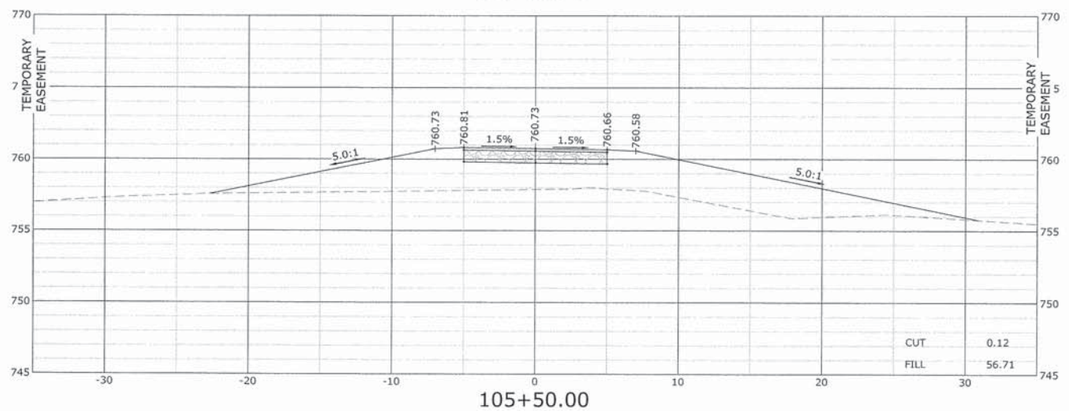


105+30.40



105+50.00

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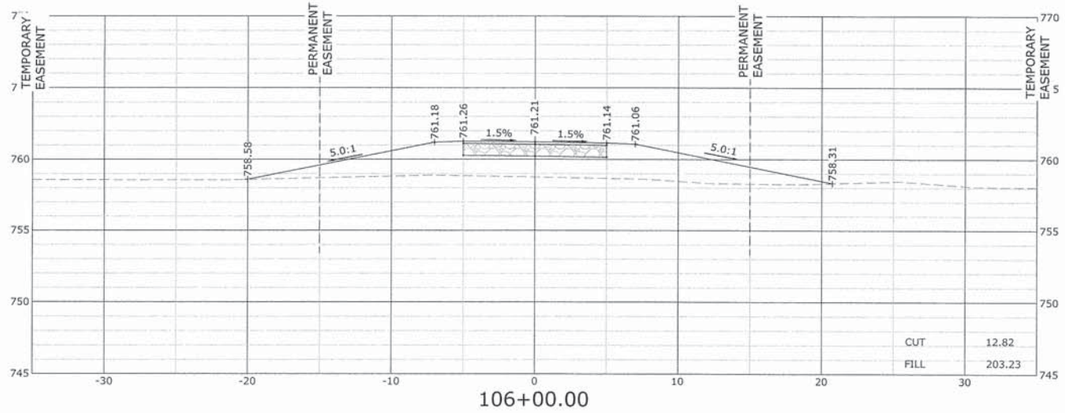
	PLOT SCALE = 1:1	CHECKED - JSL	REVISED - ----
	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----

ARC DESIGN RESOURCES INC.

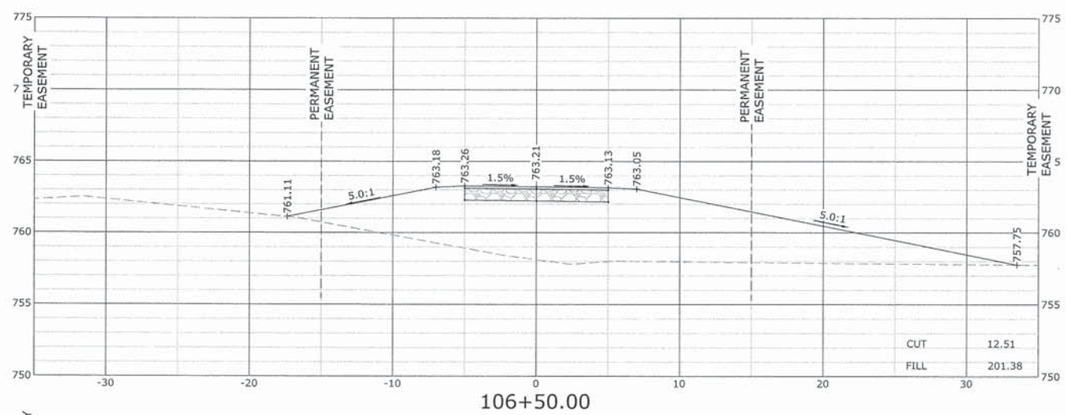
SHARED-USE PATH CROSS SECTIONS 103+50 - 105+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	29
		CONTRACT NO. 85628		
	ILLINOIS FED. AID PROJECT			

85628



106+00.00



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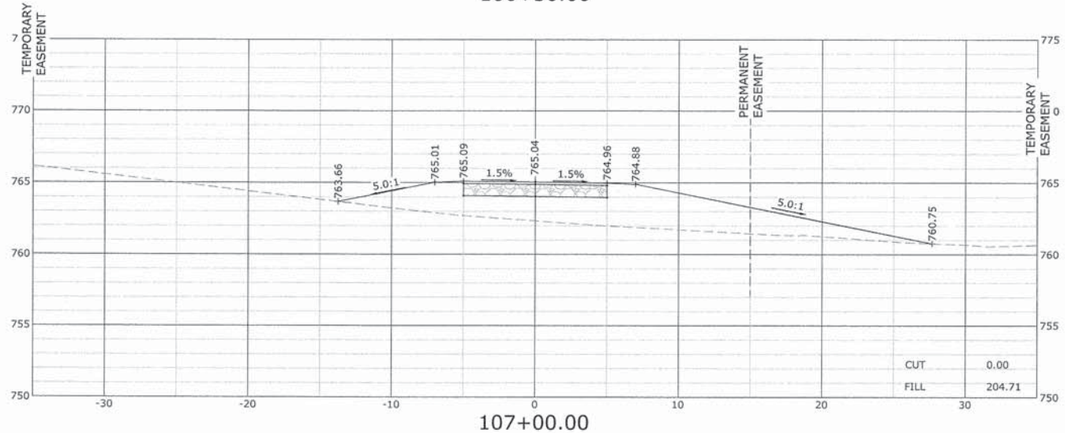
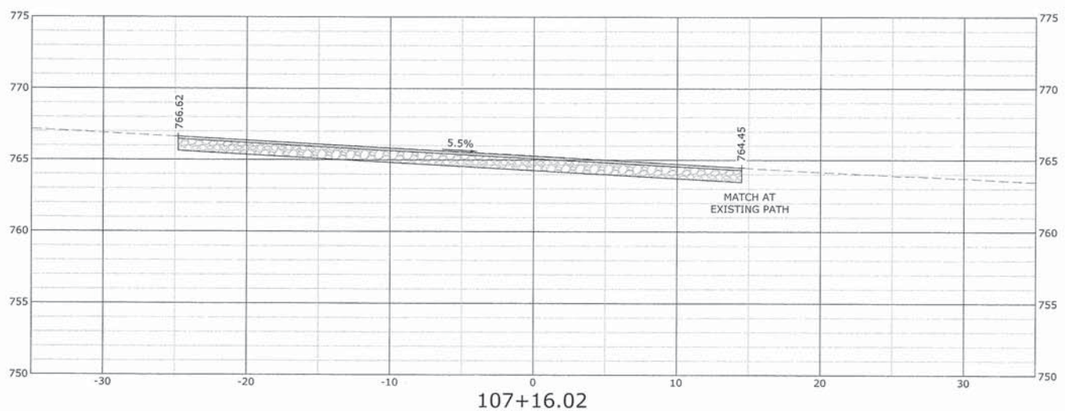


107+00.00



107+16.02

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	PLOT SCALE = 1:1	CHECKED - JSL	REVISED - ----
	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----

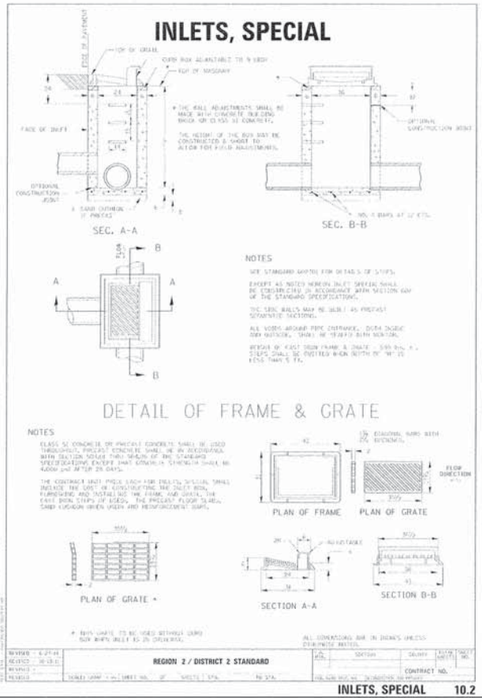
ARC DESIGN RESOURCES INC.

SHARED-USE PATH CROSS SECTIONS 106+00 - 107+16.12

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	30
		CONTRACT NO. 85628		
	ILLINOIS	FED. AID PROJECT		

85628

INLETS, SPECIAL



REVISED - 6-27-14
REVISED - 10-13-15
REVISED -
REVISED -

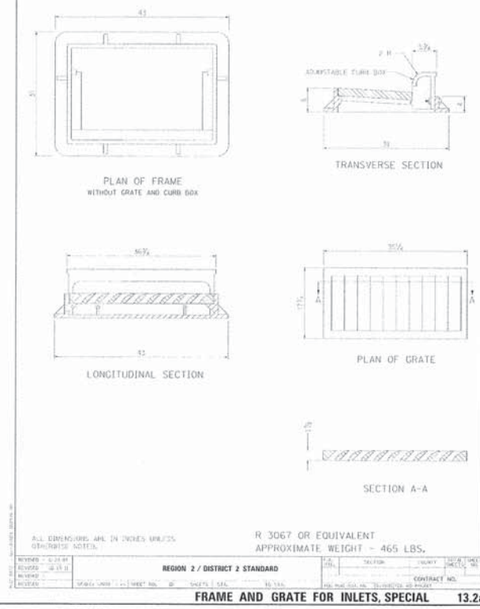
REGION 2 / DISTRICT 2 STANDARD

F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO.
CONTRACT NO.

SCALE: 1/4"=1'-0" | SHEET NO. OF SHEETS | STA. | TO STA.

INLETS, SPECIAL 10.2

FRAME AND GRATE FOR INLETS, SPECIAL



REVISED - 6-27-14
REVISED - 10-13-15
REVISED -
REVISED -

REGION 2 / DISTRICT 2 STANDARD

F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO.
CONTRACT NO.

SCALE: 1/4"=1'-0" | SHEET NO. OF SHEETS | STA. | TO STA.

FRAME AND GRATE FOR INLETS, SPECIAL 13.2a

RIPRAP AT END SECTIONS

REVISED - 11-12-14
REVISED - 2-10-14
REVISED -
REVISED -

REGION 2 / DISTRICT 2 STANDARD

F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO.
CONTRACT NO.

SCALE: 1/4"=1'-0" | SHEET NO. OF SHEETS | STA. | TO STA. | FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT

RIPRAP AT END SECTIONS 19.4

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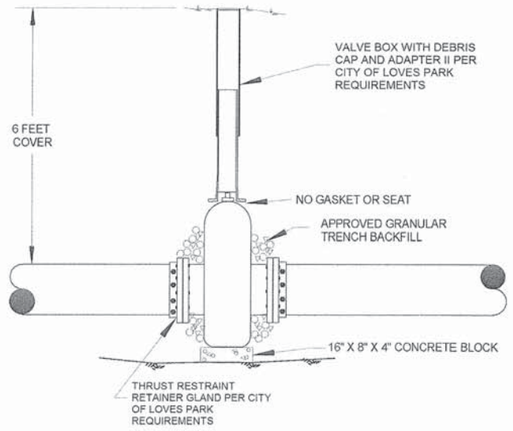
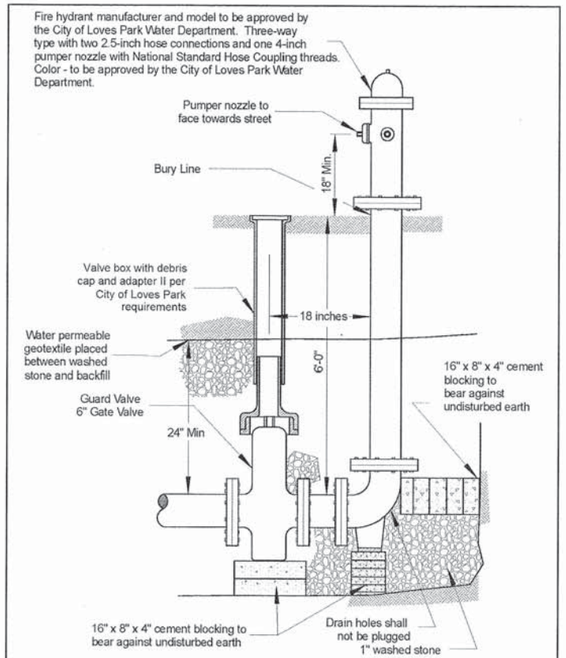
		DRAWN - AJH	REVISED - ----				14-00076-00-BT	WINNEBAGO	38	31
	PLOT SCALE = 1:1	CHECKED - JSL	REVISED - ----					CONTRACT NO. 85628		
	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----					ILLINOIS	FED. AID PROJECT	

