CITY OF FLAGSTAFF

JW POWELL BOULEVARD EXTENSION

COF PROJECT NO: 03-16010

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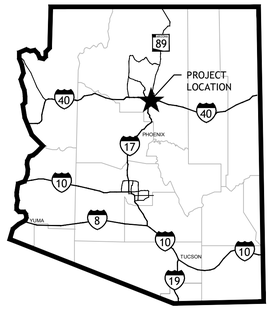
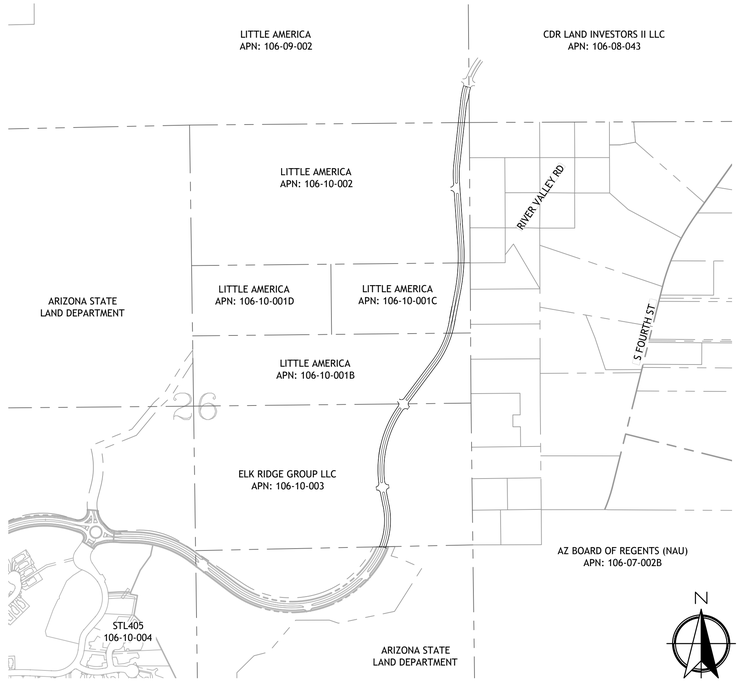
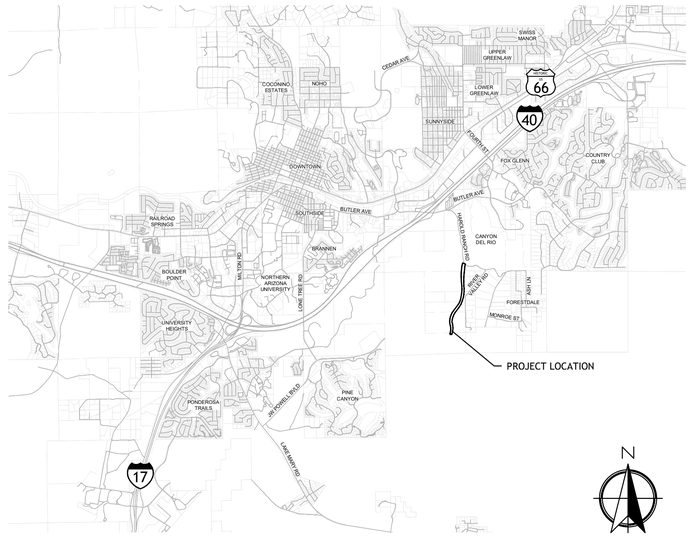


STATE MAP
N.T.S.



AREA MAP
N.T.S.



VICINITY MAP
N.T.S.

OWNER

City of Flagstaff
211 W Aspen Ave.
Flagstaff, AZ 86001
Contact: David Pedersen, Project Manager
Phone: (928) 213-2679

CIVIL ENGINEER

Peak Engineering,Inc.
201 E. Birch Ave, Suite 3
Flagstaff, AZ 86001
Contact: Julie Leid, P.E., Daniel Washburn, P.E.
Phone: (928) 774-4046

JE Fuller
3111 N. Caden Court, Suite 120
Flagstaff, AZ 86004
Contact: Eric Weidinger, P.E.
Phone: (928) 296-0070

DESIGN CRITERIA

ROADWAY CLASSIFICATION: MINOR ARTERIAL
ROADWAY TYPICAL SECTION: PER COF ENG DET. 10-09-032 (MODIFIED FOR 10' URBAN TRAIL ON ONE SIDE)
DESIGN SPEED: 40 MPH
POSTED SPEED LIMIT: 35 MPH
RIGHT OF WAY (MIN): 106'
HORIZONTAL RADIUS (MIN): 533'
STOPPING SITE DISTANCE: 305'
K VALUE CREST (MIN): 44
K VALUE SAG (MIN): 64
SUPERELEVATION (MAX): 4%
FILL SLOPE (MAX): 2:1 (WITH GUARDRAIL)
CUT SLOPE (MAX): 2:1
LIGHTING: 250' MAX SPACING, 6000 LUMENS, 38' POLE

CITY OF FLAGSTAFF APPROVALS

THE CITY OF FLAGSTAFF APPROVES THESE PLANS FOR CONCEPT ONLY. THE CITY SHALL NOT BE LIABLE FOR ERRORS OR OMISSIONS OF THE DESIGN ENGINEER.

City Engineer _____ DATE

City Public Works Director _____ DATE

Water Services Director _____ DATE

ADEQ APPROVALS

WATERLINE APPROVAL TO CONSTRUCT _____ DATE

SEWER CONSTRUCTION AUTHORIZATION _____ DATE

UTILITY ACKNOWLEDGEMENTS

Lumen _____ DATE

UniSource Energy Services _____ DATE

APS _____ DATE

Optimum _____ DATE

60% DESIGN
COF PROJECT NO: 03-16010

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811
Call 811 or click Arizona811.com

DATE | DESCRIPTION | REVISION

201 E. Birch Ave., Suite 3
Flagstaff, AZ 86001
(928) 774-4046
Peak ENGINEERING, INC.
Connecting Place to People

Preliminary Not For Construction

CITY OF FLAGSTAFF
JW POWELL EXTENSION
COVER

JOB NO:17COF02 | BY:DCW/SJ | CHECKED:JOL
DATE: MARCH 2026

G1.0

ENGINEER'S GENERAL NOTES

The work shall be done in accordance with the most current edition(s) of the following specifications and these plans.

- City of Flagstaff (COF) Engineering Design & Construction Standards
- Maricopa Association of Governments (MAG): Uniform Standard Specifications & Standard Details for Public Works Construction
- Manual on Uniform Traffic Control Devices (MUTCD)
- Arizona Department of Transportation Standard Specifications for Road and Bridge Construction

It is the Contractor's responsibility to obtain copies of the above Standards, Specifications and Details as well as all other standards and specifications referenced by or necessary for interpreting these plans.
The Contractor is not relieved of responsibility for making complete and accurate on-site determinations of the locations of all utilities, structures and field conditions, which may affect the progress of the work.

PERMITS. The Contractor is responsible for determining what permits are required for the work and obtaining, at his own expense, the permits required unless otherwise noted in the Special Provisions. Permitting includes compliance with the Arizona Department of Environmental Quality (ADEQ) Arizona Pollutant Discharge Elimination System (AZPDES) Construction General Permit. The Contractor is responsible for filing a Notice of Intent (NOI) and Notice of Termination (NOT) in accordance with AZPDES requirements.

UTILITIES. Underground utilities shown are approximate and were determined from field measurements, construction plans, record plans, or utility maps furnished by others. The Contractor is responsible for determining the actual locations of all underground lines that may affect the work. The Contractor is responsible for notifying appropriate utility companies prior to construction commencing. The number to call is 811. The Contractor shall allow 2 working days after 811 is notified before starting any excavation work in the proximity of buried utilities.
Where the plans call for connecting new structures to existing underground pipes or structures, the Contractor is responsible for determining the exact sizes, types and locations of existing underground improvements and furnishing the materials necessary for making the required connections.
At least 48 hours prior notice is required before disrupting utility service to make connections. The notice must include the exact time of disruption and the expected duration of loss of service.

QUANTITIES. The quantities shown are approximate. The Contractor is responsible for independently estimating work quantities prior to bidding.

TRAFFIC CONTROL. The Contractor is responsible for providing any necessary traffic control devices for vehicle, bicycle and pedestrian traffic affected by the construction.

STORMWATER MANAGEMENT. Adequate drainage, erosion and sediment control measures, best management practices (BMPs), and/or other stormwater management facilities shall be provided and maintained at all times during construction. The Contractor is responsible for damages to adjacent property and/or the construction site caused by his or her failure to provide and maintain adequate drainage and erosion/sediment control for the construction area.

Refer to the AZPDES Construction General Permit and ADEQ website for guidance, BMPs and reporting requirements: http://www.azdeq.gov/node/524

CITY OF FLAGSTAFF GENERAL NOTES

1. Approval of these plans by the City Engineer is for a one (1) year period, subsequent to the date of approval. If construction work is not started within the one (1) year period, or has been discontinued for any reason for longer than one (1) year, the plans shall be resubmitted for review and re-approval.
2. Plan review by the City does not extend to material quantities shown on the plans.
3. A public works permit, issued by the City, is required for all work in City rights-of-way or easements and for construction of any improvements intended to become public property.
4. The City shall be notified twenty-four (24) hours prior to beginning different phases of construction so that City Inspectors may be scheduled.
5. All materials and workmanship shall comply with Title 13, Engineering Design Standards and Specifications for New Infrastructure, current "MAG Uniform Standard Specifications and Details for Public Works Construction," the City of Flagstaff Stormwater Design Manual, and with generally accepted engineering design and construction practice. All work and materials, which do not conform to the standards and specifications, are subject to removal and replacement at the contractor's expense. The contractor is responsible for reviewing Chapter 13-21, which makes minor modifications to certain MAG Specifications and details.
6. Any work performed without the knowledge and approval of the City Engineer or his authorized representative is subject to removal and replacement at the contractor's expense.
7. The City Engineer or his authorized representative may suspend the work by written notice when, in his judgment, progress is unsatisfactory, work being done is unauthorized or defective, weather conditions are unsuitable, or there is danger to the public health or safety.
8. The City Engineer may order any or all materials used in the work to be tested according to the American Association of State Highway and Transportation Officials (AASHTO) and the American Society for Testing and Materials (ASTM) Standards. The Contractor shall, at his expense, supply all samples required for testing.
9. Access that meets Section 13-13-004-0001, Fire Access, shall be in place and approved before and at all times during on-site combustible construction and/or prior to issuance of building permits in new subdivisions. Fire Department and Engineering Section approval is required for obstruction of access or water system shutdown.
10. The contractor shall be responsible for maintenance of the streets and of partially completed portions of the work until final acceptance of the work. The contractor shall submit to the City Engineer for approval a construction schedule for any streets required to be closed or partially closed for the construction activity. The contractor shall reopen the streets no later than the opening date shown on the construction schedule or upon order of the City Engineer. The regulation and control of construction traffic shall be as directed by the City Engineer or his authorized representative.
11. Approval of a portion of the work in progress does not guarantee its final acceptance. Testing and evaluation may continue until written final acceptance of a complete workable unit. Any defects which appear in the work within one (1) year from the date of acceptance and which are due to improper workmanship or inferior materials supplied shall be corrected by or at the expense of the owner/developer or the contractor.
12. Acceptance of completed public improvements will not be given until defective or unauthorized work is removed, and final clean-up is complete.
13. Location of underground utilities before work is begun is to be accomplished in accordance with A.R.S. Section 40-360.22.
14. If work is done on private property in relation to a project constructed under these standards, the contractor will provide the City with written authorization from the property owner to do so.
15. The establishment and use of temporary construction yards shall conform to the current City zoning code standards for temporary uses.
16. All excavated material shall be disposed of in accordance with applicable City codes and regulations. The contractor shall obtain all required City approvals and permits as deemed necessary by the City to dispose of excavated material.
17. All construction staking shall be the responsibility of the contractor/developer and performed under the direct supervision of a registered land surveyor or civil engineer.
18. All traffic sign sheeting shall be Type VIII as designed by ASTM D4956-07e1 Standard Specifications for Retroreflective Sheeting for Traffic Control, unless specified otherwise on the construction plans.
19. When the construction plans specify graffiti control on bridges or other structures, the contractor shall seal the structure first using Monochem Aquaseal ME 12 and then apply Monochem Permashield, Sacrificial Graffiti Control System (or approved equal).
20. All areas disturbed during construction shall be stabilized and reseeded in accordance with Chapter 13-17. In the event that the construction activity disturbs more than one (1) acre, a stormwater pollution prevention plan (SWPPP) shall be prepared in order to obtain a construction general permit from ADEQ.
21. All survey monuments within or around the construction area shall be protected in place. Any monuments that are disturbed or displaced by construction shall be reset by the RLS at the contractor's expense in accordance with City of Flagstaff Engineering Standards Section 13-03-005-0004 and A.R.S. Section 33-103.
22. The use of trench plating shall be prohibited from November 1st to April 1st unless specifically allowed by the City Engineer. (Ord. 2017-22, Rep&ReEn, 07/05/2017; Ord. 2024-13, Amended, 04/16/2024 (Res. 2024-15))

CITY OF FLAGSTAFF WATER & SEWER NOTES

All design, construction, testing and inspection shall conform to the ADEQ requirements: water distribution in accordance with Bulletins 10 and 8, and sewer collection in accordance with AAC Title 18. In the event the ADEQ requirements conflict with these standards, the more restrictive shall apply.