85628



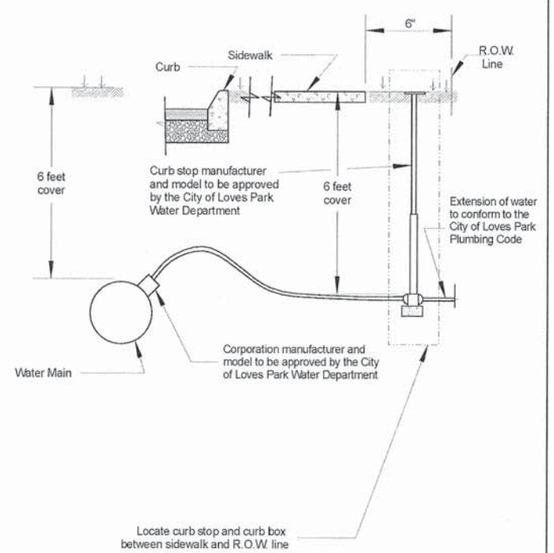
CITY OF LOVES PARK VALVE AND VALVE BOX DETAIL



REV. DATE: 3/13/2008

FIRE HYDRANT DETAIL

CITY OF LOVES PARK
POTABLE WATER SUPPLY
LOVES PARK, ILLINOIS



Last revised 4/8/2008

WATER SERVICE DETAIL

CITY OF LOVES PARK
POTABLE WATER SUPPLY
LOVES PARK, ILLINOIS

FILE NAME = g:\projects\14070 willow creek trailhead\dwg\engineering plans\28 city of loves park standards.dwg	USER NAME = Andrew Hess	DESIGNED - JGS	REVISED - ----
		DRAWN - AJH	REVISED - ----
	PLOT SCALE = 1:1	CHECKED - JSL	REVISED - ----
	PLOT DATE = 2/25/2016	DATE - 11/17/2015	REVISED - ----

ARC DESIGN RESOURCES INC.

CITY OF LOVES PARK STANDARD DETAILS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	32
		CONTRACT NO. 85628		
	ILLINOIS FED. AID PROJECT			

85628

SITE LIGHTING FIXTURE SCHEDULE

FIXTURE TYPE	LAMP SIZE AND TYPE	MOUNTING	MANUFACTURER'S NUMBER	REMARKS
A	70 CRI L.E.D., 4000K 1A DRIVER 15,669 INITIAL DELIVERED LUMENS (157 WATTS)	20'-0" POLE ON 2'-0" CONCRETE BASE (SEE DETAIL)	MCGRAW EDISON NO. GLEON-AE-03-LED-E1-T3-GM POLE: RTA-6L-20-T-V	20'-0" ROUND TAPERED ALUMINUM POLE WITH ONE (1) LED AREA LUMINAIRE WITH DIE-CAST HOUSING, MULTI-VOLT DRIVER, ALL WITH GRAPHITE METALLIC FINISH (FIXTURE WATTAGE = 157).
B	70 CRI L.E.D., 4000K 1A DRIVER 5,263 INITIAL DELIVERED LUMENS (56 WATTS)	12'-0" POLE ON 6" CONCRETE BASE (SEE DETAIL) *=VERIFY	MCGRAW EDISON NO. GLEON-AE-01-LED-E1-SL2-GM POLE: RTA-4T-12-T-V	12'-0" ROUND TAPERED ALUMINUM POLE WITH ONE (1) LED AREA LUMINAIRE WITH DIE-CAST HOUSING, MULTI-VOLT DRIVER, ALL WITH GRAPHITE METALLIC FINISH (FIXTURE WATTAGE = 56).

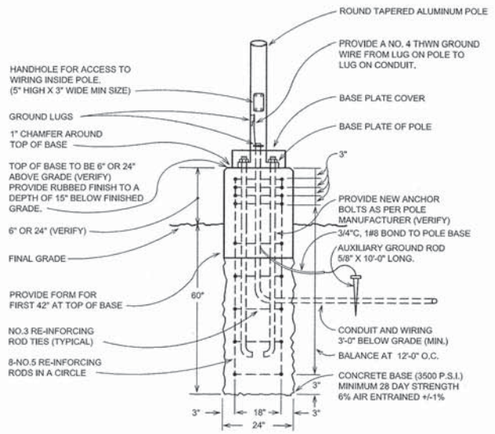
NOTES:

THE ELECTRICAL CONTRACTOR SHALL COORDINATE ANY SPECIAL SITE FIXTURE REQUIREMENTS AND REGULATIONS REQUIRED BY THE LOCAL AUTHORITY. (i.e. FIXTURE/POLE COLOR AND LENS TYPE). **VERIFY PRIOR TO ORDERING EXTERIOR LIGHT FIXTURES INDICATED ON THIS SCHEDULE **

PHOTOMETRIC CALCULATIONS SHALL BE APPROVED BY THE LOCAL AUTHORITY PRIOR TO THE ELECTRICAL CONTRACTOR ORDERING FIXTURES INDICATED ON THIS SCHEDULE. COORDINATE WITH THE ARCHITECT FOR FINAL PHOTOMETRIC CALCULATIONS FINAL APPROVAL.

ALL FIXTURE SELECTIONS SHALL BE APPROVED BY THE LOCAL AUTHORITY PRIOR TO ORDERING FIXTURES SPECIFIED ON THIS SCHEDULE.

THE FIXTURE SCHEDULE DOES NOT NECESSARILY LIST ALL ACCESSORIES AND HARDWARE NECESSARY FOR THE COMPLETION OF INSTALLATION. IT IS THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO PROPERLY DETERMINE AND PROVIDE THE CORRECT COMPONENTS, ACCESSORIES AND HARDWARE AS REQUIRED FOR THE INSTALLATION. ALL ADDITIONAL HARDWARE FOR MOUNTING FIXTURES SHALL BE PROVIDED AT NO EXTRA COST.



DETAIL OF LIGHT POLE FOUNDATION, SPECIAL

NO SCALE

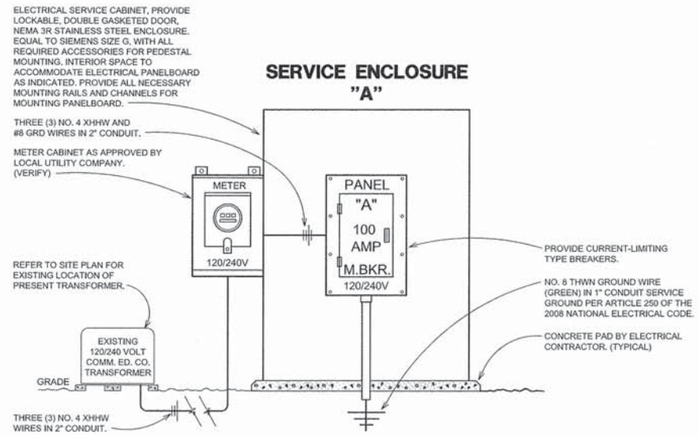


DIAGRAM SHOWING ELECTRICAL SERVICE AND DISTRIBUTION SYSTEM

NO SCALE — PURELY DIAGRAMMATIC

REFER TO FLOOR PLANS, PANEL SCHEDULES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION. COORDINATE AVAILABLE FAULT CURRENT WITH THE LOCAL UTILITY COMPANY. (VERIFY PRIOR TO SUBMITTING FINAL BID). ADJUST A.I.C. RATINGS FOR ALL OVERCURRENT PROTECTION DEVICES AS REQUIRED. (VERIFY). COORDINATE EXACT EQUIPMENT LOCATIONS WITH ALL OTHER TRADE CONTRACTORS ASSOCIATED WITH THIS PROJECT PRIOR TO ROUGH-IN OF ANY ELECTRICAL EQUIPMENT. ALL EQUIPMENT SHALL BE PROVIDED WITH 90° CENTIGRADE LUGS FOR THWN WIRING.

PANEL SCHEDULE

PANEL: "A" — VOLTAGE: 120/240V, 1PH, 3WIRE — MOUNTING: SURFACE
BUS: 100 AMP CU — LOCATION: SERVICE ENCLOSURE "A" — MAIN: BREAKER
A.I.C.: COORDINATE — FEEDER: 3#4 THWN, 2"C — RATING: 60A/2P

CIR NO.	AMPS/ POLES	DESCRIPTION-AMPS	PHASE "A"	PHASE "B"	DESCRIPTION-AMPS	AMPS/ POLES	CIR NO.
1	20/2	NEW LIGHTING-3.0	(4.0)		RELAY-1.0	20/1	2
3		NEW LIGHTING-3.0		(4.0)	PHOTOCELL-1.0	20/1	4
5	20/1	RECEPT-1.5	(1.5)		SPARE	20/2	6
7	20/1	SPARE		( )	SPARE		8
9	20/1	SPARE	( )		SPARE	20/1	10
11	20/1	SPARE		( )	SPARE	20/1	12

TOTAL PHASE "A" AMPS: (5.5)
TOTAL PHASE "B" AMPS: (4.0)
HIGH PHASE: "A" AMPS: (5.5)

REMARKS: *PROVIDE LOCK-ON DEVICE FOR BREAKER
3-#4THWN MAX AMP @ 75° = 85 A
ØA: CL X 1.25 + NCL = (3.0)(1.25) + = 6.3 A

LAYOUT	MHH	12/10/10
DRAWN	MHH	02/12/13
RE-REVISED	DPA	05/17/13

FILE NAME = 15-013
USER NAME = SDS
PLOT SCALE = SEE PLAN
PLOT DATE = 5/8/15
DESIGNED — SDS
DRAWN — SDS
CHECKED — SDSE
DATE — $DATE1$
REVISED — -

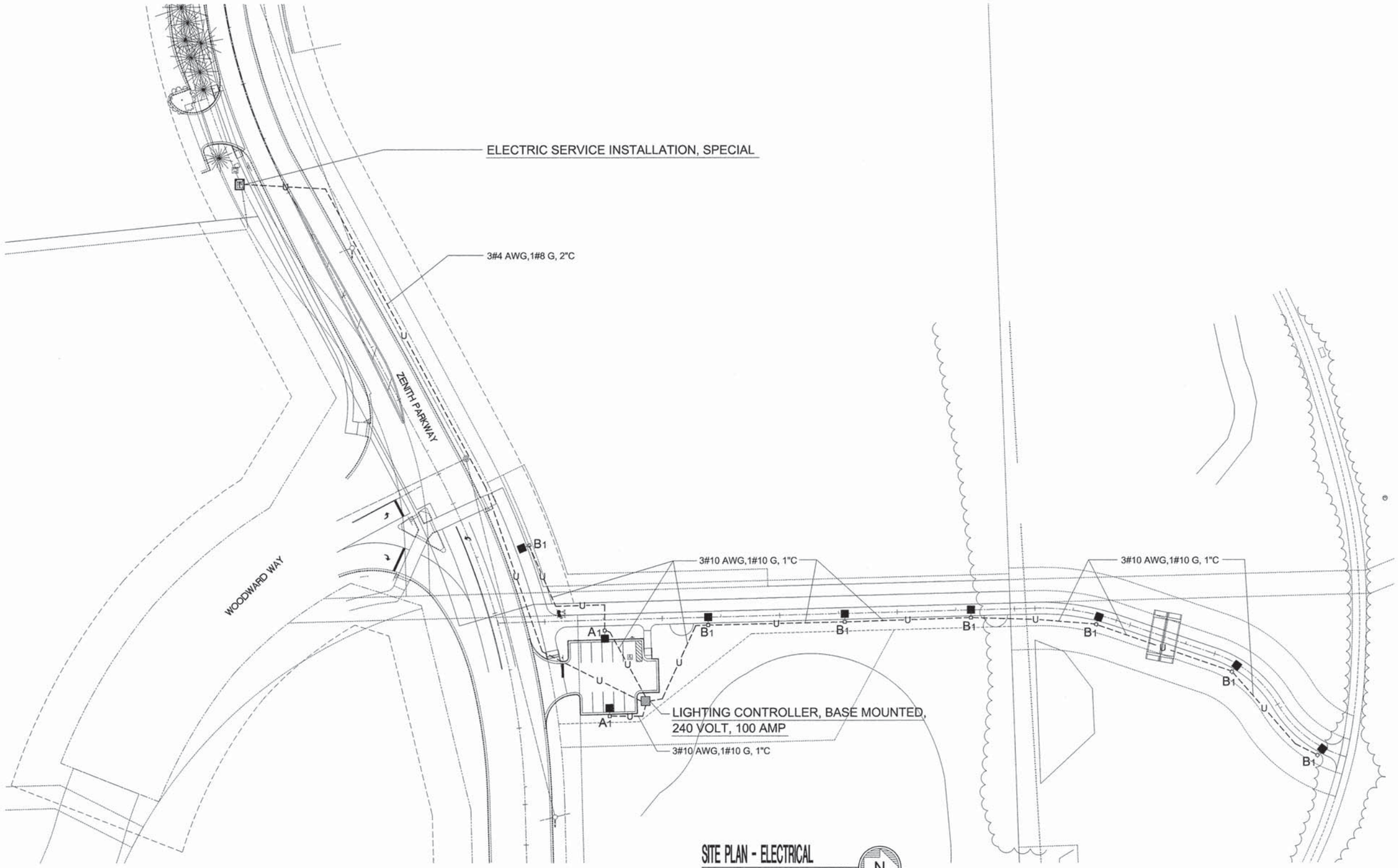
ARC DESIGN RESOURCES, INC.