A. Rough grading shall be completed within one-tenth (1/10) of a foot of plan grade and approved by the City Engineer's authorized representatives prior to installation of underground utilities.
B. No trench shall be filled with bedding material or backfill until the excavation and pipe laying, respectively, have been approved by the City Engineer's authorized representative.
C. A water pressure test is required of all water lines and a hydrostatic or air test is required of all sewer lines and manholes. Tests are to be conducted after backfilling is complete and compacted on all public and/or private underground utilities.
D. Water and sewer service lines are to be marked as shown on the standard service details.
E. Water line disinfection is to be accomplished as outlined in Arizona Department of Environmental Quality (ADEQ) "Bulletin No. 8."
F. Water pipe classification shall be Class 305 for A.W.W.A. C-900 PVC and Class 350 for ductile iron unless otherwise approved by the City Engineer. C-900 shall conform to cast-iron-equivalent outside diameter and have elastromeric gaskets and couplings. All ductile iron pipe shall be polyethylene encased in accordance with MAG Specifications.
G. All materials that come into contact with drinking water shall conform to NSF Standard 61 including, but not limited to, gaskets, lubricants, pipe fittings, and valves (NSF-pw seal) (R18-4-119B).
H. All public sanitary sewer lines and private sewer service lines within a public utility easement or right-of-way will be inspected prior to acceptance by the City.
I. Water and sewer mains shall be separated in order to protect public water systems from possible contamination. All distances are measured perpendicularly from the outside of the sewer main to the outside of the water main. Separation requirements are as follows:
   1. A water main shall not be placed:
      a. Within six (6) feet, horizontal distance, and less than two (2) feet, vertical distance, above the top of a sewer main unless extra protection is provided. Extra protection shall consist of constructing the sewer main with mechanical joint ductile iron pipe or with slip-joint ductile iron pipe if joint restraint is provided. Alternate extra protection shall consist of encasing both the water and sewer mains in at least six (6) inches of concrete for at least ten (10) feet beyond the area covered by this subsection.
      b. Within two (2) feet horizontally and two (2) feet below the sewer main. When a water main is placed below a sewer main, extra protection is always required regardless of the vertical separation.
   2. No water pipe shall pass through or come into contact with any part of a sewer manhole. The minimum horizontal separation between water mains and manholes shall be six (6) feet, measured from the center of the manhole.
   3. The minimum separation between force mains or pressure sewers and water mains shall be two (2) feet vertically and six (6) feet horizontally under all conditions. Where a sewer force main crosses above or less than six (6) feet below a water line, the sewer mains shall be encased in at least six (6) inches of concrete or constructed using mechanical joint ductile iron pipe for ten (10) feet on either side of the water main.
   4. Even when extra protection is utilized, the minimum clearance between water and sewer shall be one (1) foot.
   5. The separation requirements do not apply to building, plumbing, or individual house service connections.
J. When hydrostatic testing is performed, sewer lines shall be tested for infiltration/exfiltration in accordance with ADEQ Engineering Bulletin No. 11. Manholes shall be tested by filling the manhole with water. The applicant shall ensure that the drop in water level does not exceed one-thousandth (0.001) of the total manhole volume in one (1) hour.

When air testing is performed, sewer lines shall be tested in accordance with ASTM F1417-92. Manholes shall be tested in accordance with ASTM C1244.

K. Sewer pipe shall be SDR 35, ASTM D3034 for PVC pipe, or Class 150 DIP lined with Protecto 401 ceramic epoxy or HDPE ASTM F894. All ductile iron pipelines shall be polyethylene encased in accordance with MAG Specifications. Special design considerations may require a higher class rating of DIP.
L. No water settling of trench fill material is allowed.
M. All water and sewer design and construction shall conform to the current Arizona Department of Environmental Quality (ADEQ) requirements. When ADEQ requirements are in conflict with these standards, the more restrictive shall apply.
N. Tracer wires and tapes shall be installed prior to testing the water or sewer main as required by Section 13-09-001-0002. (Strip wire two (2) inches at termination of the service.)
O. Water valves shall be adjusted in accordance with City of Flagstaff Engineering Detail No. 9-03-060 and manholes shall be adjusted in accordance with City of Flagstaff Engineering Detail No. 9-03-062.
P. One hundred percent (100%) of the sewer line shall be tested for uniform slope by remote camera and tested for short-term deflection.
   1. When a sewer service is required to be abandoned, it shall be abandoned at the property line and capped using the appropriate materials (PVC, clay, or concrete).
   2. When an existing water service is required to be abandoned, it shall be abandoned at the main. The saddle and corp. stop shall be removed and the main clamped with an approved full circle repair clamp.
Q. The location of water services shall be identified by branding a "W" on the top or face of curb.
R. Sewer service locations shall be identified by branding an "S" on the top or face of the curb.
S. Any existing water stub which is not utilized as part of the approved civil plans shall be abandoned and the valve at the main shall be removed and replaced with a blind flange, repair coupling or other approved method.
T. The contractor shall verify that the size of water service and water meter indicated on these plans matches that indicated on the approved building plumbing plan set. In the event there is a discrepancy, contact City of Flagstaff Water Services to confirm correct size prior to installation of water service. Where the new service is being installed to a parcel or lot for which no City-approved construction plans exist, consult Engineering Standard Table 13-09-003-04 for the most applicable water service size based on the anticipated use of the property and taking into account those subdivisions where residential fire sprinklers are required.
U. All new or relocated fire hydrants shall be tested in accordance with AWWA M-17 procedure and observed by a representative of the City Engineer with the test procedure and results documented on a form prescribed by the City Engineer. All hydrant testing shall be scheduled with the Engineering Division. Under no circumstances may an active hydrant be operated by persons other than authorized City of Flagstaff personnel. (Ord. 2017-22, Rep&ReEn, 07/05/2017; Ord. 2024-13, Amended, 04/16/2024 (Res. 2024-15))

CITY OF FLAGSTAFF PAVING NOTES

A. Exact point of matching termination and overlay, if necessary, shall be determined in the field by the City Engineer or his authorized representative. When a longitudinal joint associated with a trench path, pavement matchup or other occurs on a street that includes a bike lane, the joint shall be located outside the bike lane.
B. No job will be considered complete until:
   1. All curbs, pavements, sidewalks, catch basins, storm drains, and manholes have been cleaned of all dirt and debris;
   2. Survey monuments are installed and stamped; and
   3. All frames, covers, and valve boxes are adjusted to grade.
C. No paving construction shall be started until all utility lines are completed and approved under proposed paved areas.
D. Base course will not be placed until subgrade has been approved by the City Engineer or his authorized representative.
E. The location of all water valves, fire hydrants, and manholes must at all times during construction be referenced and made accessible to the City.
F. Utility facilities in conflict with this work will be relocated by the permittee or the utility owner. This activity shall be coordinated with the owner of the utility to prevent any unnecessary interruption of service to existing customers.
G. Existing street name signs, traffic signs and devices associated with the project shall be maintained during construction and relocated by the contractor as shown on the approved plans. Any changes or additions to pavement markings caused by pavement overlay, chip seal, or installation of underground facilities shall be shown on the approved plans.
H. On projects where the contractor causes excessive damage to an existing paved street or there are multiple street cuts (maximum of four (4) in five hundred (500) feet) an asphalt overlay shall be required.
I. A prime coat is not required unless so specified in the soils and pavement report and/or shown on the plans.
J. All curb and gutter, sidewalk, driveways, and sidewalk ramps shall be constructed on a minimum three (3) inches of aggregate base course (ABC). The ABC shall be constructed in accordance with MAG Section 310, and shall be compacted to ninety-five percent (95%) relative density. All precast structures such as manhole bases, catch basins, and box culverts shall be constructed on a minimum of three (3) inches of ABC.
K. Permanent Pavement Markings.
   1. Longitudinal pavement markings shall be installed in accordance with Section 13-16-006-0001.
   2. Transverse pavement markings such as stop bars, crosswalks, arrows, and legends shall be installed in accordance with Section 13-16-006-0002.
L. Temporary Pavement Markings.
   1. Temporary pavement markings, when approved, shall be installed in accordance with Sections 13-16-006-0001 and 13-16-006-0002.

NOTES:
   1. The use of temporary markings is strongly discouraged and may only be used with prior approval. When it is used, the contractor must be available to restripe as needed until the permanent markings can be installed.
   2. When it is impracticable for the contractor to provide permanent markings, the City Public Works Department may install the markings on behalf of the contract provided the fee for the work is agreed upon and paid for in advance.
M. The maximum thickness of a single lift of pavement shall be four (4) inches.

EARTHWORK

The estimate is based on existing grade to finished grade and does not include pavement sections. The estimate does not include shrink or swell.

CUT: 18,150 CY
FILL: 69,620 CY
NET: 51,470 (FILL)

Match slopes are 2:1 max.

LEGEND

EXISTING	PROPOSED
	MAJOR CONTOUR
	MINOR CONTOUR
	PARCEL
	RIGHT-OF-WAY
	CENTER
	EASEMENT
	EXISTING GRADE AT LT BC
	EXISTING GRADE AT RT BC
	UTILITY COVER
W	WATER LINE
S	SEWER LINE
G	GAS LINE
E	ELECTRIC LINE
COMM	COMMUNICATION LINE
	STORMDRAIN/CULVERT
	FLOWLINE/DITCH
	FENCE
RW	RECLAIMED WATER
	FUTS RAIL FENCE
	WATER VALVE
	FIRE HYDRANT
	SEWER MANHOLE
	SEWER CLEANOUT
	GAS VALVE
	ELECTRICAL CABINET
	LIGHT POLE
	COMMUNICATION RISER
	STORM DRAIN MANHOLE
	CATCH BASIN
	BOLLARD/POST
	SIGN
	SURVEY CONTROL
	AIR RELEASE VALVE
	TREE (APPROXIMATE LOCATION)
	ASPHALT
	CONCRETE
	LANDSCAPE
	DETECTIBLE WARNING

ABBREVIATIONS

AC	ASPHALTIC CONCRETE PAVEMENT
ADOT	ARIZONA DEPARTMENT OF TRANSPORTATION
APN	ASSESSORS PARCEL NUMBER
ARV	AIR RELEASE VALVE
BC	TOP BACK OF CURB
BO	BLOW-OFF
BP	BEGIN POINT ALIGNMENT
BW	BOTTOM OF WALL
C&G	CURB & GUTTER
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
COF	CITY OF FLAGSTAFF
E	EASTING
EG	EXISTING GRADE
EL - ELEV	ELEVATION
EX	EXISTING
FC	FACE OF CURB
FG	FINISHED GRADE
HDPE	HIGH DENSITY POLYETHYLENE
INV	INVERT
LT - L	LEFT
MAG	MARICOPA ASSOCIATION OF GOVERNMENTS
MAX	MAXIMUM
ME	MATCH EXISTING
MIN	MINIMUM
N	NORTHING
OFS	OFFSET
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PCCP	PORTLAND CEMENT CONCRETE PAVEMENT
PRC	POINT OF REVERSE CURVATURE
PRV	PRESSURE RELIEF VALVE
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
RAD - R	RADIUS
ROW - R/W	RIGHT OF WAY
RT - R	RIGHT
S	SIGN
SD	STORM DRAIN
SRP	SPIRAL RIBBED PIPE
SS	SANITARY SEWER
STA	STATION
SW	SIDEWALK
TC	TOP OF CURB
WL	WATER LINE
WM	WATER METER
WV	WATER VALVE

60% DESIGN
COF PROJECT NO: 03-16010

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811
Call 811 or click Arizona811.com