SYSTEMS DESIGN SERVICE engineering
1909 EAST STATE STREET-SUITE 215-ROCKFORD, ILLINOIS-61104
PHONE (815) 398-5281 FAX (815) 398-5282 WWW.SYSDESIGN.COM
IL PROF DESIGN FIRM #184.004991

ELECTRICAL DISTRIBUTION, DETAILS AND SCHEDULES

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	33
		CONTRACT NO. 85628		
	ILLINOIS FED. AID PROJECT			

85628



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DRAWN	MWK	02/12/13
REVIEWED	DPA	02/12/13

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		DRAWN — SDS	REVISED — -
	PLOT SCALE = SEE PLAN	CHECKED — SDSE	REVISED — -
	PLOT DATE = 5/8/15	DATE — $DATE1$	REVISED — -

DESIGN RESOURCES INC.

SYSTEMS DESIGN SERVICE ENGINEERING

SITE ELECTRICAL PLAN

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	34
		CONTRACT NO. 85628		
	ILLINOIS FED. AID PROJECT			

85628

DIVISION 26 ELECTRICAL SPECIFICATIONS

SECTION 262000 INTERIOR DISTRIBUTION SYSTEM

PART 1 GENERAL

THE SUPPLEMENTARY GENERAL CONDITIONS ALONG WITH THESE SPECIFICATIONS AND THE ACCOMPANYING DRAWINGS GOVERN WORK UNDER THIS SECTION. IT IS THE INTENT OF THE CONTRACT DOCUMENTS TO PROVIDE FOR A COMPLETE OPERATING SYSTEM. THE OMISSION OF REFERENCE TO MINOR SYSTEM COMPONENTS WHICH ARE REASONABLY REQUIRED FOR THE PROPER FUNCTIONING AND/OR SAFE OPERATION OF THE SYSTEM SHALL NOT RELIEVE THE CONTRACTOR FROM PROVIDING SAME AT NO ADDITIONAL COST TO THE OWNER. IT IS THE FURTHER INTENT THAT THE SYSTEM SHALL BE TURNED OVER TO THE OWNER IN A FUNCTIONAL AND OPERATING CONDITION. THE CONTRACTOR SHALL PROVIDE AND INSTALL A COMPLETE ELECTRICAL SYSTEM INCLUDING, BUT NOT LIMITED TO, SERVICE, LIGHTING, POWER, DEVICES, PANELS, CIRCUIT BREAKERS, CONDUIT AND WIRING. THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND PAY FOR TEMPORARY AND NEW SERVICE. THE WORK SHALL BE IN ACCORDANCE WITH THE REFERENCES LISTED BELOW AND ALL LOCAL CODES, LAWS, ORDINANCES AND STATE REGULATIONS WHICH GOVERN THE INSTALLATION.

1.1 REFERENCES

THE PUBLICATIONS LISTED BELOW FORM A PART OF THIS SPECIFICATION TO THE EXTENT REFERENCED. THE PUBLICATIONS ARE REFERRED TO WITHIN THE TEXT BY THE BASIC DESIGNATION ONLY.

ASTM D 709	(2001; R 2007) LAMINATED THERMOSETTING MATERIALS
EIA 480	(1981) TOGGLE SWITCHES
IEEE STDS DICTIONARY	(2009) IEEE STANDARDS DICTIONARY: GLOSSARY OF TERMS & DEFINITIONS
ICC/ANSI A117.1	(2009) ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES
ICC	(2012) INTERNATIONAL ENERGY CONSERVATION CODE
ANSI Z535.1	(2006) AMERICAN NATIONAL STANDARD FOR SAFETY--COLOR CODE
ANSI/NEMA FB 1	(2007; AMD 2010) STANDARD FOR FITTINGS, CAST METAL BOXES, AND CONDUIT BODIES FOR CONDUIT, ELECTRICAL METALLIC TUBING, AND CABLE
ANSI/NEMA OS 1	(2008; AMD 2010) SHEET-STEEL OUTLET BOXES, DEVICE BOXES, COVERS, AND BOX SUPPORTS
ANSI/NEMA OS 2	(2008; AMD 2010) NONMETALLIC OUTLET BOXES, DEVICE BOXES, COVERS, AND BOX SUPPORTS
NEMA 250	(2008) ENCLOSURES FOR ELECTRICAL EQUIPMENT (1000 VOLTS MAXIMUM)
NEMA KS 1	(2001; R 2006) ENCLOSED AND MISCELLANEOUS DISTRIBUTION EQUIPMENT SWITCHES (600 V MAXIMUM)
NEMA PB 1	(2006; ERRATA 2008) PANELBOARDS
NEMA RN 1	(2005) POLYVINYL-CHLORIDE (PVC) EXTERNALLY COATED GALVANIZED RIGID STEEL CONDUIT AND INTERMEDIATE METAL CONDUIT
NEMA TC 2	(2003) STANDARD FOR ELECTRICAL POLYVINYL CHLORIDE (PVC) CONDUIT
NEMA TC 3	(2004) STANDARD FOR POLYVINYL CHLORIDE (PVC) FITTINGS FOR USE WITH RIGID PVC CONDUIT AND TUBING
NEMA WD 1	(1999; R 2005; R 2010) STANDARD FOR GENERAL COLOR REQUIREMENTS FOR WIRING DEVICES
NEMA WD 6	(2002; R 2008) WIRING DEVICES DIMENSIONS SPECIFICATIONS
NFPA 70	(2008; TIA 11-1; ERRATA 2008) NATIONAL ELECTRICAL CODE
UL 1	(2005; REPRINT JUL 2007) STANDARD FOR FLEXIBLE METAL CONDUIT
UL 1242	(2006; REPRINT JUL 2007) STANDARD FOR ELECTRICAL INTERMEDIATE METAL CONDUIT -- STEEL
UL 489	(2009; REPRINT JUN 2011) MOLDED-CASE CIRCUIT BREAKERS, MOLDED-CASE SWITCHES, AND CIRCUIT-BREAKER ENCLOSURES
UL 6	(2007; REPRINT NOV 2010) ELECTRICAL RIGID METAL CONDUIT-STEEL
UL 797	(2007) ELECTRICAL METALLIC TUBING -- STEEL
UL 870	(2008) STANDARD FOR WIREWAYS, AUXILIARY GUTTERS, AND ASSOCIATED FITTINGS

1.2 DEFINITIONS

A. UNLESS OTHERWISE SPECIFIED OR INDICATED, ELECTRICAL AND ELECTRONICS TERMS USED IN THESE SPECIFICATIONS, AND ON THE DRAWINGS, SHALL BE AS DEFINED IN IEEE STDS DICTIONARY.
B. THE TECHNICAL SECTIONS REFERRED TO HEREIN ARE THOSE SPECIFICATION SECTIONS THAT DESCRIBE PRODUCTS, INSTALLATION PROCEDURES, AND EQUIPMENT OPERATIONS AND THAT REFER TO THIS SECTION FOR DETAILED DESCRIPTION OF SUBMITTAL TYPES.
C. VERTICAL ASSEMBLY: A VERTICAL ASSEMBLY IS A POLE, TOWER OR OTHER SUCH SUPPORT, MOUNTING HARDWARE, ARMS, BRACKETS AND THE LOAD. LOAD CAN BE A LUMINAIRE, SIREN, LOUDSPEAKER OR OTHER DEVICE. ALL COMPONENTS OF A VERTICAL ASSEMBLY WILL BE RATED BY THE MANUFACTURER TO WITHSTAND 135 MPH WIND LOADING.

1.3 SUBMITTALS

SUBMIT THE FOLLOWING IN ACCORDANCE WITH SECTION SUBMITTAL PROCEDURES:
PRE-CONSTRUCTION SUBMITTALS (SHOP DRAWINGS): SUBMIT PRODUCT DATA FOR THE FOLLOWING:
CONDUITS, RACEWAYS AND FITTINGS, WIRE AND CABLE, SPLICES AND CONNECTORS, RECEPTACLE, PULL BOXES, CIRCUIT BREAKERS, PANELBOARD, SERVICE ENCLOSURE, LIGHTING FIXTURES,
CLOSEOUT SUBMITTALS (O&M INSTRUCTIONS).

1.4 GENERAL REQUIREMENTS

SUBMIT MATERIAL, EQUIPMENT, AND FIXTURE LISTS FOR THE FOLLOWING ITEMS SHOWING MANUFACTURER'S STYLE OR CATALOG NUMBERS, SPECIFICATION AND DRAWING REFERENCE NUMBERS, WARRANTY INFORMATION, AND FABRICATION SITE.
SUBMIT MANUFACTURER'S INSTRUCTIONS INCLUDING SPECIAL PROVISIONS REQUIRED TO INSTALL EQUIPMENT COMPONENTS AND SYSTEM PACKAGES. SPECIAL NOTICES SHALL DETAIL IMPEDANCES, HAZARDS AND SAFETY PRECAUTIONS.
SUBMIT CERTIFICATION REQUIRED TO INSTALL EQUIPMENT COMPONENTS AND SYSTEM PACKAGES.

1.5 MANUFACTURER'S NAMEPLATE

EACH ITEM OF EQUIPMENT SHALL HAVE A NAMEPLATE BEARING THE MANUFACTURER'S NAME, ADDRESS, MODEL NUMBER, AND SERIAL NUMBER SECURELY AFFIXED IN A CONSPICUOUS PLACE; THE NAMEPLATE OF THE DISTRIBUTING AGENT WILL NOT BE ACCEPTABLE.

1.6 FIELD FABRICATED NAMEPLATES

ASTM D 709. PROVIDE LAMINATED PLASTIC NAMEPLATES FOR EACH EQUIPMENT ENCLOSURE, RELAY, SWITCH, AND DEVICE; AS SPECIFIED IN THE TECHNICAL SECTIONS OR AS INDICATED ON THE DRAWINGS. EACH NAMEPLATE INSCRIPTION SHALL IDENTIFY THE FUNCTION AND, WHEN APPLICABLE, THE POSITION. NAMEPLATES SHALL BE MELAMINE PLASTIC, 0.125 INCH THICK, WHITE WITH BLACK CENTER CORE. SURFACE SHALL BE MATTE FINISH. CORNERS SHALL BE SQUARE. ACCURATELY ALIGN LETTERING AND ENGRAVE INTO THE CORE. MINIMUM SIZE OF NAMEPLATES SHALL BE ONE BY 2.5 INCHES. LETTERING SHALL BE A MINIMUM OF 0.25 INCH HIGH NORMAL BLOCK STYLE.

1.7 WARNING SIGNS

PROVIDE WARNING SIGNS FOR THE ENCLOSURES OF ELECTRICAL EQUIPMENT INCLUDING SUBSTATIONS, PAD-MOUNTED TRANSFORMERS, PAD-MOUNTED SWITCHES, GENERATORS, AND SWITCHGEAR HAVING A NOMINAL RATING EXCEEDING 600 VOLTS.

A. WHEN THE ENCLOSURE INTEGRITY OF SUCH EQUIPMENT IS SPECIFIED TO BE IN ACCORDANCE WITH IEEE C57.12.28 OR IEEE C57.12.29, SUCH AS FOR PAD-MOUNTED TRANSFORMERS, PROVIDE SELF-ADHESIVE WARNING SIGNS ON THE OUTSIDE OF THE HIGH VOLTAGE COMPARTMENT DOOR(S). SIGN SHALL BE A DECAL AND HAVE NOMINAL DIMENSIONS OF 7 BY 10 INCHES WITH THE LEGEND "DANGER HIGH VOLTAGE" PRINTED IN TWO LINES OF NOMINAL 2 INCH HIGH LETTERS. THE WORD "DANGER" SHALL BE IN WHITE LETTERS ON A RED BACKGROUND AND THE WORDS "HIGH VOLTAGE" SHALL BE IN BLACK LETTERS ON A WHITE BACKGROUND. DECAL SHALL BE PANDUIT NO. PPSO710D72 OR APPROVED EQUAL.

1.8 VERIFICATION OF POINTS

BEFORE SUBMITTING THEIR BID, THE CONTRACTOR SHALL VISIT THE SITE AND CONTACT THE CITY AND ALL UTILITIES TO CAREFULLY VERIFY ALL EXPOSED, CONCEALED AND BURIED POINTS OF CONNECTIONS, AS TO LOCATIONS, SIZE, TYPE, DEPTH, OPERATING CHARACTERISTICS ,ETC. INCLUDING BUT NOT LIMITED TO: PRESENT SITE CONDITIONS, PRESENT UTILITY COMPANY ELECTRICAL DISTRIBUTION SYSTEM, WORK ASSOCIATED WITH EQUIPMENT BY OTHERS, NEW CONNECTIONS TO PRESENT EQUIPMENT OR CONSTRUCTION, PRESENT EQUIPMENT TO BE REMOVED AND/OR RELOCATED. IF THE CONTRACTOR FINDS THAT PRESENT POINTS OF CONNECTION ARE INCORRECTLY SPECIFIED, THEY SHALL NOTIFY THE PROJECT ENGINEER, IN WRITING. IF THE CONTRACTOR FAILS TO NOTIFY THE ENGINEER, IN WRITING, AS OUTLINED ABOVE, IT WILL BE ASSUMED THEIR BID INCLUDES EVERYTHING REQUIRED TO PROVIDE CONNECTIONS AS THEY ACTUALLY EXIST, OR AS THEY WILL BE REQUIRED BY THE UTILITY OR AUTHORITY HAVING JURISDICTION WITHOUT INCREASE TO THE CONTRACT PRICE.

1.9 COORDINATION

CERTAIN MOTORS, EQUIPMENT, CONTROLS, ETC ARE PROVIDED BY THE HEATING, VENTILATION, PLUMBING AND/OR OTHER CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED MOTOR STARTERS, SAFETY SWITCHES, VARIABLE FREQUENCY DRIVES, CONTROLS, ETC AND COMPLETELY WIRE ALL EQUIPMENT PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND CODES. SEE SPECIFICATIONS AND DRAWINGS FOR ALL OTHER TRADES TO AVOID CONFLICTS OR DUPLICATING WORK TO BE PROVIDED BY OTHERS. (VERIFY PRIOR TO ROUGH-IN).

BEFORE BIDDING, THE CONTRACTOR SHALL CAREFULLY CHECK ALL PLANS AND SPECIFICATIONS AND SHALL INCLUDE IN THEIR BID ALL ASSOCIATED ELECTRICAL WORK TO BE PROVIDED FOR THE PROJECT. BEFORE ANY WORK IS INSTALLED OR ANY EQUIPMENT IS PURCHASED, THE CONTRACTOR SHALL CAREFULLY CHECK PLANS AND SPECIFICATIONS AS WELL AS THE JOB CONDITIONS. CHANGES IN EQUIPMENT SHALL BE INCORPORATED IN THE SHOP DRAWINGS.

IF CONFLICTS ARISE DURING THE CONSTRUCTION PERIOD, THEY SHALL BE REPORTED TO THE ENGINEER, IN WRITING, AND THEY SHALL BE WORKED OUT BETWEEN THE ENGINEER, GENERAL CONTRACTOR, AND OTHER ASSOCIATED TRADE AT NO INCREASE TO THE CONTRACT PRICE.

PART 2 PRODUCTS

2.1 MATERIALS

MATERIALS AND EQUIPMENT TO BE PROVIDED SHALL BE NEW, UL LISTED FOR THE REQUIRED LOCATION/USE, AND BEAR THE MANUFACTURER'S NAME, MODEL NUMBER, AND OTHER IDENTIFICATION MARKINGS. THE STANDARD CATALOGED PRODUCTS OF MANUFACTURERS REGULARLY ENGAGED IN THE MANUFACTURE OF THE PRODUCTS. MATERIALS AND EQUIPMENT SHALL BE OF THE SAME MANUFACTURER THROUGHOUT THE PROJECT TO PROVIDE A UNIFORM APPEARANCE, OPERATION AND MAINTENANCE.

2.1.1 RIGID STEEL CONDUIT: RIGID STEEL CONDUIT SHALL COMPLY WITH UL 6 AND BE GALVANIZED BY THE HOT-DIP PROCESS. RIGID STEEL CONDUIT SHALL BE POLYVINYLCHLORIDE (PVC) COATED IN ACCORDANCE WITH NEMA RN 1, WHERE UNDERGROUND AND IN CORROSIVE AREAS, OR MUST BE PAINTED WITH BITUMASTIC. FITTINGS FOR RIGID STEEL CONDUIT SHALL BE THREADED. GASKETS SHALL BE SOLID. CONDUIT FITTINGS WITH BLANK COVERS SHALL HAVE GASKETS, EXCEPT IN CLEAN, DRY AREAS OR AT THE LOWEST POINT OF A CONDUIT RUN WHERE DRAINAGE IS REQUIRED. COVERS SHALL HAVE CAPTIVE SCREWS AND BE ACCESSIBLE AFTER THE WORK HAS BEEN COMPLETED.

2.1.2 ELECTRICAL METALLIC TUBING (EMT): EMT SHALL BE IN ACCORDANCE WITH UL 797 AND BE ZINC COATED STEEL. COUPLINGS AND CONNECTORS SHALL BE ZINC-COATED, RAINTIGHT, GLAND COMPRESSION WITH INSULATION THROAT. CRIMP, SPRING, OR SETSCREW TYPE FITTINGS ARE NOT ACCEPTABLE.

2.1.3 FLEXIBLE METALLIC CONDUIT: FLEXIBLE METALLIC CONDUIT SHALL COMPLY WITH UL 1 AND BE GALVANIZED STEEL. FITTINGS FOR FLEXIBLE METALLIC CONDUIT SHALL BE SPECIFICALLY DESIGNED FOR SUCH CONDUIT. PROVIDE LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT WITH A PROTECTIVE JACKET OF PVC EXTRUDED OVER A FLEXIBLE INTERLOCKED GALVANIZED STEEL CORE TO PROTECT WIRING AGAINST MOISTURE, OIL, CHEMICALS, AND CORROSIVE FUMES. SPECIFICALLY DESIGN FITTINGS FOR LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT.

2.1.4 INTERMEDIATE METAL CONDUIT: INTERMEDIATE METAL CONDUIT SHALL COMPLY WITH UL 1242 AND BE GALVANIZED.

2.1.5 RIGID NONMETALLIC CONDUIT: RIGID NONMETALLIC CONDUIT SHALL COMPLY WITH NEMA TC 2 AND NEMA TC 3 WITH WALL THICKNESS NOT LESS THAN SCHEDULE 40.

2.1.6 WIREWAYS AND AUXILIARY GUTTERS: WIREWAY AND AUXILIARY GUTTERS SHALL BE A MINIMUM 4- BY 4 INCH TRADE SIZE CONFORMING TO UL 870.

2.1.7 SURFACE RACEWAYS AND ASSEMBLIES: SURFACE METAL RACEWAYS AND MULTI-OUTLET ASSEMBLIES SHALL CONFORM TO NFPA 70. RECEPTACLES SHALL CONFORM TO NEMA WD 1, TYPE 5-20R.

2.2 WIRE AND CABLE

CONDUCTORS INSTALLED IN CONDUIT ABOVE GROUND SHALL BE COPPER 600-VOLT TYPE THWN, CONDUCTORS INSTALLED UNDERGROUND SHALL BE TYPE XHHW. ALL CONDUCTORS AWG NO. 8 AND LARGER, SHALL BE STRANDED. ALL CONDUCTORS SMALLER THAN AWG NO. 8 SHALL BE SOLID. FLEXIBLE CABLE SHALL BE TYPE SO AND CONTAIN A GROUNDING CONDUCTOR WITH GREEN INSULATION. CONDUCTORS INSTALLED IN PLENUMS SHALL BE MARKED PLENUM RATED.

2.3 SPLICES AND CONNECTORS

MAKE ALL SPLICES IN AWG NO. 8 AND SMALLER WITH APPROVED INSULATED ELECTRICAL TYPE OR INDENTOR CRIMP-TYPE CONNECTORS AND COMPRESSION TOOLS. MAKE ALL SPLICES IN AWG NO. 6 AND LARGER WITH BOLTED CLAMP-TYPE CONNECTORS. JOINTS SHALL BE WRAPPED WITH AN INSULATING TAPE THAT HAS AN INSULATION AND TEMPERATURE RATING EQUIVALENT TO THAT OF THE CONDUCTOR.

2.4 RECEPTACLES

RECEPTACLES SHALL BE COMMERCIAL GRADE, 20A, 125 VAC, 2-POLE, 3-WIRE DUPLEX CONFORMING TO NEMA WD 6, NEMA 5-20R.

2.5 OUTLETS, OUTLET BOXES, AND PULL BOXES

OUTLET BOXES FOR USE WITH CONDUIT SYSTEMS SHALL BE IN ACCORDANCE WITH ANSI/NEMA FB 1 AND ANSI/NEMA OS 1 AND BE NOT LESS THAN 1-1/2 INCHES DEEP. FURNISH ALL PULL AND JUNCTION BOXES WITH SCREW-FASTENED COVERS.

2.6 PANELBOARDS

LIGHTING AND APPLIANCE BRANCH CIRCUIT PANELBOARDS SHALL BE THE CIRCUIT-BREAKER TYPE IN ACCORDANCE WITH NEMA PB 1. BOLT CIRCUIT BREAKERS TO THE BUS. PLUG-IN CIRCUIT BREAKERS ARE NOT ACCEPTABLE. BUSES SHALL BE COPPER OF THE RATING INDICATED, WITH MAIN LUGS OR MAIN CIRCUIT BREAKER AS INDICATED. PROVIDE ALL PANELBOARDS FOR USE ON GROUNDED AC SYSTEMS WITH A FULL-CAPACITY ISOLATED NEUTRAL BUS AND A SEPARATE GROUNDING BUS BONDED TO THE PANELBOARD ENCLOSURE. PANELBOARD ENCLOSURES SHALL BE NEMA 250, TYPE 1, IN ACCORDANCE WITH NEMA PB 1. PROVIDE LOCKING ENCLOSURE FRONTS WITH LATCHABLE HINGED DOORS.

2.7 CIRCUIT BREAKERS

CIRCUIT-BREAKER INTERRUPTING RATING SHALL BE NOT LESS THAN THOSE INDICATED AND IN NO EVENT LESS THAN THE MAXIMUM AVAILABLE FAULT CURRENT AT THE LOCATION. MULTIPOLE CIRCUIT BREAKERS SHALL BE THE COMMON-TRIP TYPE WITH A SINGLE HANDLE. MOLDED CASE CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE CONFORMING TO UL 489.

2.8 LAMPS AND LIGHTING FIXTURES

MANUFACTURERS AND CATALOG NUMBERS SHOWN ARE INTENDED TO RESTRICT THE SELECTION TO FIXTURES OF THE PARTICULAR MANUFACTURER UNLESS STATED AS "OR EQUAL" IN THE SCHEDULE.

PART 3 EXECUTION

ALL WORK SHALL BE PERFORMED BY TRAINED, EXPERIENCED PERSONNEL SKILLED IN THEIR VARIOUS CRAFTS, UNDER THE FULL TIME SUPERVISION OF AN APPROVED ENGINEER OR FOREMAN.

3.1 CONDUITS, RACEWAYS AND FITTINGS

PROVIDE A COMPLETE RACEWAY AND WIRING INSTALLATION, PERMANENTLY AND EFFECTIVELY GROUNDED IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE AND LOCAL CODES. CONDUIT RUNS BETWEEN OUTLET AND OUTLET, BETWEEN FITTING AND FITTING, OR BETWEEN OUTLET AND FITTING SHALL NOT CONTAIN MORE THAN THE EQUIVALENT OF THREE 90-DEGREE BENDS, INCLUDING THOSE BENDS LOCATED IMMEDIATELY AT THE OUTLET OR FITTING. WIRING OF EVERY KIND MUST BE INSTALLED IN CONDUIT, UNLESS NOTED OTHERWISE OR AS APPROVED BY THE ENGINEER. RACEWAYS SHALL BE GALVANIZED STEEL, UNLESS REQUIRED OTHERWISE OR AS NOTED AND SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, UNLESS NOTED OTHERWISE. ALL RACEWAYS SHALL BE APPROVED FOR THE INSTALLATION. DO NOT INSTALL CRUSHED OR DEFORMED CONDUIT. AVOID TRAPPED CONDUIT RUNS WHERE POSSIBLE. PULL OR JUNCTION BOXES SHALL BE PROVIDED AS REQUIRED TO FACILITATE INSTALLATION OF RACEWAYS AND WIRING. TAKE CARE TO PREVENT THE LODGMENT OF FOREIGN MATERIAL IN THE CONDUIT, BOXES, FITTINGS, AND EQUIPMENT DURING THE COURSE OF CONSTRUCTION. CLEAR ANY CLOGGED CONDUIT OF OBSTRUCTIONS OR BE REPLACED. CONDUIT AND RACEWAY RUNS CONCEALED IN OR BEHIND WALLS, ABOVE CEILINGS, OR EXPOSED ON WALLS AND CEILINGS 5 FEET OR MORE ABOVE FINISHED FLOORS AND NOT SUBJECT TO MECHANICAL DAMAGE SHALL BE ELECTRICAL METALLIC TUBING (EMT). WIRE INSTALLED IN A PLENUM RATED CEILING SHALL BE INSTALLED IN CONDUIT OR SHALL BE TEFLON COATED PLENUM RATED AS REQUIRED TO COMPLY WITH THE NATIONAL ELECTRICAL CODE AND LOCAL CODE REQUIREMENTS.