REVISION	DESCRIPTION	DATE

201 E. Birch Ave., Suite 3
Flagstaff, AZ 86001
(928) 774-4046

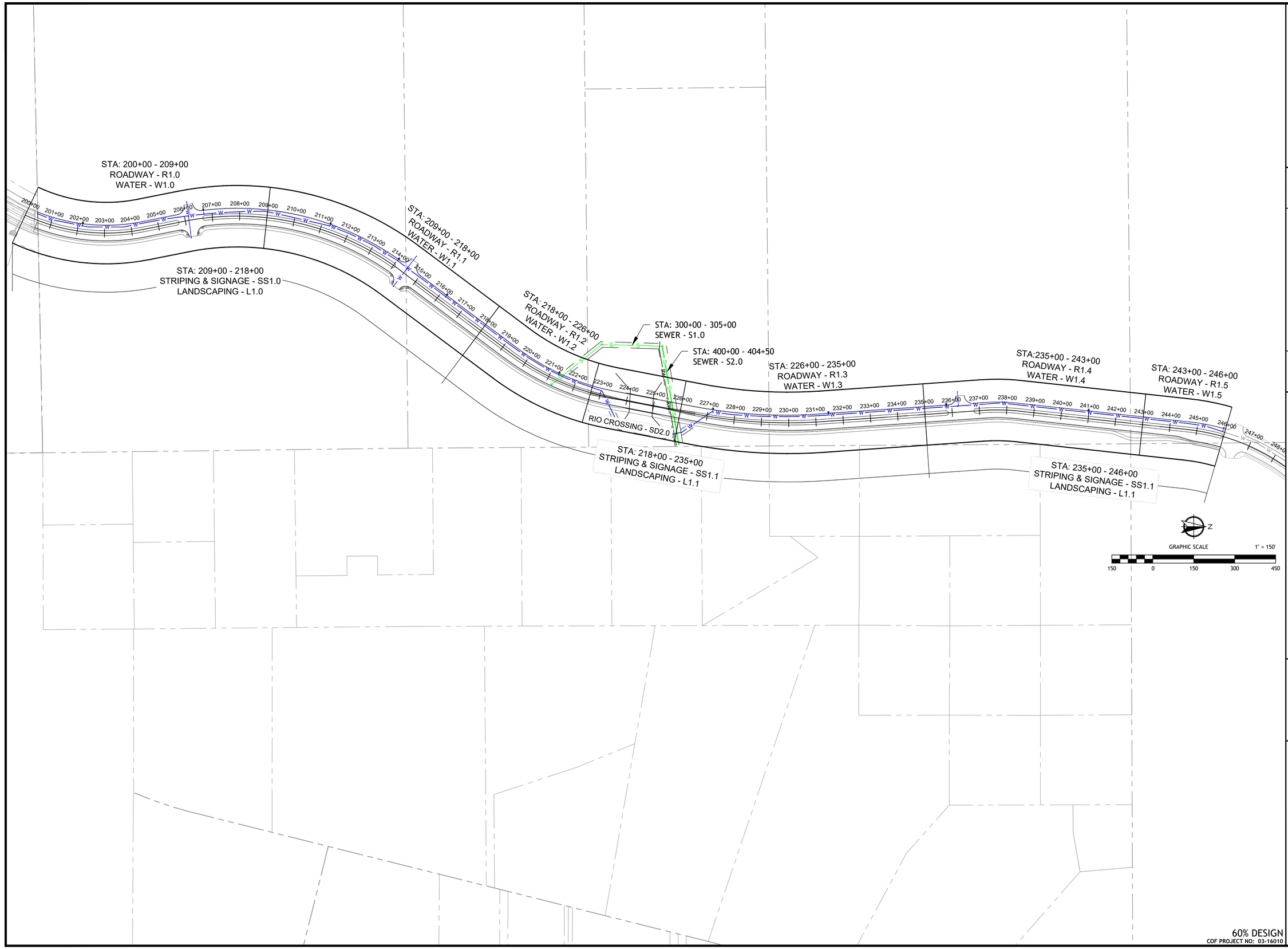
Peak ENGINEERING, INC.
Connecting Place to People

Preliminary Not For Construction

CITY OF FLAGSTAFF
JW POWELL EXTENSION
NOTES & LEGEND

JOB NO:17COF02 | BY:DCW/SJ
DATE: MARCH 2026 | CHECKED:JOL

G1.1



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Preliminary
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Construction

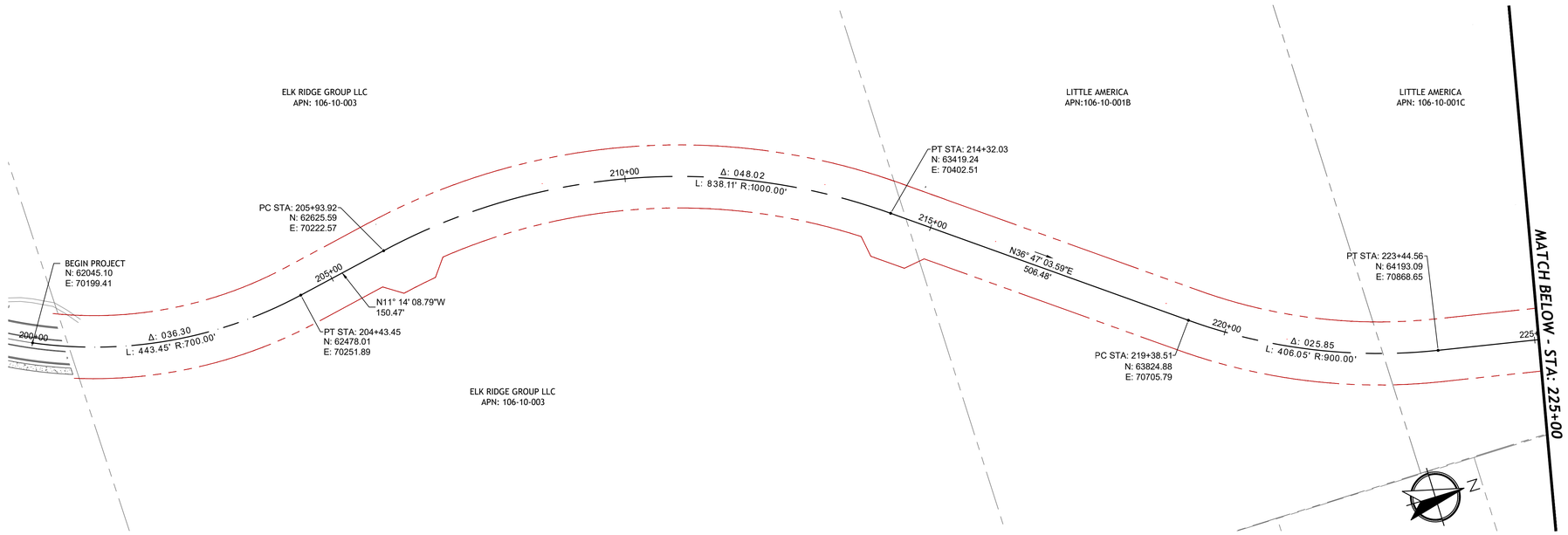
CITY OF FLAGSTAFF
JW POWELL EXTENSION
INDEX MAP

JOB NO:17COF02	BY:DCW/SJ
DATE: MARCH 2026	CHECKED:JOL

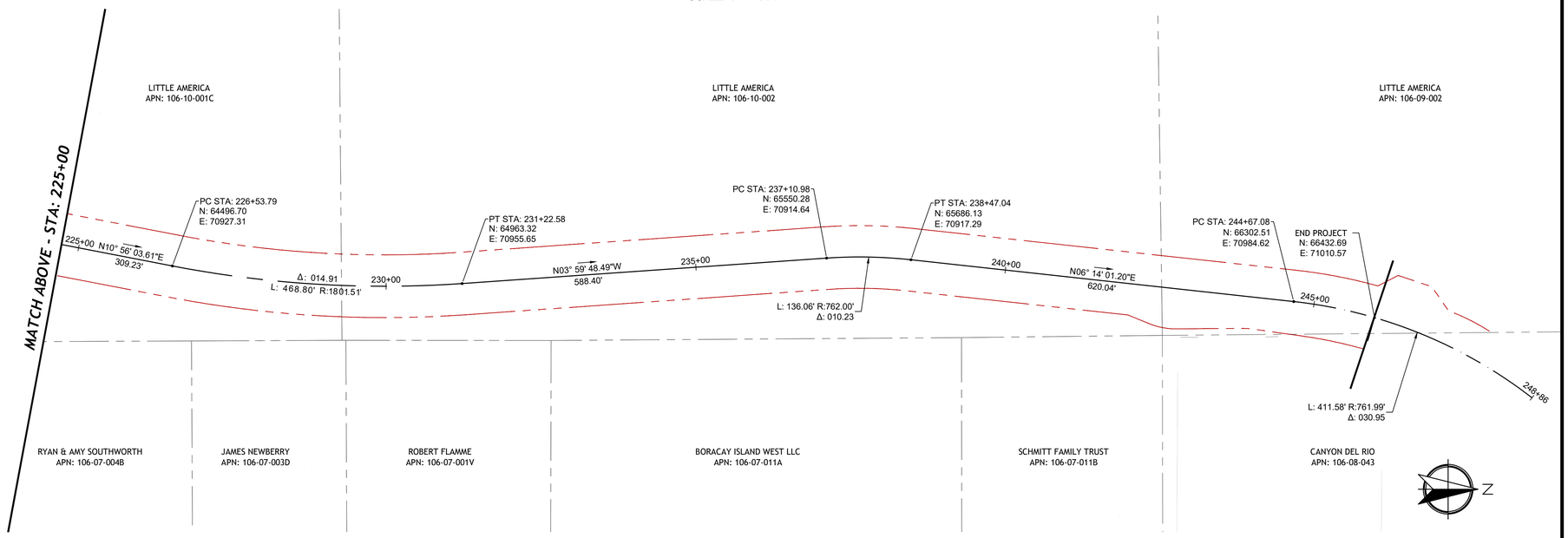
G1.2

60% DESIGN
COF PROJECT NO: 03-16010

PLAN VIEW
SCALE 1" = 100'



PLAN VIEW
SCALE 1" = 100'



GRAPHIC SCALE 1" = 100'
100 0 100 200 300

FINAL PLANS
COF PROJECT NO: 03-16010

BASIS OF BEARINGS

LINEAR UNIT: INTERNATIONAL FOOT
GEODETIC DATUM: NORTH AMERICAN DATUM 1983
SYSTEM: ARIZONA LDP (LOW DISTORTION PROJECTION)

PROJECTION: TRANSVERSE MERCATOR
LATITUDE OF GRID ORIGIN: 35° 00' 00" N
LOGITUDE OF CENTRAL MERIDIAN: 111° 37' 00" W
NORTHING AT GRID ORIGIN: 0.000 FT
EASTING AT CENTRAL MERIDIAN: 70,000.00 FT
CENTRAL MERIDIAN SCALE FACTOR: 1.000333 (EXACT)

THE BASIS OF BEARING IS GEODETIC NORTH BASED ON GPS MEASURMENTS. THESE BEARINGS HAVE BEEN ROTATED TO GRID FOR THE CITY OF FLAGSTAFF LOW DISTORTION PROJECTION. ALL BEARINGS AND DISTANCES SHOWN ON THIS MAP ARE GROUND PER THE PROJECTION SHOWN HEREON.

BASIS OF ELEVATION

VERTICAL DATUM: NAVD88

SOURCE

PROJECT CONTROL PER THE TOPOGRAPHIC SURVEY EXHIBIT E JW POWELL BLVD EXTENSION PROJECT (LOCATED IN SECTIONS 24, 26, AND 27 T21N, R7E, OF THE G&SRM, COCONINO COUNTY, ARIZONA) SURVEY PROVIDED BY NORTHLAND EXPLORATIONS SURVEYS, INC. PROJECT NUMBER 1006-20, DATED 12-17-2024.

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811
Call 811 or click Arizona811.com

REVISION	DESCRIPTION/DATE	DATE

110 N. Agassiz St.
Flagstaff, AZ 86001
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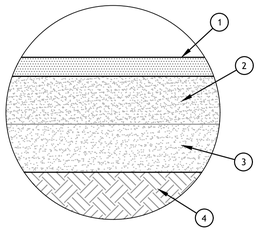
Preliminary
Not for
Construction

CITY OF FLAGSTAFF
JW POWELL EXTENSION
HORIZONTAL CONTROL

JOB NO:17COF02	BY:DCW/SJ	CHECKED:JOL
DATE: MARCH 2026		

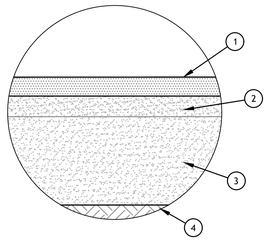
HC1.0

Refer to the Geotechnical Evaluation prepared by Ninyo & Moore, A Socotec Company, dated 02/06/2026, Project No. 609083001.



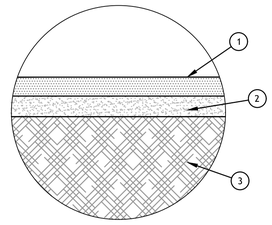
1. 5" THICK AC
2. 12" THICK ABC, COMPACTION PER GEOTECHNICAL REPORT.
3. 12" THICK ENGINEERED FILL, R≥35, COMPACTION PER GEOTECHNICAL REPORT.
4. PREPARED SUBGRADE

1 ALT NO 1 TYPICAL



1. 5" THICK AC
2. 6" THICK ABC, COMPACTION PER GEOTECHNICAL REPORT.
3. 36" THICK ENGINEERED FILL, R≥35, COMPACTION PER GEOTECHNICAL REPORT.
4. PREPARED SUBGRADE

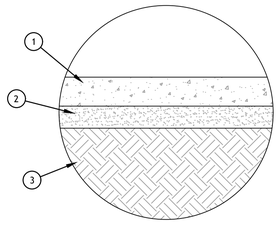
2 ALT NO 2 FILL AREAS



1. 5" THICK AC
2. 6" THICK ABC, COMPACTION PER GEOTECHNICAL REPORT.
3. BEDROCK

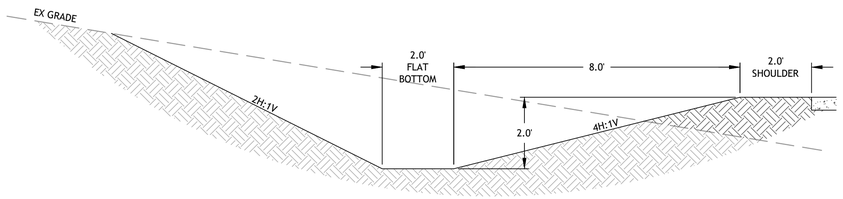
3 ALT NO 3 ROCK CUT AREAS

A *ASPHALT SECTION*
NOT TO SCALE

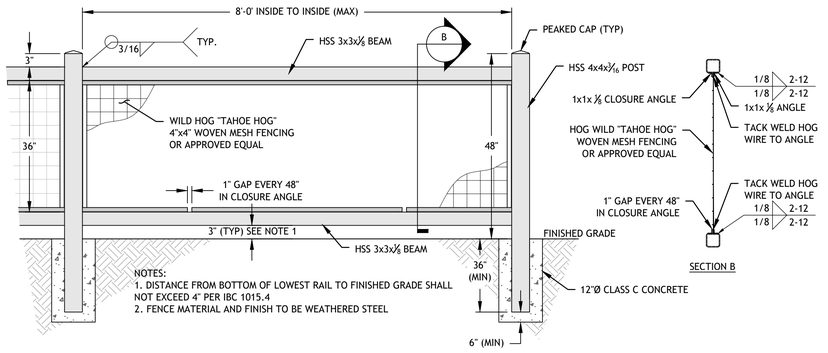


1. 6" PORTLAND CEMENT CONCRETE PER MAG SPEC. 324 & 725, CLASS A (4000 PSI), CONTAINING 5 TO 7% AIR ENTRAINMENT. SEAL ALL JOINTS WITH A SILICONE CONCRETE JOINT SEALER.
2. 4" THICK ABC PER MAG SPEC. 310 & 702.
3. PREPARED SUBGRADE PER THE REPORT ON GEOTECHNICAL INVESTIGATION.