3.1.1 RIGID STEEL CONDUIT: MAKE FIELD-MADE BENDS AND OFFSETS WITH APPROVED HICKEY OR CONDUIT BENDING MACHINE. CONDUIT ELBOWS LARGER THAN 2-1/2 INCHES SHALL BE LONG RADIUS. PROVIDE ALL CONDUIT STUBBED-UP THROUGH CONCRETE FLOORS FOR CONNECTIONS TO FREE-STANDING EQUIPMENT WITH THE EXCEPTION OF MOTOR-CONTROL CENTERS, CUBICLES, AND OTHER SUCH ITEMS OF EQUIPMENT, WITH A FLUSH COUPLING WHEN THE FLOOR SLAB IS OF SUFFICIENT THICKNESS. OTHERWISE,PROVIDE A FLOOR BOX SET FLUSH WITH THE FINISHED FLOOR. CONDUITS INSTALLED FOR FUTURE USE SHALL BE TERMINATED WITH A COUPLING AND PLUG SET FLUSH WITH THE FLOOR.

3.1.2 ELECTRICAL METALLIC TUBING (EMT): EMT SHALL BE GROUNDED IN ACCORDANCE WITH NFPA 70, USING PRESSURE GROUNDING CONNECTORS ESPECIALLY DESIGNED FOR EMT.

3.1.3 FLEXIBLE METALLIC CONDUIT: USE FLEXIBLE METALLIC CONDUIT TO CONNECT RECESSED FIXTURES FROM OUTLET BOXES IN CEILINGS, TRANSFORMERS, AND OTHER APPROVED ASSEMBLIES. BONDING WIRES SHALL BE USED IN FLEXIBLE CONDUIT AS SPECIFIED IN NFPA 70, FOR ALL CIRCUITS. FLEXIBLE CONDUIT SHALL NOT BE CONSIDERED A GROUND CONDUCTOR. ELECTRICAL CONNECTIONS TO VIBRATION-ISOLATED EQUIPMENT SHALL BE MADE WITH FLEXIBLE METALLIC CONDUIT. LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT SHALL BE USED IN WET AND OILY LOCATIONS AND TO COMPLETE THE CONNECTION TO MOTOR-DRIVEN EQUIPMENT.

3.1.4 INTERMEDIATE CONDUIT: MAKE ALL FIELD-MADE BENDS AND OFFSETS WITH APPROVED HICKEY OR CONDUIT BENDING MACHINE. USE INTERMEDIATE METAL CONDUIT ONLY FOR INDOOR INSTALLATIONS.

3.1.5 RIGID NONMETALLIC CONDUIT: RIGID PVC CONDUIT SHALL BE DIRECT BURIED. A GREEN INSULATED COPPER GROUNDING CONDUCTOR SHALL BE IN CONDUIT WITH CONDUCTORS AND BE SOLIDLY CONNECTED TO GROUND AT EACH END. GROUNDING WIRES SHALL BE SIZED IN ACCORDANCE WITH NFPA 70.

3.1.6 WIREWAY AND AUXILIARY GUTTER: STRAIGHT SECTIONS AND FITTINGS SHALL BE BOLTED TOGETHER TO PROVIDE A RIGID, MECHANICAL CONNECTION AND ELECTRICAL CONTINUITY. DEAD ENDS OF WIREWAYS AND AUXILIARY GUTTERS SHALL BE CLOSED. PLUG ALL UNUSED CONDUIT OPENINGS. WIREWAYS FOR OVERHEAD DISTRIBUTION AND CONTROL CIRCUITS SHALL BE SUPPORTED AT MAXIMUM 5-FOOT INTERVALS. AUXILIARY GUTTERS USED TO SUPPLEMENT WIRING SPACES FOR EQUIPMENT NOT CONTAINED IN A SINGLE ENCLOSURE SHALL CONTAIN NO SWITCHES, OVERCURRENT DEVICES, APPLIANCES, OR APPARATUS AND BE NOT MORE THAN 30 FEET LONG.

3.1.7 SURFACE RACEWAYS AND ASSEMBLIES: SURFACE RACEWAYS SHALL BE MOUNTED PLUMB AND LEVEL, WITH THE BASE AND COVER SECURED. MINIMUM CIRCUIT RUN SHALL BE THREE-WIRE WITH ONE WIRE DESIGNATED AS GROUND.

3.2 WIRING

CONDUCTORS UP TO AND INCLUDING AWG NO. 2 SHALL BE MANUFACTURED WITH COLORED INSULATING MATERIALS. CONDUCTORS LARGER THAN AWG NO. 2 SHALL HAVE ENDS IDENTIFIED WITH COLOR PLASTIC TAPE IN OUTLET, PULL, OR JUNCTION BOXES. SPLICE IN ACCORDANCE WITH THE NFPA 70. PROVIDE CONDUCTOR IDENTIFICATION WITHIN EACH ENCLOSURE WHERE A TAP, SPLICE, OR TERMINATION IS MADE AND AT THE EQUIPMENT TERMINAL OF EACH CONDUCTOR. TERMINAL AND CONDUCTOR IDENTIFICATION SHALL MATCH AS INDICATED. WHERE SEVERAL FEEDERS PASS THROUGH A COMMON PULLBOX, THE FEEDERS SHALL BE TAGGED TO CLEARLY INDICATE THE ELECTRICAL CHARACTERISTICS, CIRCUIT NUMBER, AND PANEL DESIGNATION.

3.3 BOXES AND FITTINGS

FURNISH AND INSTALL PULLBOXES WHERE NECESSARY IN THE CONDUIT SYSTEM TO FACILITATE CONDUCTOR INSTALLATION. CONDUIT RUNS LONGER THAN 100 FEET OR WITH MORE THAN THREE RIGHT-ANGLE BENDS SHALL HAVE A PULLBOX INSTALLED AT A CONVENIENT INTERMEDIATE LOCATION. SECURELY MOUNT BOXES AND ENCLOSURES WITH SUPPORTING FACILITIES INDEPENDENT OF THE CONDUIT ENTERING OR LEAVING THE BOXES.

3.4 LAMPS AND LIGHTING FIXTURES

INSTALL NEW LAMPS OF THE PROPER TYPE AND WATTAGE IN EACH FIXTURE. SECURELY FASTEN FIXTURES AND SUPPORTS TO STRUCTURAL MEMBERS AND INSTALL PARALLEL AND PERPENDICULAR TO MAJOR AXIS OF STRUCTURES.

3.5 PANELBOARDS

SECURELY MOUNT PANELBOARDS SO THAT THE TOP OPERATING HANDLE DOES NOT EXCEED 72-INCHES ABOVE THE FINISHED FLOOR. DO NOT MOUNT EQUIPMENT WITHIN 36 INCHES OF THE FRONT OF THE PANEL. DIRECTORY CARD INFORMATION SHALL BE COMPLETE, TYPED AND IDENTIFYING CIRCUIT LOADS.

3.6 IDENTIFICATION PLATES AND WARNINGS

FURNISH AND INSTALL IDENTIFICATION PLATES FOR PANELBOARDS,

3.7 FIELD TESTING

SUBMIT TEST REPORTS IN ACCORDANCE WITH REFERENCED STANDARDS IN THIS SECTION, AFTER COMPLETION OF THE INSTALLATION AND SPLICING, AND PRIOR TO ENERGIZING THE CONDUCTORS, PERFORM WIRE AND CABLE CONTINUITY AND INSULATION TESTS AS HEREIN SPECIFIED BEFORE THE CONDUCTORS ARE ENERGIZED. CONTRACTOR SHALL PROVIDE ALL NECESSARY TEST EQUIPMENT, LABOR, AND PERSONNEL TO PERFORM THE TESTS, AS HEREIN SPECIFIED. ISOLATE COMPLETELY ALL WIRE AND CABLE FROM ALL EXTRANEOUS ELECTRICAL CONNECTIONS AT CABLE TERMINATIONS AND JOINTS. CIRCUIT BREAKERS IN PANEL BOARDS, AND OTHER DISCONNECTING DEVICES SHALL BE USED TO ISOLATE THE CIRCUITS UNDER TEST.

PERFORM INSULATION-RESISTANCE TEST ON EACH FIELD-INSTALLED CONDUCTOR WITH RESPECT TO GROUND AND ADJACENT CONDUCTORS. APPLIED POTENTIAL SHALL BE 500 VOLTS DC FOR 300 VOLT RATED CABLE AND 1000 VOLTS DC FOR 600 VOLT RATED CABLE. TAKE READINGS AFTER 1 MINUTE AND UNTIL THE READING IS CONSTANT FOR 15 SECONDS. MINIMUM INSULATION-RESISTANCE VALUES SHALL NOT BE LESS THAN 25 MEGOHMS FOR 300 VOLT RATED CABLE AND 100 MEGOHMS FOR 600 VOLT RATED CABLE. FOR CIRCUITS WITH CONDUCTOR SIZES 8AWG AND SMALLER INSULATION RESISTANCE TESTING IS NOT REQUIRED.

PERFORM CONTINUITY TEST TO INSURE CORRECT CABLE CONNECTION (I.E CORRECT PHASE CONDUCTOR, GROUNDED CONDUCTOR, AND GROUNDING CONDUCTOR WIRING) END-TO END. ANY DAMAGES TO EXISTING OR NEW ELECTRICAL EQUIPMENT RESULTING FROM CONTRACTOR MIS-WIRING WILL BE REPAIRED AND RE-VERIFIED AT CONTRACTOR'S EXPENSE. ALL REPAIRS SHALL BE APPROVED BY THE ENGINEER PRIOR TO ACCEPTANCE OF THE REPAIR.

CONDUCT PHASE-ROTATION TESTS ON ALL THREE-PHASE CIRCUITS USING A PHASE-ROTATION INDICATING INSTRUMENT. PERFORM PHASE ROTATION OF ELECTRICAL CONNECTIONS TO CONNECTED EQUIPMENT CLOCKWISE, FACING THE SOURCE.

3.8 GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THE ELECTRICAL SYSTEM TO BE FREE FROM DEFECTIVE MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE.

85628

DIVISION 26 ELECTRICAL SPECIFICATIONS CONTINUED

SECTION 26 5600 - EXTERIOR LIGHTING

PART 1 GENERAL

1.1 REFERENCES

THE PUBLICATIONS LISTED BELOW FORM A PART OF THIS SPECIFICATION TO THE EXTENT REFERENCED. THE PUBLICATIONS ARE REFERRED TO IN THE TEXT BY THE BASIC DESIGNATION ONLY.

ALLIANCE FOR TELECOMMUNICATIONS INDUSTRY SOLUTIONS (ATIS)

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

AASHTO LTS-5 (2009; ERRATA 2009) STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI C136.20 (2008) AMERICAN NATIONAL STANDARD FOR ROADWAY AND AREA LIGHTING EQUIPMENT - FIBER REINFORCED COMPOSITE (FRC) LIGHTING POLES

ASTM A 123/A 123M (2009) STANDARD SPECIFICATION FOR ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS

ASTM A 153/A 153M (2009) STANDARD SPECIFICATION FOR ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE

ASTM B 108/B 108M (2008) STANDARD SPECIFICATION FOR ALUMINUM-ALLOY PERMANENT MOLD CASTINGS

ASTM C 1089 (2006) STANDARD SPECIFICATION FOR SPUN CAST PRESTRESSED CONCRETE POLES

ASTM E 2129 (2005) STANDARD PRACTICE FOR DATA COLLECTION FOR SUSTAINABILITY ASSESSMENT OF BUILDING PRODUCTS

ASTM G 154 (2006) STANDARD PRACTICE FOR OPERATING FLUORESCENT LIGHT APPARATUS FOR UV EXPOSURE OF NONMETALLIC MATERIALS

ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA)

IESNA HB-9 (2000; ERRATA 2004; ERRATA 2005; ERRATA 2006) IES LIGHTING HANDBOOK

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE 100 (2000; ARCHIVED) THE AUTHORITATIVE DICTIONARY OF IEEE STANDARDS TERMS

IEEE C2 (2007; TIA 2007-1; TIA 2007-2; TIA 2007-3; TIA 2007-4; TIA 2007-5; ERRATA 2006-1; ERRATA 2007-2; ERRATA 2009-3) NATIONAL ELECTRICAL SAFETY CODE

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

ANSI C136.10 (2006) AMERICAN NATIONAL STANDARD FOR ROADWAY AND AREA LIGHTING EQUIPMENT-LOCKING-TYPE PHOTOCONTROL DEVICES AND MATING RECEPTACLES--PHYSICAL AND ELECTRICAL INTERCHANGEABILITY AND TESTING

ANSI C136.13 (2004; R 2009) AMERICAN NATIONAL STANDARD FOR ROADWAY LIGHTING EQUIPMENT, METAL BRACKETS FOR WOOD POLES

ANSI C136.21 (2004; R 2009) AMERICAN NATIONAL STANDARD FOR ROADWAY AND AREA LIGHTING EQUIPMENT - VERTICAL TENONS USED WITH POST-TOP-MOUNTED LUMINAIRES

ANSI C136.3 (2005; R 2009) AMERICAN NATIONAL STANDARD FOR ROADWAY AND AREA LIGHTING EQUIPMENT LUMINAIRE ATTACHMENTS

NEMA 250 (2008) ENCLOSURES FOR ELECTRICAL EQUIPMENT (1000 VOLTS MAXIMUM)

NEMA ICS 2 (2000; ADD/ERRATA 2000; ERRATA 2006; R 2005; ERRATA 2008) STANDARD FOR CONTROLLERS, CONTACTORS, AND OVERLOAD RELAYS RATED 600 V

NEMA ICS 6 (1993; R 2001; R 2006) ENCLOSURES

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70 (2005) NATIONAL ELECTRICAL CODE

U.S. DEPARTMENT OF AGRICULTURE (USDA)

RUS BULL 345-67 (1998) REA SPECIFICATION FOR FILLED TELEPHONE CABLES, PE-39

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

ENERGY STAR (1992; R 2006) ENERGY STAR ENERGY EFFICIENCY LABELING SYSTEM

UNDERWRITERS LABORATORIES (UL)

UL 1029 (1994; R 1994 THRU 2009) HIGH-INTENSITY-DISCHARGE LAMP BALLASTS

UL 1598 (2008; R 2010) LUMINAIRES

UL 773 (1995; R THRU 2002) STANDARD FOR PLUG-IN, LOCKING TYPE PHOTOCONTROLS FOR USE WITH AREA LIGHTING

UL 773A (2006; R 2010) STANDARD FOR NONINDUSTRIAL PHOTOELECTRIC SWITCHES FOR LIGHTING CONTROL

1.2 DEFINITIONS

A. UNLESS OTHERWISE SPECIFIED OR INDICATED, ELECTRICAL AND ELECTRONICS TERMS USED IN THESE SPECIFICATIONS, AND ON THE DRAWINGS, SHALL BE AS DEFINED IN IEEE 100.

B. AVERAGE LIFE IS THE TIME AFTER WHICH 50 PERCENT WILL HAVE FAILED AND 50 PERCENT WILL HAVE SURVIVED UNDER NORMAL CONDITIONS.

C. GROUND LINE SECTION IS THAT PORTION BETWEEN ONE FOOT ABOVE AND 2 FEET BELOW THE GROUND LINE.

1.3 SUBMITTALS

THE FOLLOWING SHALL BE SUBMITTED IN ACCORDANCE WITH ARCHITECTURAL SUBMITTAL PROCEDURES:

SD-02 SHOP DRAWINGS

LUMINAIRE DRAWINGS;

POLES;

SD-03 PRODUCT DATA

ENERGY EFFICIENCY

LUMINAIRES;

LIGHTING CONTACTOR;

TIME SWITCH;

PHOTOCELL SWITCH;

STEEL POLES;

BRACKETS

1.4 QUALITY ASSURANCE

1.4.1 DRAWING REQUIREMENTS

1.4.1.1 LUMINAIRE DRAWINGS

INCLUDE DIMENSIONS, EFFECTIVE PROJECTED AREA (EPA), ACCESSORIES, AND INSTALLATION AND CONSTRUCTION DETAILS. PHOTOMETRIC DATA, INCLUDING ZONAL LUMEN DATA, AVERAGE AND MINIMUM RATIO, AIMING DIAGRAM, AND COMPUTERIZED CANDLEPOWER DISTRIBUTION DATA SHALL ACCOMPANY SHOP DRAWINGS.

1.4.1.2 POLES

INCLUDE DIMENSIONS, WIND LOAD DETERMINED IN ACCORDANCE WITH AASHTO LTS-5, POLE DEFLECTION, POLE CLASS, AND OTHER APPLICABLE INFORMATION.

1.4.2 DESIGN DATA FOR LUMINAIRES

A. DISTRIBUTION DATA ACCORDING TO IESNA CLASSIFICATION TYPE AS DEFINED IN IESNA HB-9.

B. COMPUTERIZED HORIZONTAL ILLUMINATION LEVELS IN FOOT-CANDLES AT GROUND LEVEL. INCLUDE AVERAGE MAINTAINED FOOT-CANDLE LEVEL AND MAXIMUM AND MINIMUM RATIO.

1.4.3 REGULATORY REQUIREMENTS

IN EACH OF THE PUBLICATIONS REFERRED TO HEREIN, CONSIDER THE ADVISORY PROVISIONS TO BE MANDATORY, AS THOUGH THE WORD, "SHALL" HAD BEEN SUBSTITUTED FOR "SHOULD" WHEREVER IT APPEARS. INTERPRET REFERENCES IN THESE PUBLICATIONS TO THE "AUTHORITY HAVING JURISDICTION," OR WORDS OF SIMILAR MEANING, TO MEAN THE ARCHITECT. EQUIPMENT, MATERIALS, INSTALLATION, AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE MANDATORY AND ADVISORY PROVISIONS OF NFPA 70 UNLESS MORE STRINGENT REQUIREMENTS ARE SPECIFIED OR INDICATED.

1.4.4 STANDARD PRODUCTS

PROVIDE MATERIALS AND EQUIPMENT THAT ARE PRODUCTS OF MANUFACTURERS REGULARLY ENGAGED IN THE PRODUCTION OF SUCH PRODUCTS WHICH ARE OF EQUAL MATERIAL, DESIGN AND WORKMANSHIP. PRODUCTS SHALL HAVE BEEN IN SATISFACTORY COMMERCIAL OR INDUSTRIAL USE FOR 2 YEARS PRIOR TO BID OPENING. THE 2-YEAR PERIOD SHALL INCLUDE APPLICATIONS OF EQUIPMENT AND MATERIALS UNDER SIMILAR CIRCUMSTANCES AND OF SIMILAR SIZE. THE PRODUCT SHALL HAVE BEEN ON SALE ON THE COMMERCIAL MARKET THROUGH ADVERTISEMENTS, MANUFACTURERS' CATALOGS, OR BROCHURES DURING THE 2-YEAR PERIOD. WHERE TWO OR MORE ITEMS OF THE SAME CLASS OF EQUIPMENT ARE REQUIRED, THESE ITEMS SHALL BE PRODUCTS OF A SINGLE MANUFACTURER; HOWEVER, THE COMPONENT PARTS OF THE ITEM NEED NOT BE THE PRODUCTS OF THE SAME MANUFACTURER UNLESS STATED IN THIS SECTION.

1.4.4.1 ALTERNATIVE QUALIFICATIONS

PRODUCTS HAVING LESS THAN A 2-YEAR FIELD SERVICE RECORD WILL BE ACCEPTABLE IF A CERTIFIED RECORD OF SATISFACTORY FIELD OPERATION FOR NOT LESS THAN 6000 HOURS, EXCLUSIVE OF THE MANUFACTURERS' FACTORY OR LABORATORY TESTS, IS FURNISHED.

1.4.4.2 MATERIAL AND EQUIPMENT MANUFACTURING DATE

PRODUCTS MANUFACTURED MORE THAN 3 YEARS PRIOR TO DATE OF DELIVERY TO SITE SHALL NOT BE USED, UNLESS SPECIFIED OTHERWISE.

1.5 DELIVERY, STORAGE, AND HANDLING

1.5.1 STEEL POLES

DO NOT STORE POLES ON GROUND. SUPPORT POLES SO THEY ARE AT LEAST ONE FOOT ABOVE GROUND LEVEL AND GROWING VEGETATION. DO NOT REMOVE FACTORY-APPLIED POLE WRAPPINGS UNTIL JUST BEFORE INSTALLING POLE.

1.6 SUSTAINABLE DESIGN REQUIREMENTS

1.6.1 ENERGY EFFICIENCY

COMPLY WITH NATIONAL ENERGY POLICY ACT AND ENERGY STAR REQUIREMENTS FOR LIGHTING PRODUCTS. SUBMIT DATA INDICATING LUMENS PER WATT EFFICIENCY AND COLOR RENDITION INDEX OF LIGHT SOURCE.

1.7 WARRANTY

THE EQUIPMENT ITEMS SHALL BE SUPPORTED BY SERVICE ORGANIZATIONS WHICH ARE REASONABLY CONVENIENT TO THE EQUIPMENT INSTALLATION IN ORDER TO RENDER SATISFACTORY SERVICE TO THE EQUIPMENT ON A REGULAR AND EMERGENCY BASIS DURING THE WARRANTY PERIOD OF THE CONTRACT.

PART 2 PRODUCTS

2.1 LUMINAIRES

UL 1598. PROVIDE LUMINAIRES AS INDICATED. PROVIDE LUMINAIRES COMPLETE WITH LAMPS OF NUMBER, TYPE, AND WATTAGE INDICATED. DETAILS, SHAPES, AND DIMENSIONS ARE INDICATIVE OF THE GENERAL TYPE DESIRED, BUT ARE NOT INTENDED TO RESTRICT SELECTION TO LUMINAIRES OF A PARTICULAR MANUFACTURER. LUMINAIRES OF SIMILAR DESIGNS, LIGHT DISTRIBUTION AND BRIGHTNESS CHARACTERISTICS, AND OF EQUAL FINISH AND QUALITY WILL BE ACCEPTABLE AS APPROVED.

2.2 POLES

PROVIDE POLES DESIGNED FOR WIND LOADING AS PER HOUR DETERMINED IN ACCORDANCE WITH AASHTO LTS-5 WHILE SUPPORTING LUMINAIRES AND ALL OTHER APPURTENANCES INDICATED. THE EFFECTIVE PROJECTED AREAS OF LUMINAIRES AND APPURTENANCES USED IN CALCULATIONS SHALL BE SPECIFIC FOR THE ACTUAL PRODUCTS PROVIDED ON EACH POLE. POLES SHALL BE ANCHOR BASE TYPE DESIGNED FOR USE WITH UNDERGROUND SUPPLY CONDUCTORS. POLES SHALL HAVE HANDHOLE HAVING A MINIMUM CLEAR OPENING OF 2.5 BY 5 INCHES. HANDHOLE COVER SHALL BE SECURED BY STAINLESS STEEL CAPTIVE SCREWS. METAL POLES SHALL HAVE AN INTERNAL GROUNDING CONNECTION ACCESSIBLE FROM THE HANDHOLE NEAR THE BOTTOM OF EACH POLE. SCRATCHED, STAINED, CHIPPED, OR DENTED POLES SHALL NOT BE INSTALLED.

2.2.1.1 STEEL REINFORCING

PRE-STRESSED CONCRETE POLE SHAFTS SHALL BE REINFORCED WITH STEEL PRE-STRESSING MEMBERS. DESIGN SHALL PROVIDE INTERNAL LONGITUDINAL LOADING BY EITHER PRE-TENSIONING OR POST TENSIONING OF LONGITUDINAL REINFORCING MEMBERS.

2.2.1.2 TENSIONED REINFORCING

PRIMARY REINFORCEMENT STEEL USED FOR A PRE-STRESSED CONCRETE POLE SHAFT SHALL BE TENSIONED BETWEEN 60 TO 70 PERCENT OF ITS ULTIMATE STRENGTH. THE AMOUNT OF REINFORCEMENT SHALL BE SUCH THAT WHEN REINFORCEMENT IS TENSIONED TO 70 PERCENT OF ITS ULTIMATE STRENGTH, THE TOTAL RESULTANT TENSILE FORCE DOES NOT EXCEED THE MINIMUM SECTION COMPRESSIVE STRENGTH OF THE CONCRETE.

2.2.1.3 COATING AND SLEEVES FOR REINFORCING MEMBERS

WHERE MINIMUM INTERNAL COVERAGE CANNOT BE MAINTAINED NEXT TO REQUIRED CORE OPENINGS, SUCH AS HANDHOLE AND WIRING INLET, REINFORCING SHALL BE PROTECTED WITH A VAPOR-PROOF NONCORROSIVE SLEEVE OVER THE LENGTH WITHOUT THE 1/2 INCH CONCRETE COVERAGE. EACH STEEL REINFORCING MEMBER WHICH IS TO BE POST-TENSIONED SHALL HAVE A NON-MIGRATING SLIPPER COATING APPLIED PRIOR TO THE ADDITION OF CONCRETE TO ENSURE UNIFORMITY OF STRESS THROUGHOUT THE LENGTH OF SUCH MEMBER.

2.2.1.4 STRENGTH REQUIREMENT

AS AN EXCEPTION TO THE REQUIREMENTS OF ASTM C 1089, POLES SHALL BE NATURALLY CURED TO ACHIEVE A 28-DAY COMPRESSIVE STRENGTH OF 7000 PSI. POLES SHALL NOT BE SUBJECTED TO SEVERE TEMPERATURE CHANGES DURING THE CURING PERIOD.

2.2.1.5 SHAFT PREPARATION

COMPLETED PRE-STRESSED CONCRETE POLE SHAFT SHALL HAVE A HARD, SMOOTH, NONPOROUS SURFACE THAT IS RESISTANT TO SOIL ACIDS, ROAD SALTS, AND ATTACKS OF WATER AND FROST, AND SHALL BE CLEAN, SMOOTH, AND FREE OF SURFACE VOIDS AND INTERNAL HONEYCOMBING. POLES SHALL NOT BE INSTALLED FOR AT LEAST 15 DAYS AFTER MANUFACTURE.