B *CONCRETE FUTS*
NOT TO SCALE



C *ROADSIDE CHANNEL*
NOT TO SCALE



D *42" MODIFIED FUTS RAIL*
NOT TO SCALE

FUTURE

E *MEDIAN NOSE TRANSITION*
NOT TO SCALE

60% DESIGN
COF PROJECT NO: 03-16010

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811
Call 811 or click Arizona811.com

REVISION	DESCRIPTION	DATE

201 E. Birch Ave., Suite 3
Flagstaff, AZ 86001
(928) 774-4046

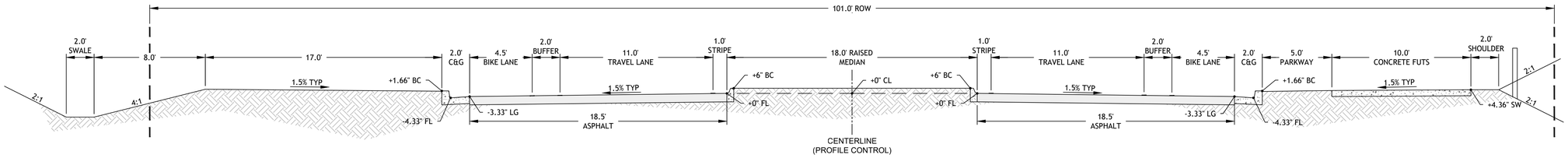
Peak ENGINEERING, INC.
Connecting Place to People

Preliminary Not For Construction

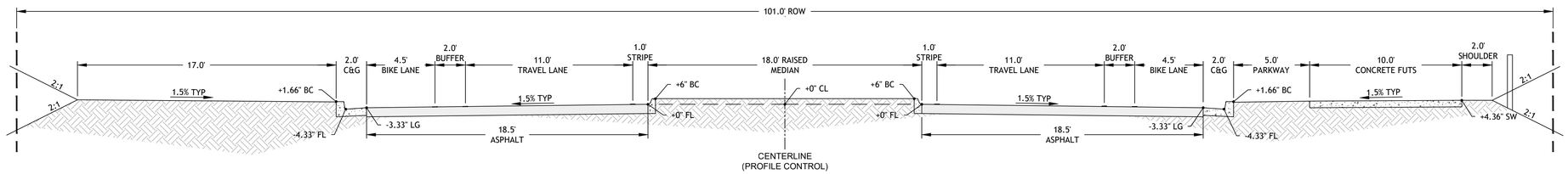
CITY OF FLAGSTAFF
JW POWELL EXTENSION
ROADWAY DETAILS

JOB NO:17COF02 | BY:DCW/SJ
DATE: MARCH 2026 | CHECKED:JOL

DT1.0



SECTION 1



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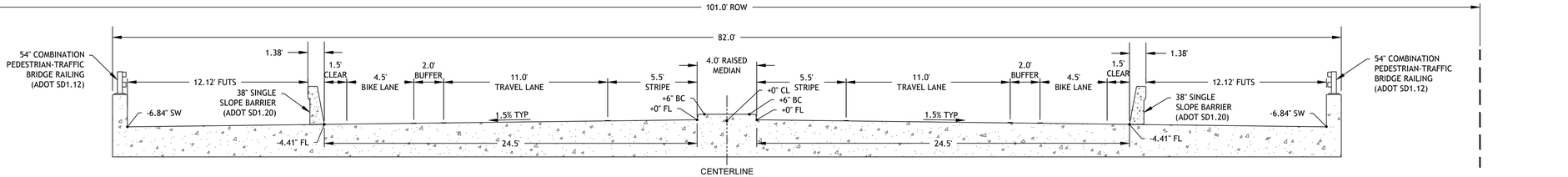
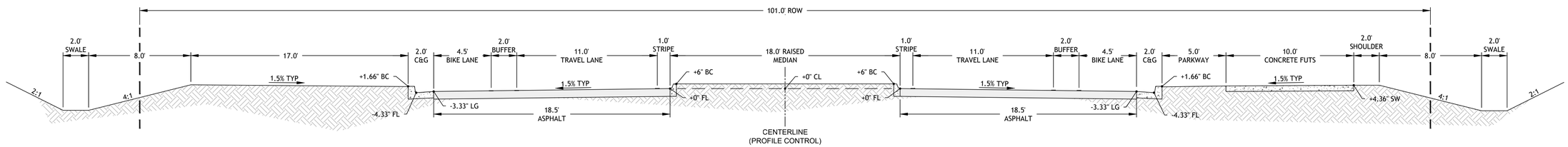
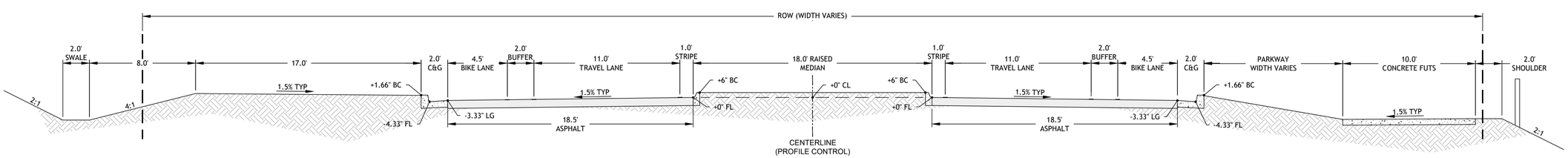


SECTION 3



SECTION 4



SECTION 5

60% DESIGN
COF PROJECT NO: 03-16010

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ARIZONA811
Call 811 or click Arizona811.com

REVISION	DESCRIPTION	DATE

Peak ENGINEERING, INC.
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201 E. Birch Ave., Suite 3
Flagstaff, AZ 86001
(928) 774-4046

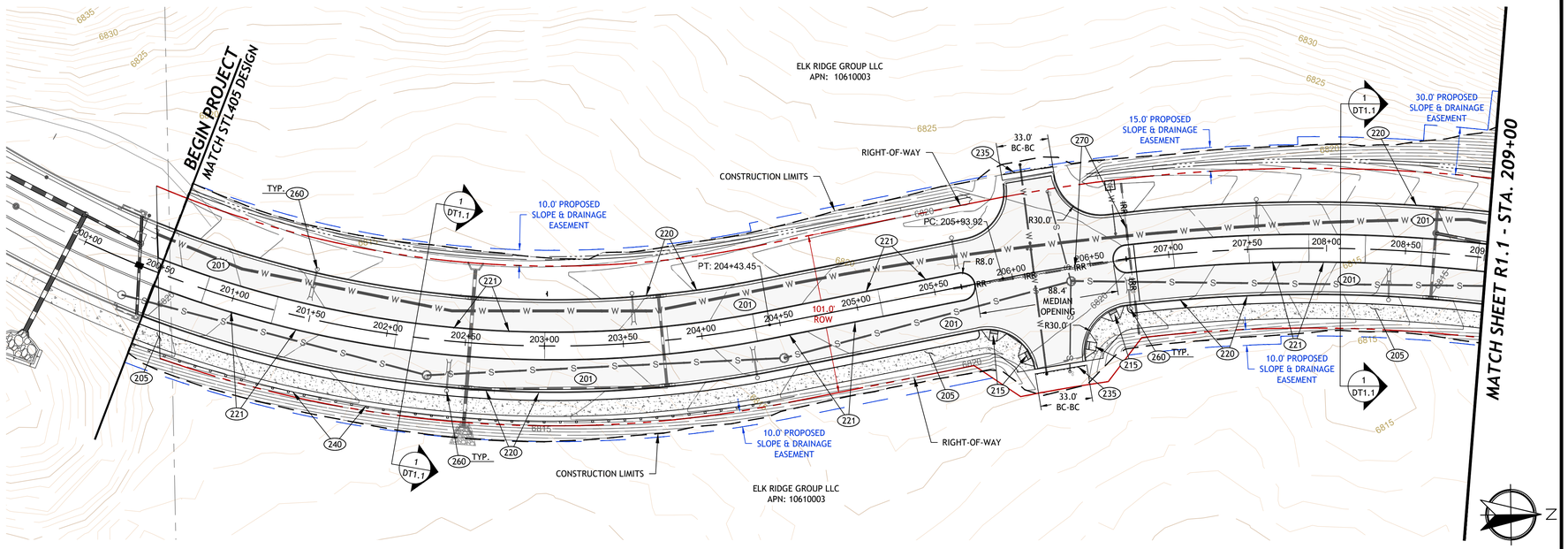
Preliminary Not For Construction

CITY OF FLAGSTAFF
JW POWELL EXTENSION
ROADWAY SECTIONS

JOB NO:17COF02	BY:DCW/SJ	CHECKED:JOL
DATE: MARCH 2026		

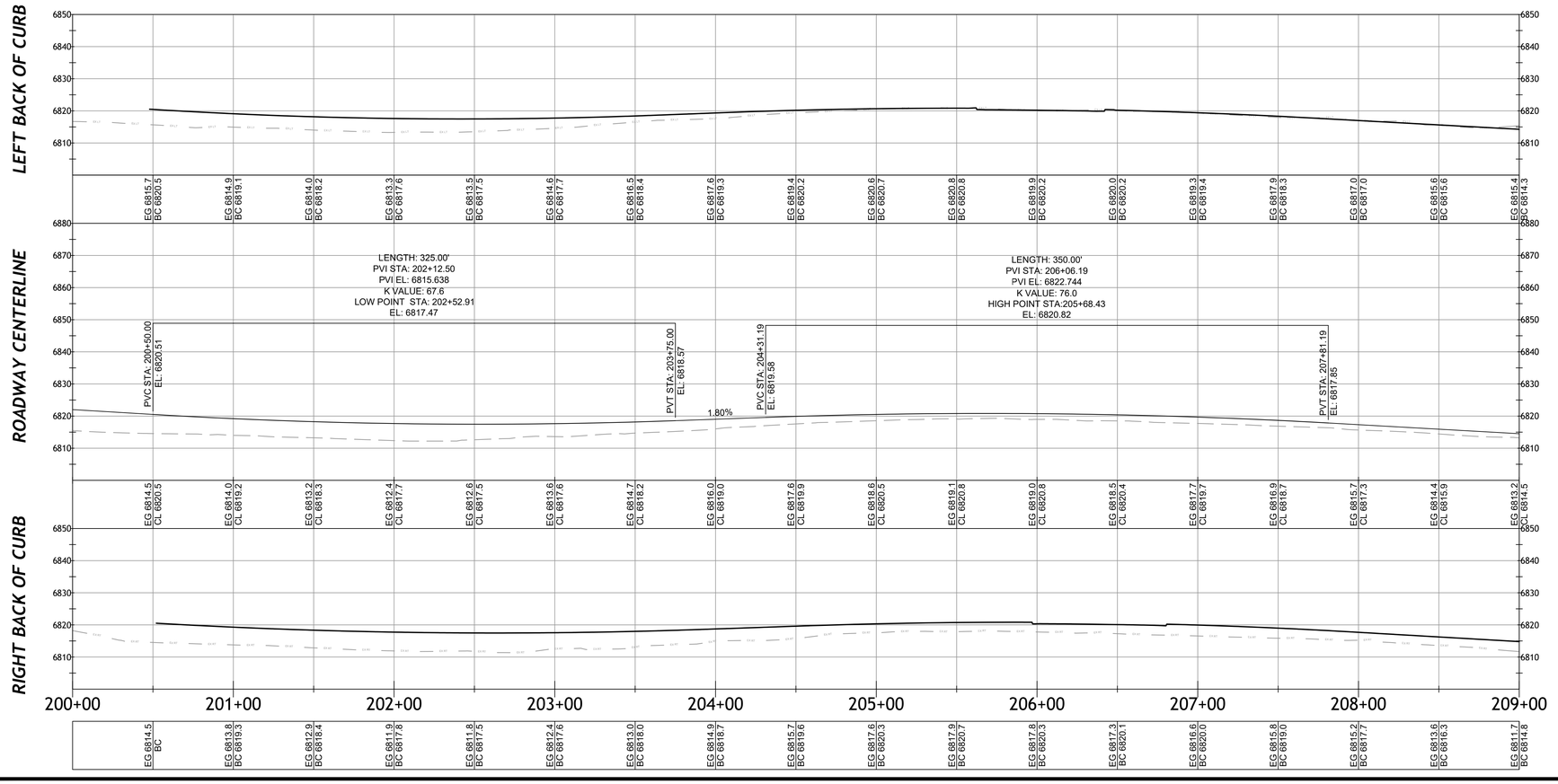
DT1.1

PLAN VIEW
SCALE 1" = 40'



PROFILE VIEW
HORIZ. SCALE 1" = 40'
VERT. SCALE 1" = 20'

EXISTING GRADE
PROPOSED GRADE
EXISTING GRADE @ LT BC
EXISTING GRADE @ RT BC



CONSTRUCTION NOTES

ROADWAY (200)

201 Asphalt Pavement per Detail A, Sheet DT1.0.
205 Concrete FUTS per COF Eng. Detail 14-02-001 & Detail B, Sheet DT1.0.
215 ADA Sidewalk ramps per MAG Detail 237-3.
220 Vertical curb & gutter per MAG Detail 220, Type 'A'.
221 Single curb per MAG Detail 222, Type 'A'.
235 Barricade per MAG Detail 130, Type 'B'.
240 FUTS fencing per COF Eng. Detail 14-02-010.
260 Streetlight per COF Eng. Detail 12-05-010, 6000 Lumens, 38' pole.
270 2-3" PVC irrigation sleeves.

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ARIZONA811
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Peak ENGINEERING, INC.
Connecting Place to People
201 E. Birch Ave., Suite 3
Flagstaff, AZ 86001
(928) 774-4046

preliminary
Not For
Construction

GRAPHIC SCALE 1" = 40'
40 0 40 80 120

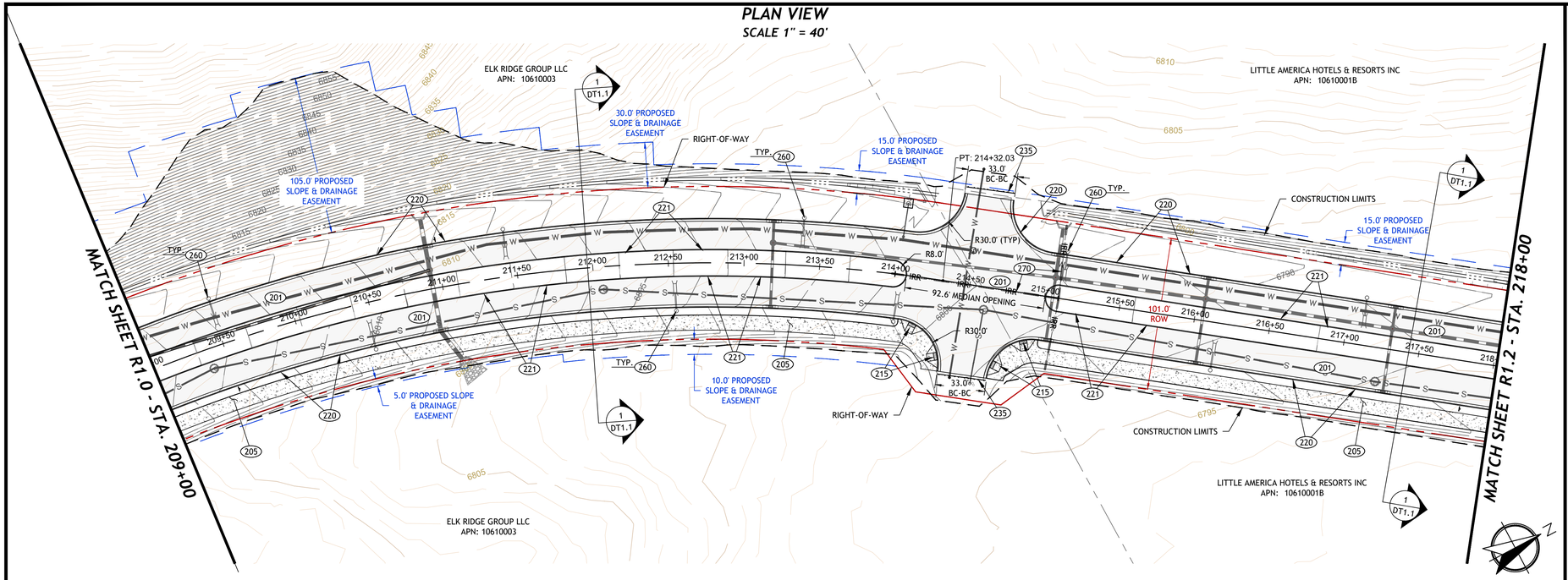
60% DESIGN
COF PROJECT NO: 03-16010

CITY OF FLAGSTAFF
JW POWELL EXTENSION
ROADWAY PLAN & PROFILE
STA: 200+00 TO 209+00

JOB NO:17COF02 | BY:DCW/SJ
DATE: MARCH 2026 | CHECKED:JOL

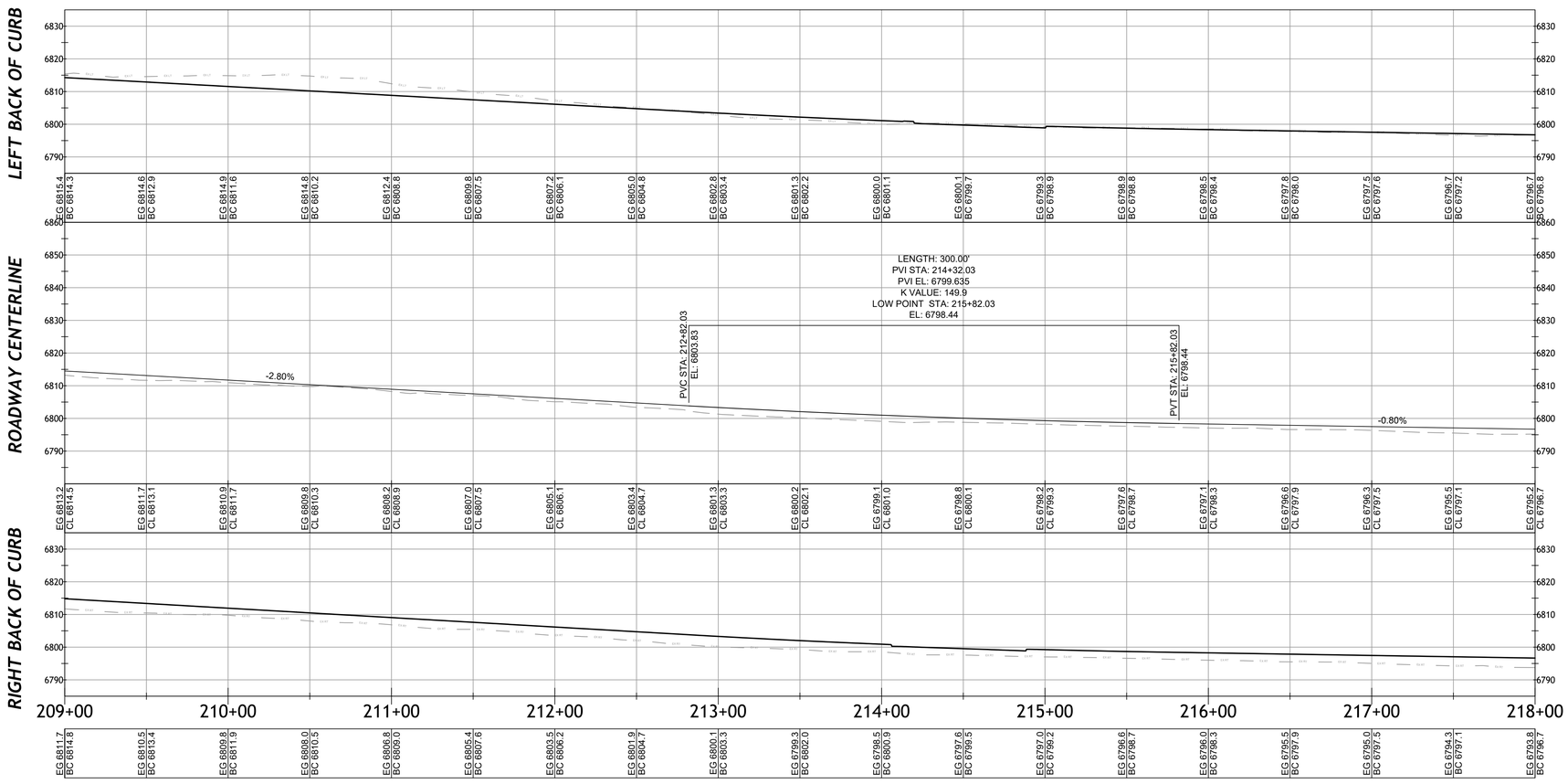
R1.0

PLAN VIEW
SCALE 1" = 40'



PROFILE VIEW
HORIZ. SCALE 1" = 40'
VERT. SCALE 1" = 20'

EXISTING GRADE
PROPOSED GRADE
EXISTING GRADE @ LT BC
EXISTING GRADE @ RT BC



CONSTRUCTION NOTES

ROADWAY (200)

201 Asphalt Pavement per Detail A, Sheet DT1.0.
205 Concrete FUTS per COF Eng. Detail 14-02-001 & Detail B, Sheet DT1.0.
215 ADA Sidewalk ramps per MAG Detail 237-3.
220 Vertical curb & gutter per MAG Detail 220, Type 'A'.
221 Single curb per MAG Detail 222, Type 'A'.
235 Barricade per MAG Detail 130, Type 'B'.
240 FUTS fencing per COF Eng. Detail 14-02-010.
260 Streetlight per COF Eng. Detail 12-05-010, 6000 Lumens, 38' pole.
270 2-3" PVC irrigation sleeves.

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201 E. Birch Ave., Suite 3
Flagstaff, AZ 86001
(928) 774-4046