2.2.2 STEEL POLES

AASHTO LTS-5. PROVIDE STEEL POLES HAVING MINIMUM 11-GAGE STEEL WITH MINIMUM YIELD/STRENGTH OF 48,000 PSI AND HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A 123/A 123M FACTORY FINISH. PROVIDE A POLE GROUNDING CONNECTION DESIGNED TO PREVENT ELECTROLYSIS WHEN USED WITH COPPER GROUND WIRE. POLE SHALL BE[DIRECT SET][ANCHOR BOLT MOUNTED] TYPE. POLES SHALL HAVE TAPERED TUBULAR MEMBERS, EITHER ROUND IN CROSS SECTION OR POLYGONAL. POLE SHAFTS SHALL BE ONE PIECE. POLES SHALL BE WELDED CONSTRUCTION WITH NO BOLTS, RIVETS, OR OTHER MEANS OF FASTENING EXCEPT AS SPECIFICALLY APPROVED. POLE MARKINGS SHALL BE APPROXIMATELY 3 TO 4 FEET ABOVE GRADE AND SHALL INCLUDE MANUFACTURER, YEAR OF MANUFACTURE, TOP AND BOTTOM DIAMETERS, AND LENGTH. BASE COVERS FOR STEEL POLES SHALL BE STRUCTURAL QUALITY HOT-ROLLED CARBON STEEL PLATE HAVING A MINIMUM YIELD OF 36,000 PSI. SURFACE LAYER OF THE POLE IS INHERENTLY ULTRAVIOLET INHIBITED. MINIMUM FIBERGLASS CONTENT SHALL BE 65 PERCENT WITH RESIN AND PIGMENT COMPRISING THE OTHER 35 PERCENT MATERIAL CONTENT.

2.3 BRACKETS AND SUPPORTS

ANSI C136.3, ANSI C136.13, AND ANSI C136.21, AS APPLICABLE. POLE BRACKETS SHALL BE NOT LESS THAN 1 1/4 INCH GALVANIZED STEEL PIPE SECURED TO POLE. SLIP-FITTER OR PIPE-THREADED BRACKETS MAY BE USED, BUT BRACKETS SHALL BE COORDINATED TO LUMINAIRES PROVIDED, AND BRACKETS FOR USE WITH ONE TYPE OF LUMINAIRE SHALL BE IDENTICAL. BRACKETS FOR POLE-MOUNTED STREET LIGHTS SHALL CORRECTLY POSITION LUMINAIRE NO LOWER THAN MOUNTING HEIGHT INDICATED.

2.4 POLE FOUNDATIONS

ANCHOR BOLTS SHALL BE STEEL ROD HAVING A MINIMUM YIELD STRENGTH OF 50,000 PSI; THE TOP 12 INCHES OF THE ROD SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153/A 153M.

2.5 EQUIPMENT IDENTIFICATION

2.5.1 MANUFACTURER'S NAMEPLATE

EACH ITEM OF EQUIPMENT SHALL HAVE A NAMEPLATE BEARING THE MANUFACTURER'S NAME, ADDRESS, MODEL NUMBER, AND SERIAL NUMBER SECURELY AFFIXED IN A CONSPICUOUS PLACE; THE NAMEPLATE OF THE DISTRIBUTING AGENT WILL NOT BE ACCEPTABLE.

2.5.2 LABELS

PROVIDE LABELED LUMINAIRES IN ACCORDANCE WITH UL 1598 REQUIREMENTS. LUMINAIRES SHALL BE CLEARLY MARKED FOR OPERATION OF SPECIFIC LAMPS AND BALLASTS ACCORDING TO PROPER LAMP TYPE. THE FOLLOWING LAMP CHARACTERISTICS SHALL BE NOTED IN THE FORMAT "USE ONLY _____":

A. CORRELATED COLOR TEMPERATURE (CCT) AND COLOR RENDERING INDEX (CRI) FOR ALL LUMINAIRES.

MARKINGS RELATED TO LAMP TYPE SHALL BE CLEAR AND LOCATED TO BE READILY VISIBLE TO SERVICE PERSONNEL, BUT UNSEEN FROM NORMAL VIEWING ANGLES WHEN LAMPS ARE IN PLACE. BALLASTS SHALL HAVE CLEAR MARKINGS INDICATING MULTI-LEVEL OUTPUTS AND INDICATE PROPER TERMINALS FOR THE VARIOUS OUTPUTS.

2.6 FACTORY APPLIED FINISH

ELECTRICAL EQUIPMENT SHALL HAVE FACTORY-APPLIED PAINTING SYSTEMS WHICH SHALL, AS A MINIMUM, MEET THE REQUIREMENTS OF NEMA 250 CORROSION-RESISTANCE TEST.

PART 3 EXECUTION

3.1 INSTALLATION

ELECTRICAL INSTALLATIONS SHALL CONFORM TO IEEE C2, NFPA 70, AND TO THE REQUIREMENTS SPECIFIED HEREIN.

3.1.1 STEEL POLES

PROVIDE POLE FOUNDATIONS WITH GALVANIZED STEEL ANCHOR BOLTS, THREADED AT THE TOP END AND BENT 90 DEGREES AT THE BOTTOM END. PROVIDE ORNAMENTAL COVERS TO MATCH POLE AND GALVANIZED NUTS AND WASHERS FOR ANCHOR BOLTS. CONCRETE FOR ANCHOR BASES, POLYVINYL CHLORIDE (PVC) CONDUIT ELLS, AND GROUND RODS SHALL BE AS SPECIFIED IN PREVIOUS SECTIONS. THOROUGHLY COMPACT BACKFILL WITH COMPACTING ARRANGED TO PREVENT PRESSURE BETWEEN CONDUCTOR, JACKET, OR SHEATH AND THE END OF CONDUIT ELL. ADJUST POLES AS NECESSARY TO PROVIDE A PERMANENT VERTICAL POSITION WITH THE BRACKET ARM IN PROPER POSITION FOR LUMINAIRE LOCATION. AFTER INSTALLATION, PAINT EXPOSED SURFACES OF STEEL POLES WITH TWO FINISH COATS OF COLOR AS REQUIRED TO MATCH.

3.1.2 POLE SETTING

DEPTH SHALL BE AS INDICATED. POLES IN STRAIGHT RUNS SHALL BE IN A STRAIGHT LINE. DIG HOLES LARGE ENOUGH TO PERMIT THE PROPER USE OF TAMPERS TO THE FULL DEPTH OF THE HOLE. PLACE BACKFILL IN THE HOLE IN 6 INCH MAXIMUM LAYERS AND THOROUGHLY TAMP. PLACE SURPLUS

TO PERMIT THE PROPER USE OF TAMPERS TO THE FULL DEPTH OF THE HOLE. PLACE BACKFILL IN THE HOLE IN 6 INCH MAXIMUM LAYERS AND THOROUGHLY TAMP. PLACE SURPLUS EARTH AROUND THE POLE IN A CONICAL SHAPE AND PACK TIGHTLY TO DRAIN WATER AWAY.

3.1.3 GROUNDING

GROUND NONCURRENT-CARRYING PARTS OF EQUIPMENT INCLUDING METAL POLES, LUMINAIRES, MOUNTING ARMS, BRACKETS, AND METALLIC ENCLOSURES AS REQUIRED. WHERE COPPER GROUNDING CONDUCTOR IS CONNECTED TO A METAL OTHER THAN COPPER, PROVIDE SPECIALLY TREATED OR LINED CONNECTORS SUITABLE FOR THIS PURPOSE.

3.1.4 FIELD APPLIED PAINTING

PAINT ELECTRICAL EQUIPMENT AS REQUIRED TO MATCH FINISH OF ADJACENT SURFACES OR TO MEET THE INDICATED OR SPECIFIED SAFETY CRITERIA.

3.2 FIELD QUALITY CONTROL

UPON COMPLETION OF INSTALLATION, VERIFY THAT EQUIPMENT IS PROPERLY INSTALLED, CONNECTED, AND ADJUSTED. CONDUCT AN OPERATING TEST TO SHOW THAT THE EQUIPMENT OPERATES IN ACCORDANCE WITH THE REQUIREMENTS OF THIS SECTION.

ELECTRICAL SYMBOLS

Symbol	Description
	EXTERIOR POLE FIXTURE
	SURFACE ELECTRICAL PANELBOARD
T	TRANSFORMER
--U--	CONDUIT RUN UNDERGROUND

ELECTRICAL ABBREVIATIONS

C	CONDUIT	MIN	MINIMUM
FBO	FURNISHED BY OTHERS	MTD	MOUNTED
FLA	FULL LOAD AMPS	NEC	NATIONAL ELECTRICAL CODE
KW	KILOWATTS	PH	PHASE (Ø)
LTG	LIGHTING	PNL	PANEL
MAX	MAXIMUM	V	VOLTS
MFG	MANUFACTURER	W	WIRE

COORDINATION WITH UTILITY COMPANY

THE ELECTRICAL CONTRACTOR SHALL COORDINATE COMPLETE ELECTRICAL SERVICE WITH LOCAL UTILITY COMPANY FOR A COMPLETE OPERATIONS SYSTEM, INCLUDING TRANSFORMER CONNECTIONS, CONCRETE TRANSFORMER PADS, IF REQUIRED, METER SOCKETS, PRIMARY CABLE RACEWAY REQUIREMENTS, SECONDARY SERVICE, ETC. PRIOR TO SUBMITTING BID TO INCLUDE ALL LABOR AND MATERIALS.

THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN HIS BID ANY OPTIONAL OR EXCESS FACILITY CHARGES ASSOCIATED WITH PROVIDING ELECTRICAL SERVICE FROM LOCAL UTILITY COMPANY. VERIFY BEFORE BIDDING TO INCLUDE ALL COSTS.

THE ELECTRICAL CONTRACTOR SHALL VERIFY THE AVAILABLE FAULT CURRENT WITH THE LOCAL UTILITY COMPANY PRIOR TO SUBMITTING BID. ADJUST A.I.C. RATINGS OF ALL OVERCURRENT PROTECTION DEVICES IN DISTRIBUTION EQUIPMENT AS REQUIRED TO COORDINATE WITH AVAILABLE FAULT CURRENT FROM LOCAL UTILITY COMPANY.

GENERAL NOTES APPLY TO ALL SHEETS:

SEE DETAILS AND SCHEDULES ON DRAWINGS AND SPECIFICATIONS FOR MEANING OF ABBREVIATIONS AND ADDITIONAL REQUIREMENTS AND INFORMATION.

THE ELECTRICAL CONTRACTOR SHALL INSTALL AND COMPLETELY WIRE ALL ASSOCIATED EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S WIRING DIAGRAMS AND AS REQUIRED FOR A COMPLETE OPERATING INSTALLATION.

ELECTRICAL CONTRACTOR SHALL VERIFY AND COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF (FBO) EQUIPMENT PRIOR TO ROUGH-IN OF CONDUIT AND WIRING TO AVOID CONFLICTS.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING, INCLUDING CORE DRILLING, SAW CUTTING, ETC., AS REQUIRED TO ACCOMMODATE HIS WORK. CUTTING AND PATCHING AND PAYMENT OF SAID WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR REQUIRING THE DISTURBANCE BUT SAME SHALL BE DONE BY A GENERAL CONTRACTOR. IT SHALL BE THE RESPONSIBILITY OF THE APPROPRIATE ELECTRICAL CONTRACTOR TO GIVE QUANTITIES OF PATCHING REQUIREMENTS TO A GENERAL CONTRACTOR.

ELECTRICAL NOTES - TYPICAL FOR ALL SHEETS

THE CONDUCTORS SHALL BE STRANDED COPPER WIRE CONFORMING TO CITY OF LOVES PARK STREET LIGHTING CONSTRUCTION STANDARDS. E.C. TO CONFIRM PRIOR TO ROUGH-IN.

THE SIZE OF THE CONDUCTORS SHALL BE DETERMINED BY THE VOLTAGE DROP CALCULATIONS IN ACCORDANCE WITH NEC OR AS AMENDED BY THE LOVES PARK DESIGN STANDARDS. THE CONDUCTOR SHALL BE SIZED SUCH THAT THE VOLTAGE DROP IN THE CIRCUIT FROM THE SERVICE POINT TO THE LAST STREET LIGHT ON THE CIRCUIT WILL NOT EXCEED 5% OF THE NOMINAL VOLTAGE. IN ANY CASE, THE MINIMUM SIZE OF THE CONDUCTOR SHALL CONFORM TO THE FOLLOWING:

1. MINIMUM SIZE OF ANY CONDUCTOR WITHIN THE CONDUIT FROM THE PULLBOX ADJACENT TO THE ELECTROLIER TO WITHIN THE ELECTROLIER SHALL BE #10.
2. THE MINIMUM SIZE OF THE CONDUCTOR WITHIN ALL OTHER CONDUIT RUNS SHALL BE #8.