Preliminary Not For Construction

GRAPHIC SCALE 1" = 40'
40 0 40 80 120

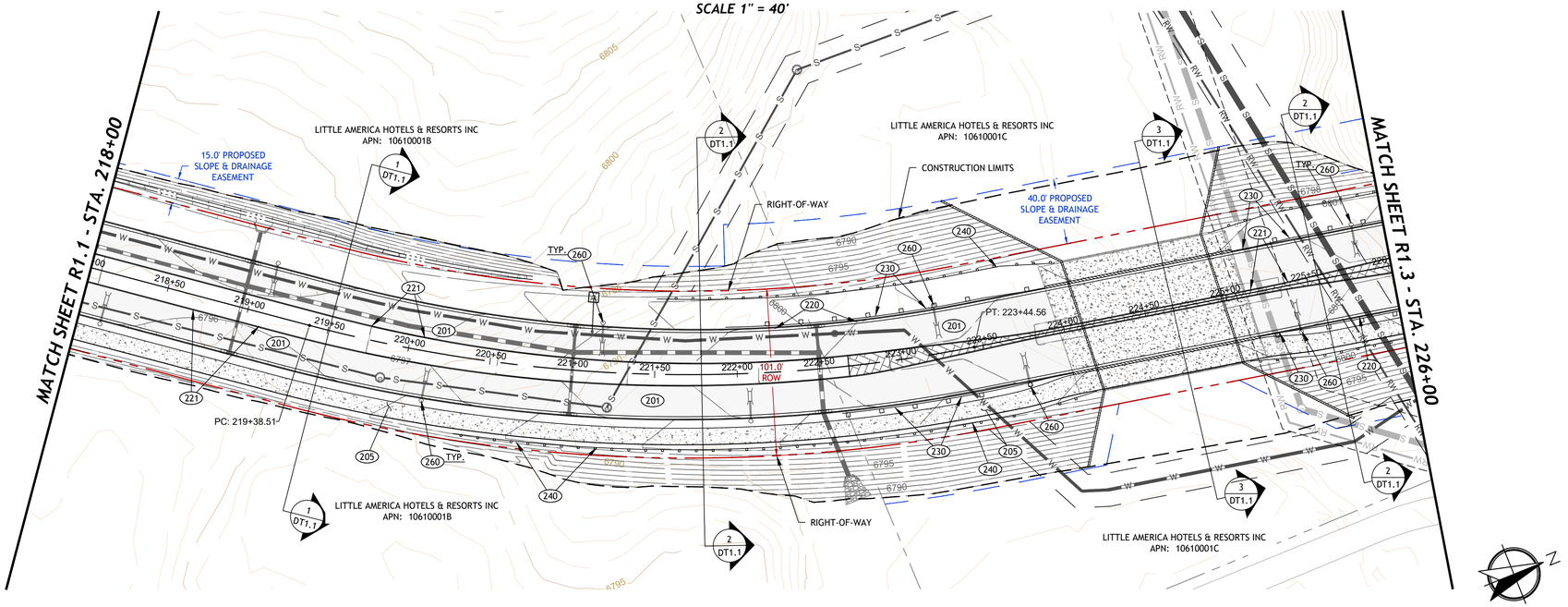
60% DESIGN
COF PROJECT NO: 03-16010

CITY OF FLAGSTAFF
JW POWELL EXTENSION
ROADWAY PLAN & PROFILE
STA: 209+00 TO 218+00

JOB NO:17COF02 | BY:DCW/SJ | CHECKED:JOL
DATE: MARCH 2026

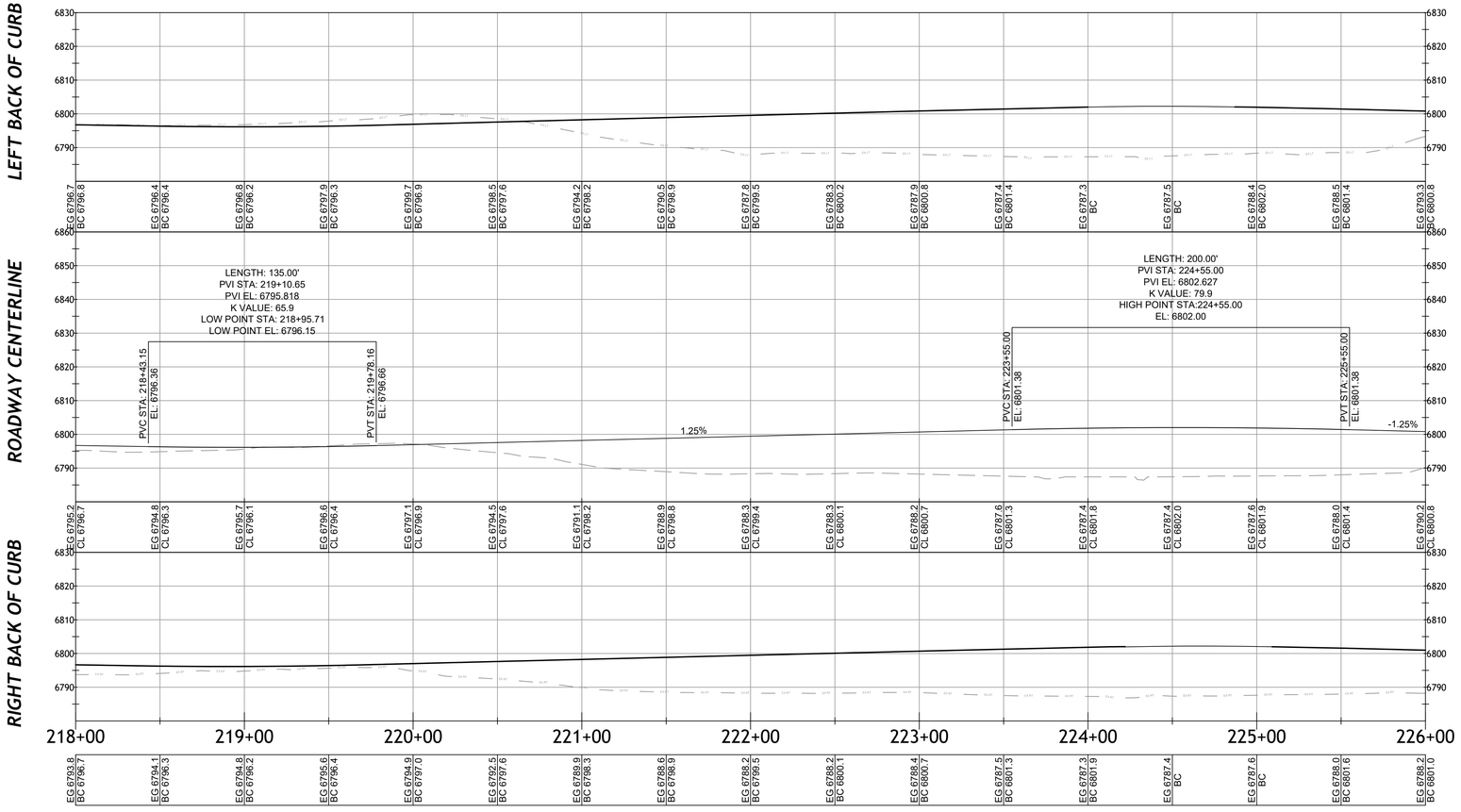
R1.1

PLAN VIEW
SCALE 1" = 40'



PROFILE VIEW
HORIZ. SCALE 1" = 40'
VERT. SCALE 1" = 20'

EXISTING GRADE
PROPOSED GRADE
EXISTING GRADE @ LT BC
EXISTING GRADE @ RT BC



CONSTRUCTION NOTES

ROADWAY (200)

201 Asphalt Pavement per Detail A, Sheet DT1.0.
205 Concrete FUTS per COF Eng. Detail 14-02-001 & Detail B, Sheet DT1.0.
215 ADA Sidewalk ramps per MAG Detail 237-3.
220 Vertical curb & gutter per MAG Detail 220, Type 'A'.
221 Single curb per MAG Detail 222, Type 'A'.
230 W-Beam guardrail with end terminals per ADOT STD. Details C10.03 & C10.23.
240 FUTS fencing per COF Eng. Detail 14-02-010.
260 Streetlight per COF Eng. Detail 12-05-010, 6000 Lumens, 38' pole.
270 2-3" PVC irrigation sleeves.

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REVISION	DESCRIPTION	DATE

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Connecting Place to People

preliminary
Not For
Construction

GRAPHIC SCALE 1" = 40'
40 0 40 80 120

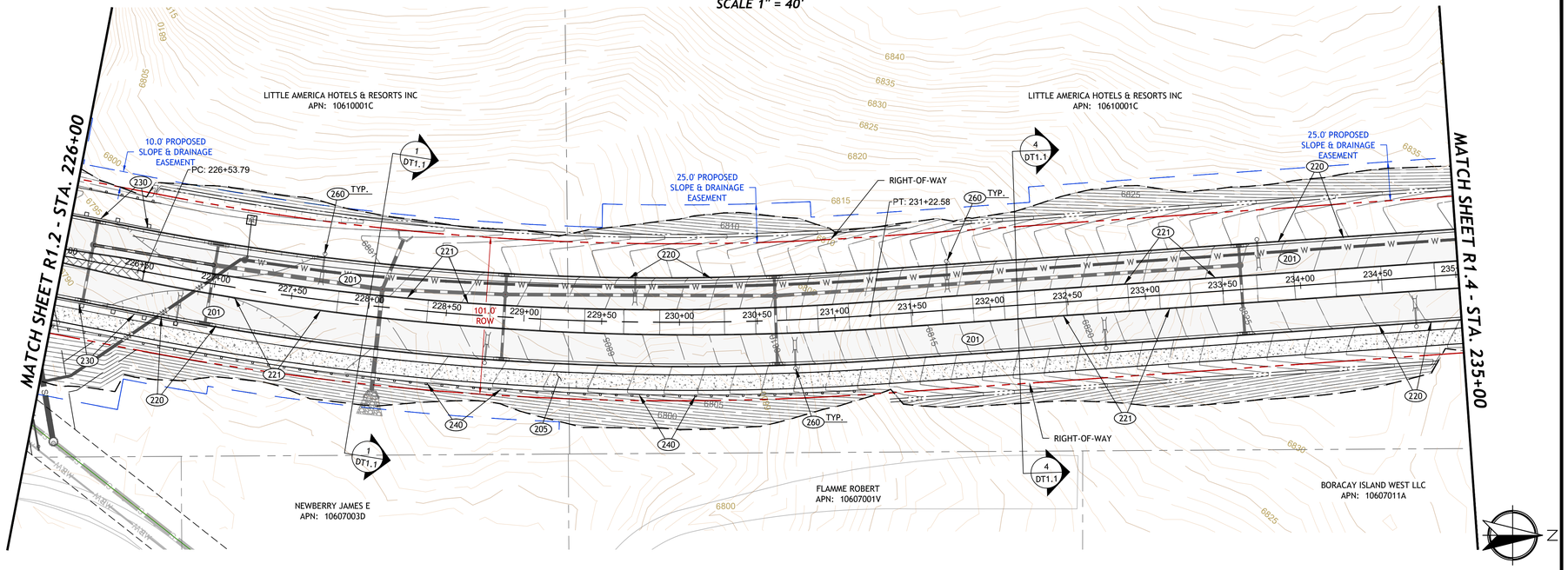
60% DESIGN
COF PROJECT NO: 03-16010

CITY OF FLAGSTAFF
JW POWELL EXTENSION
ROADWAY PLAN & PROFILE
STA: 218+00 TO 226+00

JOB NO:17COF02 | BY:DCW/SJ | CHECKED:JOL
DATE: MARCH 2026

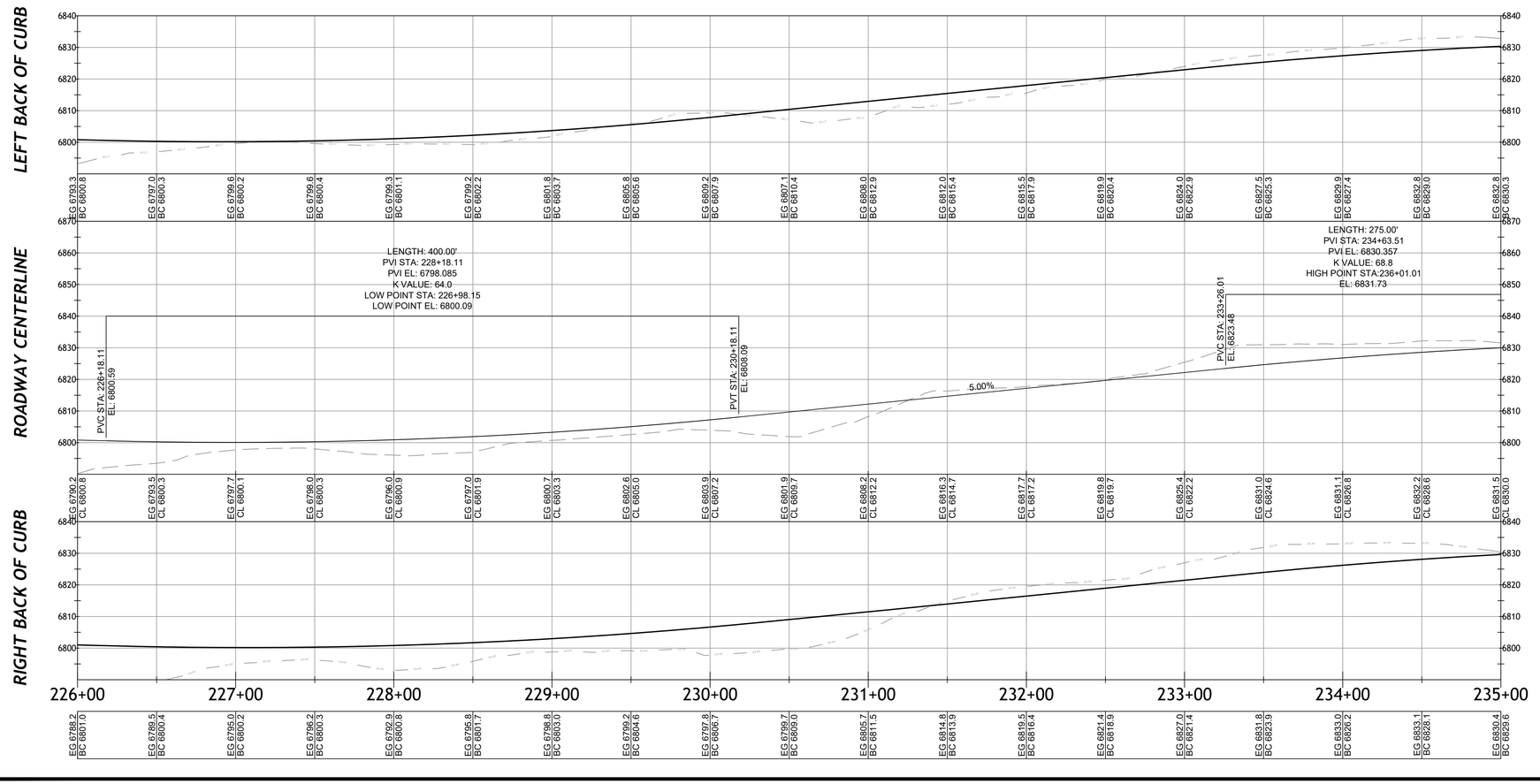
R1.2

PLAN VIEW
SCALE 1" = 40'



PROFILE VIEW
HORIZ. SCALE 1" = 40'
VERT. SCALE 1" = 20'

EXISTING GRADE
PROPOSED GRADE
EXISTING GRADE @ LT BC
EXISTING GRADE @ RT BC



CONSTRUCTION NOTES

ROADWAY (200)

201 Asphalt Pavement per Detail A, Sheet DT1.0.
205 Concrete FUTS per COF Eng. Detail 14-02-001 & Detail B, Sheet DT1.0.
215 ADA Sidewalk ramps per MAG Detail 237-3.
220 Vertical curb & gutter per MAG Detail 220, Type 'A'.
221 Single curb per MAG Detail 222, Type 'A'.
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preliminary
Not For
Construction

GRAPHIC SCALE 1" = 40'
40 0 40 80 120

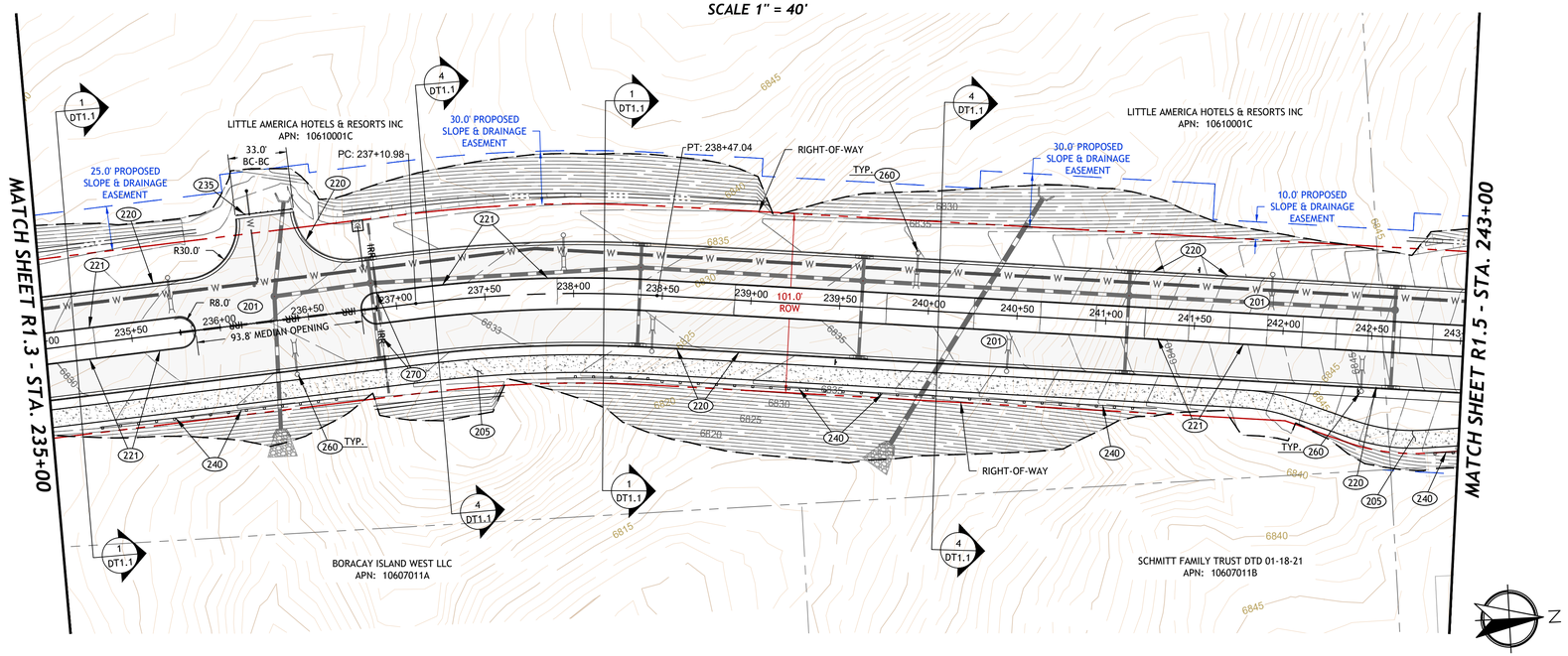
60% DESIGN
COF PROJECT NO: 03-16010

CITY OF FLAGSTAFF
JW POWELL EXTENSION
ROADWAY PLAN & PROFILE
STA: 226+00 TO 235+00

JOB NO:17COF02 | BY:DCW/SJ
DATE: MARCH 2026 | CHECKED:JOL

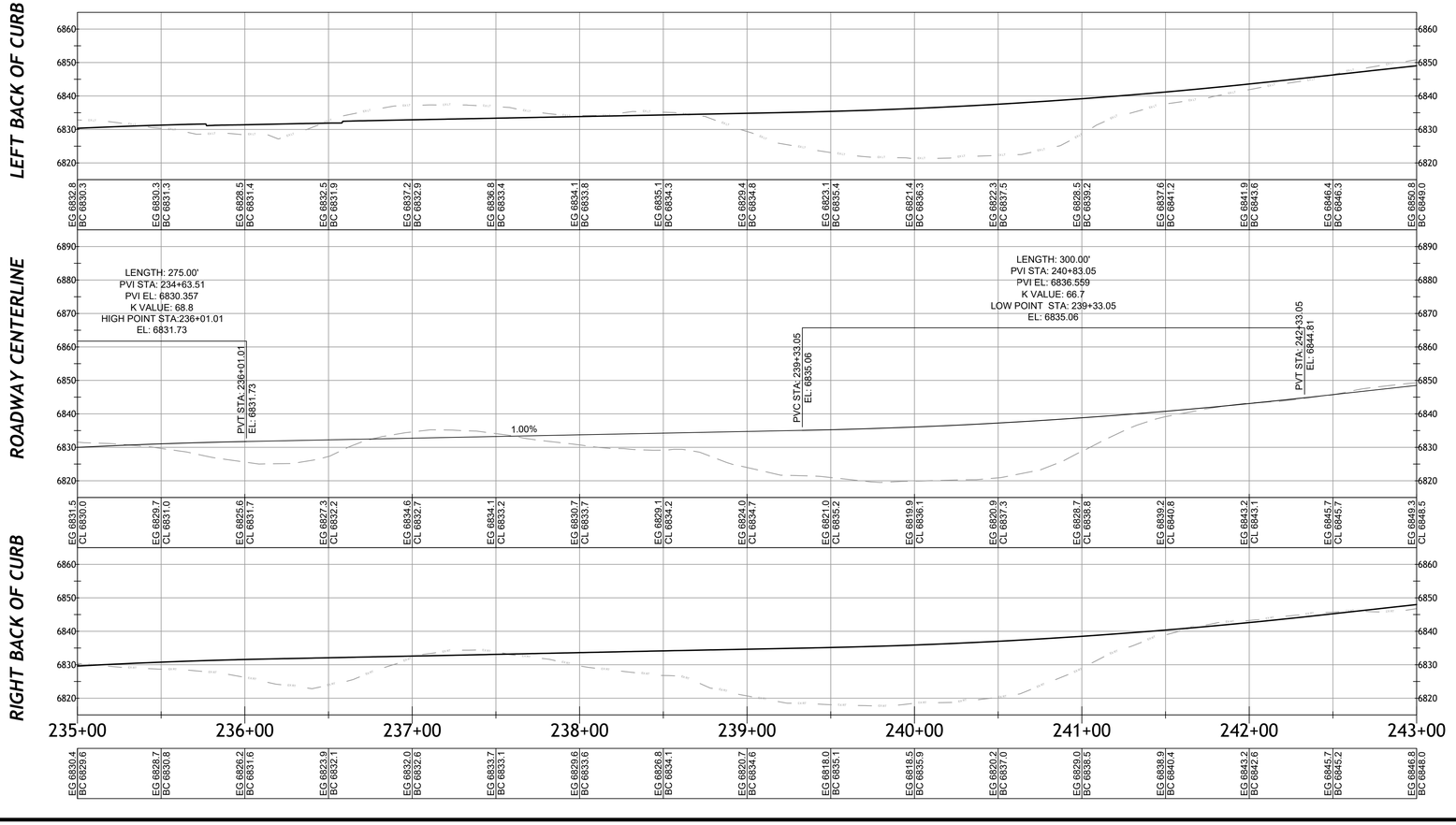
R1.3

PLAN VIEW
SCALE 1" = 40'



PROFILE VIEW
HORIZ. SCALE 1" = 40'
VERT. SCALE 1" = 20'

EXISTING GRADE
PROPOSED GRADE
EXISTING GRADE @ LT BC
EXISTING GRADE @ RT BC



CONSTRUCTION NOTES

ROADWAY (200)

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270 2-3" PVC irrigation sleeves.

GRAPHIC SCALE 1" = 40'
40 0 40 80 120

60% DESIGN
COF PROJECT NO: 03-16010

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811 Call 811 or click Arizona811.com

REVISION	DESCRIPTION	DATE

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Flagstaff, AZ 86001
(928) 774-4046
Peak ENGINEERING, INC.
Connecting Place to People

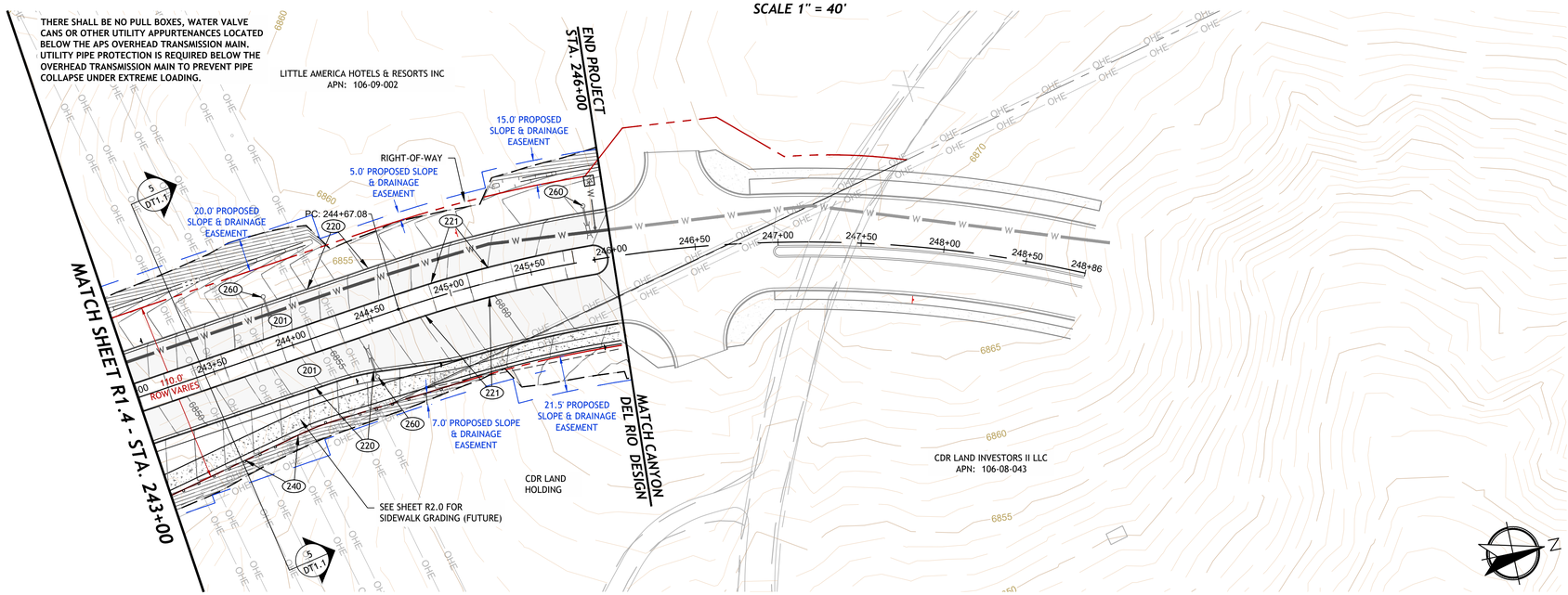
preliminary
Not For
Construction

CITY OF FLAGSTAFF
JW POWELL EXTENSION
ROADWAY PLAN & PROFILE
STA: 235+00 TO 243+00

JOB NO:17COF02	BY:DCW/SJ
DATE: MARCH 2026	CHECKED:JOL

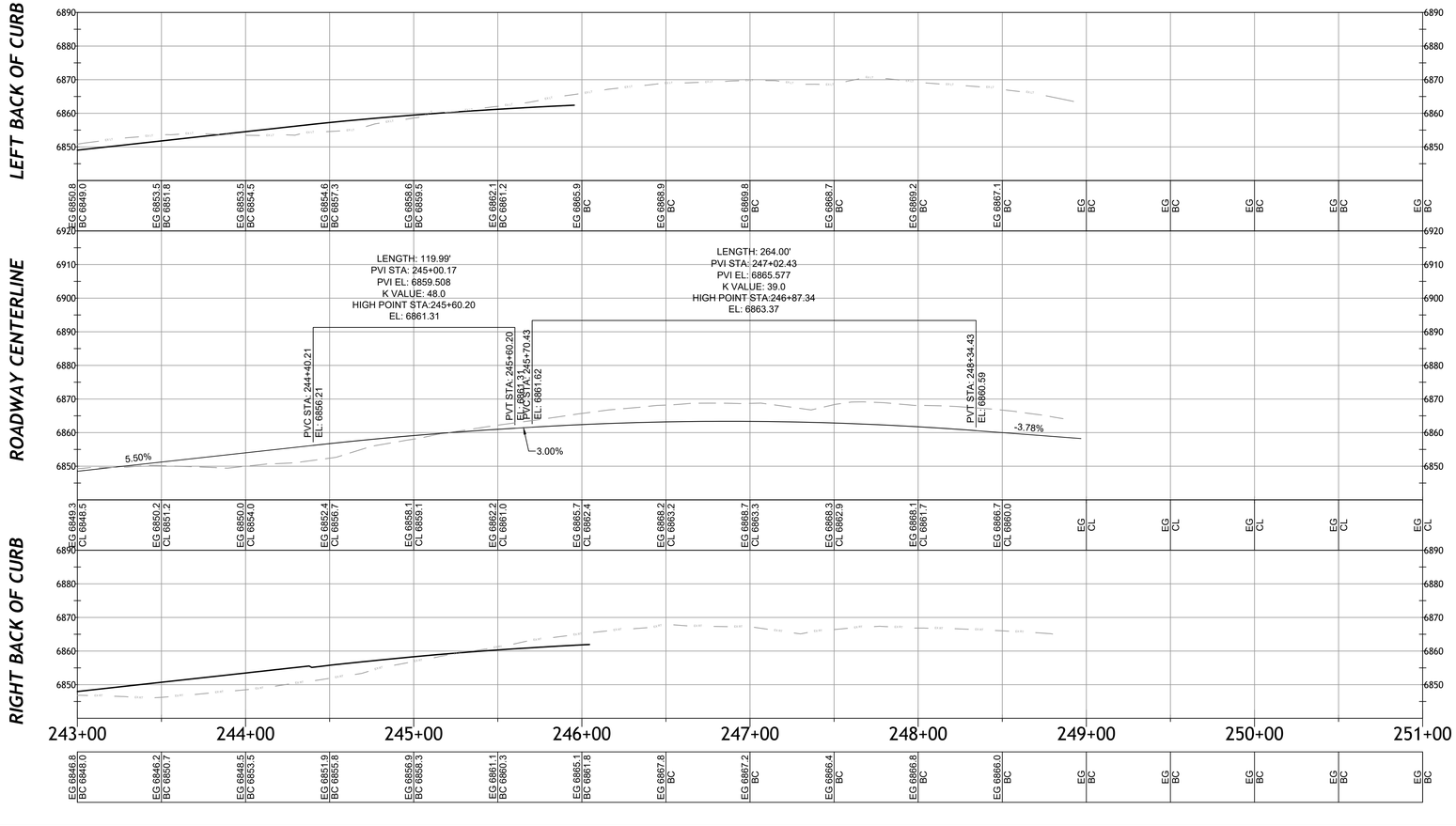
R1.4

PLAN VIEW
SCALE 1" = 40'