PULLBOXES/HANDHOLES SHALL BE LOCATED AT THE BASE OF ALL LIGHTS WHERE TWO OR MORE CIRCUITS INTERSECT AT ANGLE POINTS, STREET CROSSING AND 90 DEGREE BENDS.

PULLBOXES/HANDHOLES SHALL ALSO BE LOCATED WHERE CONDUIT RUNS ARE LONGER THAN 150'-0" IN LENGTH FROM THE SERVICE POINT TO THE FIRST STREET LIGHT LOCATION. SPLICES ARE NOT ALLOWED IN THE PULLBOXES OR HANDHOLES.

PULLBOXES/HANDHOLES SHALL BE CONSTRUCTED OF A FIBERGLASS REINFORCED POLYMER CONCRETE, EQUAL TO HUBBELL QUAZITE PC STYLE OR APPROVED EQUAL FOR INSTALLATION CONDITIONS. COVERS SHALL BE MARKED "LIGHTING" AND BE ATTACHED WITH MINIMUM OF $\frac{3}{8}$" STAINLESS HEX BOLTS. BOXES SHALL BE INSTALLED FLUSH WITH FINISHED GRADE. ENCLOSURES SHALL BE PER LOVES PARK STANDARDS. SUBMIT SHOP DRAWING FOR FINAL REVIEW AND APPROVAL PRIOR TO ORDERING EQUIPMENT. ALL COMPONENTS SHALL BE INCLUDED IN FINAL BID SUBMITTED. THE EXACT SIZE OF THE BOX SHALL MEET CURRENT NATIONAL ELECTRICAL CODE REQUIREMENTS. TYPICAL.

ELECTRICAL CONTRACTOR SHALL USE XLP, CROSS-LINKED, POLYETHYLENE INSULATION WITH A UNDERGROUND SERVICE ENTRANCE RATING. CABLE MUST BE RATED FOR 600 VOLTS AND BE SUITABLE FOR INSTALLATION IN WET AND DRY LOCATIONS WITH RESISTANCE TO OILS AND CHEMICALS.

CONDUIT ROUTINGS INDICATED ARE FOR DIAGRAMMATIC PURPOSES ONLY. CONTRACTOR SHALL FIELD VERIFY EXACT ROUTING WITH EXISTING CONDITIONS AND CIVIL PLANS PRIOR TO ROUGH-IN OF ANY WORK.

85628

Landscape Requirements

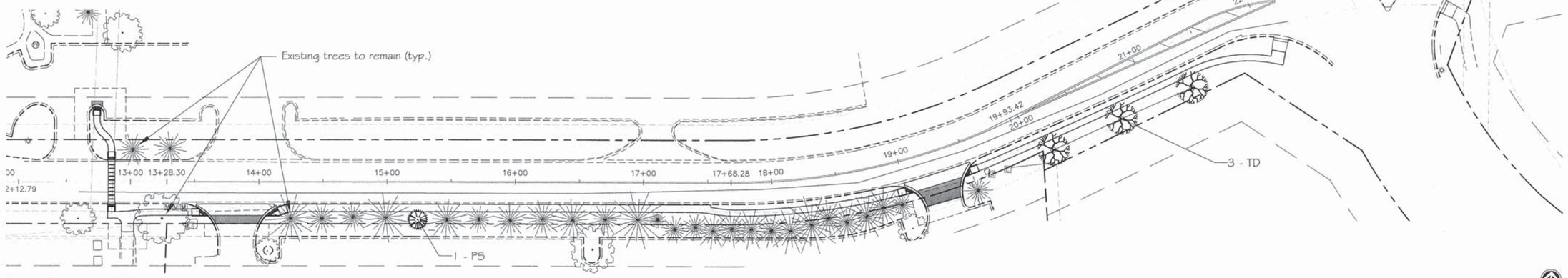
Category	Required Total	Provided Total	Notes
Street Frontage	1 LDT per 40 LF	3 LDT at Zenith Pkwy 2 LDT at Trailhead	315 LF at Zenith w/o trees 200 LF at Trailhead
Parking Areas	1 LDT per 10 spaces	2 LDT	11 spaces proposed
Parking Areas	1 LDT + 60 points per 1,500 SF pavement	4 LDT + 240 points (4 SDT)	5,100 SF pavement = factor of 3.4
Building Foundations	150 points per 100 LF	not applicable	No buildings proposed
Buffer Yards	Permanent 3' high, 8' wide buffer	not applicable	Not adjacent to Residential
General Yard Areas	200 points per 5,000 SF total site area	1,770 points (9 LDT + 7 SDT)	43,150 SF of site = factor of 8.63

Plant List

Symbol	Large Deciduous Trees (LDT)	Size	Quantity
GDE	*Gymnocladus dioicus 'Espresso'* Espresso Kentucky Coffeetree	2-1/2" cal.	4
QB	*Quercus bicolor* Swamp White Oak	2-1/2" cal.	4
LT	*Liriodendron tulipifera* Tuliptree	2-1/2" cal.	4
TD	*Taxodium distichum* Common Baldcypress	2-1/2" cal.	5
UH	*Ulmus x 'Homestead'* Homestead Elm	2-1/2" cal.	3

Symbol	Small Deciduous Trees (SDT)	Size	Quantity
AG	*Amelanchier grandiflora* Apple Serviceberry	12' clump form	3
CC	*Carpinus caroliniana* American Hornbeam	6' clump form	3
CCI	*Crataegus crusgalli v. inermis* Apple Serviceberry	6' clump form	5

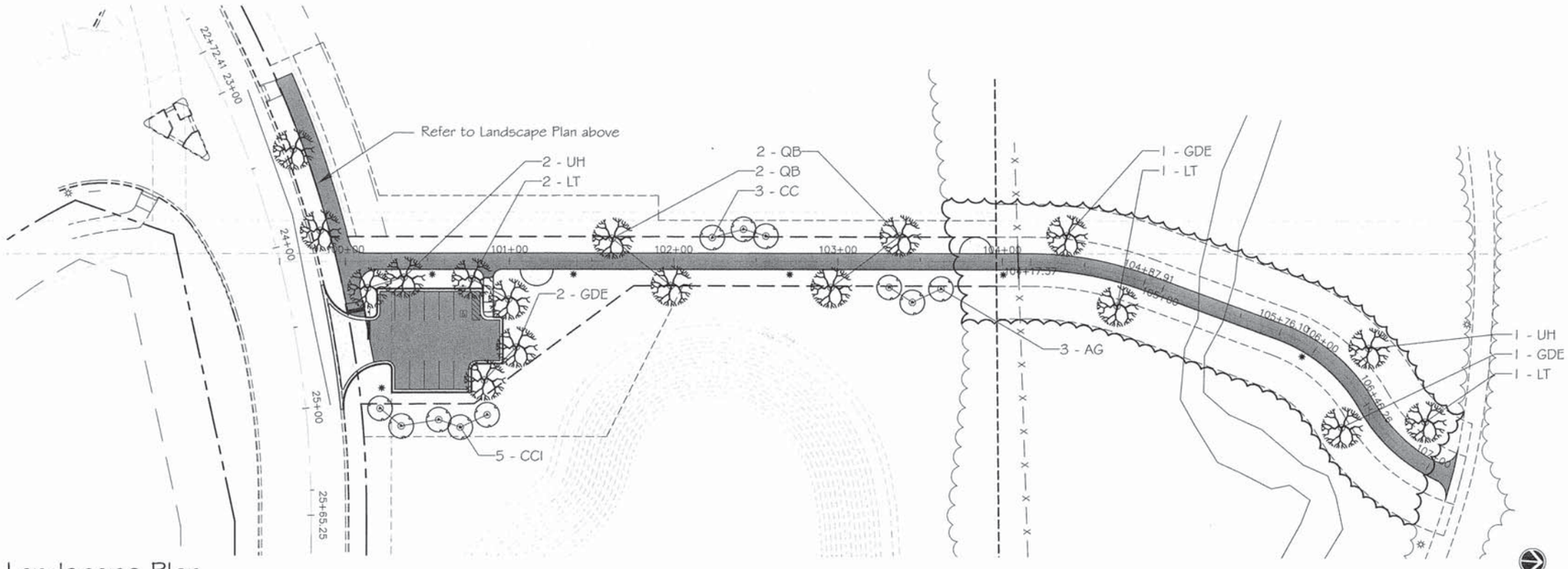
Symbol	Evergreen Trees	Size	Quantity
PS	*Pinus strobus* Eastern White Pine	6' height	1



Landscape Plan

Proposed Path - Along Zenith Parkway to Woodward Way

Scale: 1" = 40'-0"



Landscape Plan

Proposed Path - From Zenith Parkway to Willow Creek Trail

Scale: 1" = 40'-0"

Notes

- All landscape planting installation shall include excavation, mulch, soil, and all other materials.
- All landscape plantings are to have a one-year replacement guarantee.
- The Contractor is responsible for all site restoration. All disturbed areas and areas damaged during construction shall be repaired and restored with native sod.
- Refer to Storm Water and Pollution Prevention plans for location of erosion control blanket. All other areas are to receive crimped straw.
- All work shall comply with the appropriate section of the IDOT Standard Specifications for Road and Bridge Construction.

USER NAME = $USER$	DESIGNED — TGL	REVISED —	
	DRAWN — TGL	REVISED —	
PLOT SCALE = $SCALE$	CHECKED — TGL	REVISED —	
PLOT DATE = $DATE$	DATE — 2015.05.01	REVISED —	

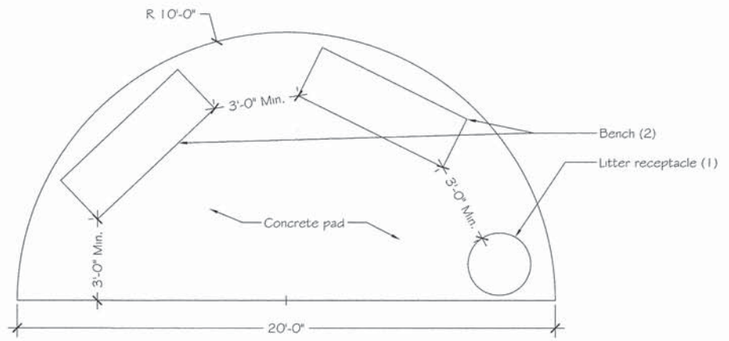
ARC/DESIGN RESOURCES INC.

ROCKFORD PARK DISTRICT
401 South Main Street
Rockford, Illinois 61101-1521
(815) 987-2849

LANDSCAPE DEVELOPMENT PLAN

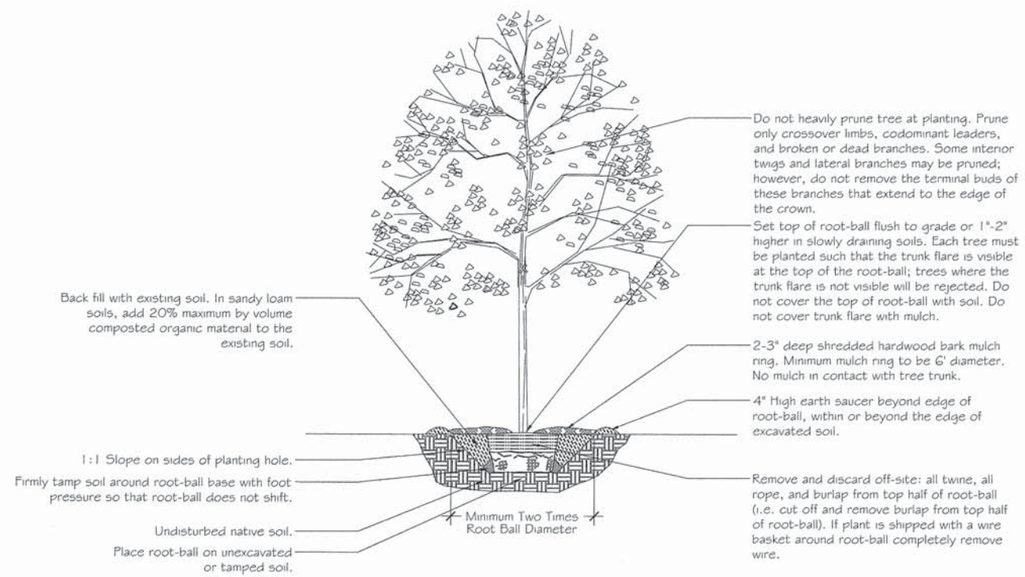
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	37
		CONTRACT NO. 85628		
	ILLINOIS FED. AID PROJECT			

85628



Bench Pad Layout

Not to Scale



Tree Planting Detail

Not to Scale

FILE NAME = $FILENAME	DESIGNED — TGL	REVISED —	ARC DESIGN RESOURCES INC.
	DRAWN — TGL	REVISED —	ROCKFORD PARK DISTRICT 401 South Main Street Rockford, Illinois 61104-1121 (815) 987-8849
PLOT SCALE = $SCALE$	CHECKED — TGL	REVISED —	PLANTING DETAILS
PLOT DATE = $DATE$	DATE — 2015.05.01	REVISED —	

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	14-00076-00-BT	WINNEBAGO	38	38
		CONTRACT NO. 85628		
		ILLINOIS FED. AID PROJECT		