PROFILE VIEW
HORIZ. SCALE 1" = 40'
VERT. SCALE 1" = 20'

EXISTING GRADE
PROPOSED GRADE



CONSTRUCTION NOTES

ROADWAY (200)

201 Asphalt Pavement per Detail A, Sheet DT1.0.
205 Concrete FUTS per COF Eng. Detail 14-02-001 & Detail B, Sheet DT1.0.
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221 Single curb per MAG Detail 222, Type 'A'.
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260 Streetlight per COF Eng. Detail 12-05-010, 6000 Lumens, 38' pole.
270 2-3" PVC irrigation sleeves.

GRAPHIC SCALE 1" = 40'
40 0 40 80 120

60% DESIGN
COF PROJECT NO: 03-16010

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ARIZONA811
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(928) 774-4046
Peak ENGINEERING, INC.
Connecting Place to People

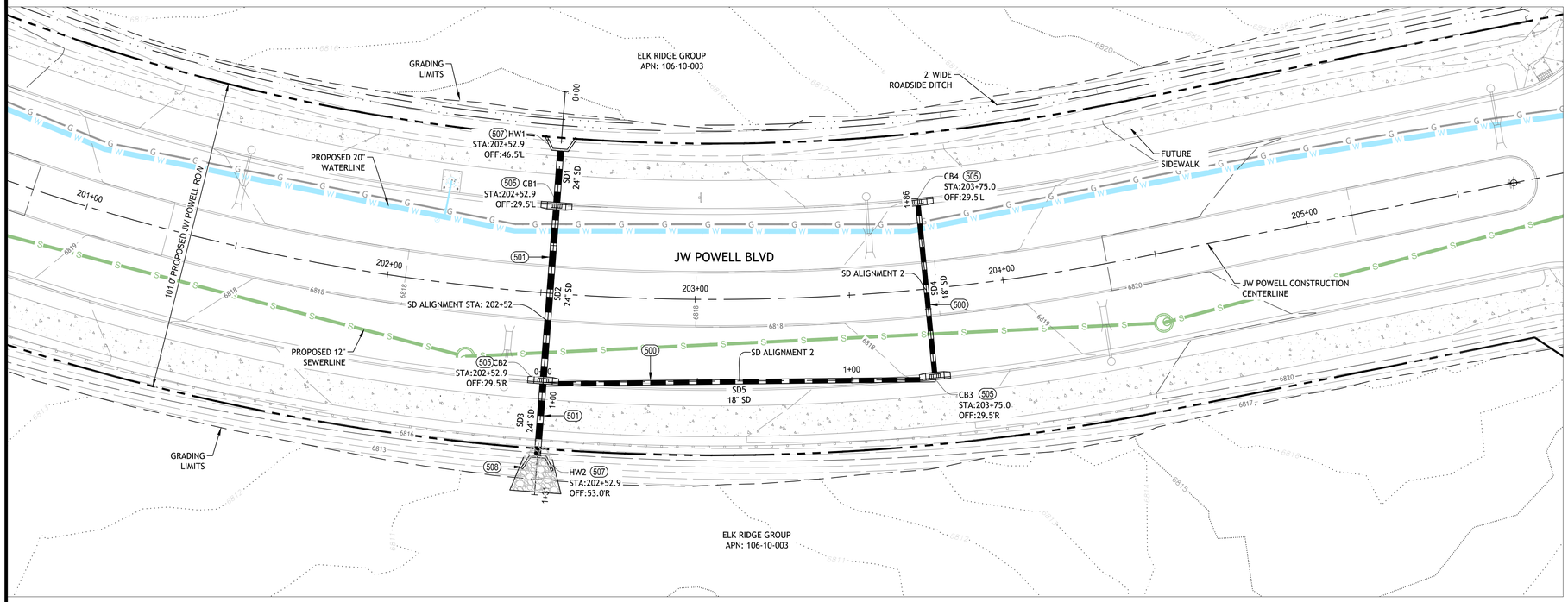
preliminary
Not For
Construction

CITY OF FLAGSTAFF
JW POWELL EXTENSION
ROADWAY PLAN & PROFILE
STA: 243+00 TO END

JOB NO:17COF02	BY:DCW/SJ
DATE: MARCH 2026	CHECKED:JOL

R1.5

JW POWELL STORMDRAIN NETWORK PLAN VIEW



CONSTRUCTION NOTES

DRAINAGE CONSTRUCTION:

(NOTE 500) 190 LF
NEW 18" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031.

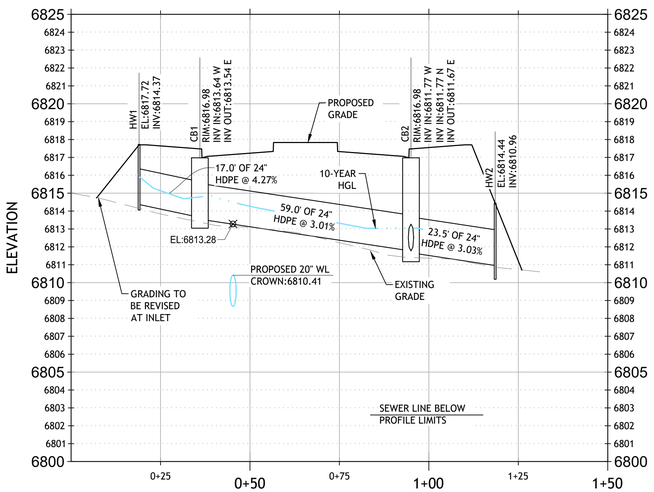
(NOTE 501) 100 LF
NEW 24" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031. STORMDRAIN TO HAVE MANNING'S N OF 0.012.

(NOTE 505) 4 EA
NEW MAG TYPE 'E' SINGLE CATCH BASIN PER MAG STD DTL 534. INCLUDES ENVIROPOD LITTATRAP FILTER.

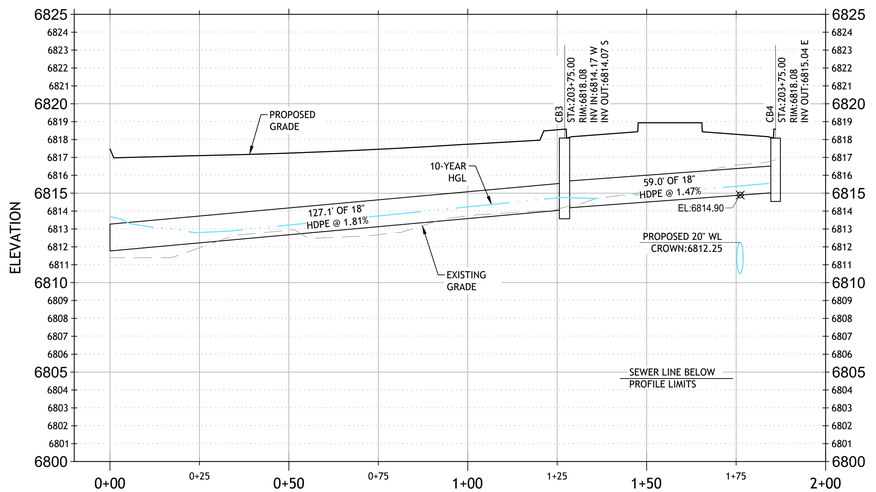
(NOTE 507) 2 EA
NEW CMU OR REINFORCED CONCRETE HEADWALL PER MAG STD DTL 501.

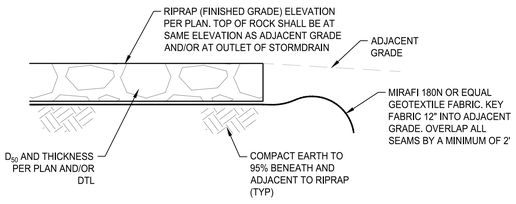
(NOTE 508) 15 CY
INSTALL 33" THICK D50 = 15" RIPRAP PAD WITH FILTER FABRIC PER DTL 1, SHT SD1.0.

STORMDRAIN PROFILE VIEW STA: 202+52



STORMDRAIN PROFILE VIEW 2





12" RIPRAP GRADATION TABLE	
SIZE (FT)	PERCENT PASSING
2.0	90-100
1.5	70-85
1.0	30-50
0.68	5-15
0.34	0-5

1 TYPICAL RIPRAP SECTION
NTS

GRAPHIC SCALE
20 0 10 20 40
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE: 1" = 4'

60% DESIGN

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811 BLUE STAKE, INC.
Call 811 or click Arizona811.com

DATE | DESCRIPTION/DATE | REVISION

3111 N CADEN CT.
SUITE 120
FLAGSTAFF, AZ 86004
(928) 214-0887
WWW.JEFULLER.COM
JE FULLER
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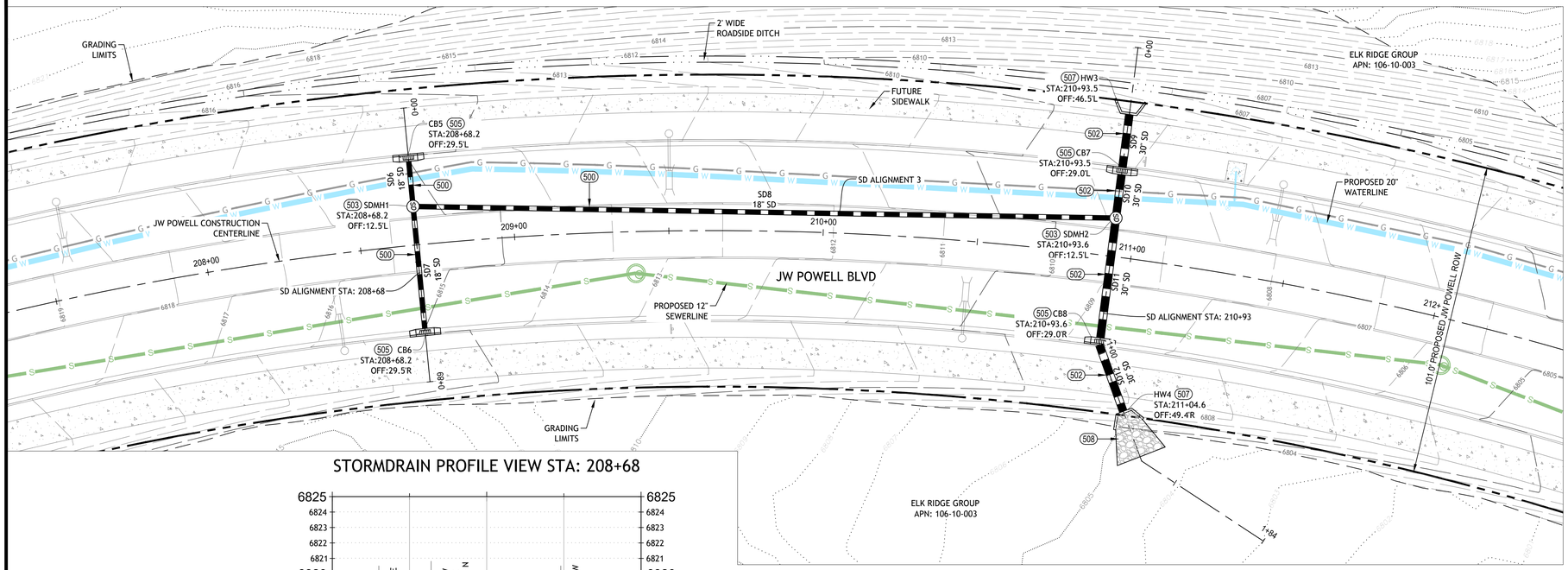
CITY OF FLAGSTAFF
JW POWELL EXTENSION
STORMDRAIN NETWORK PLAN AND PROFILE

JOB NO:17COF02 | BY:EJW | CHECKED:EJW | DATE: FEBRUARY 2026

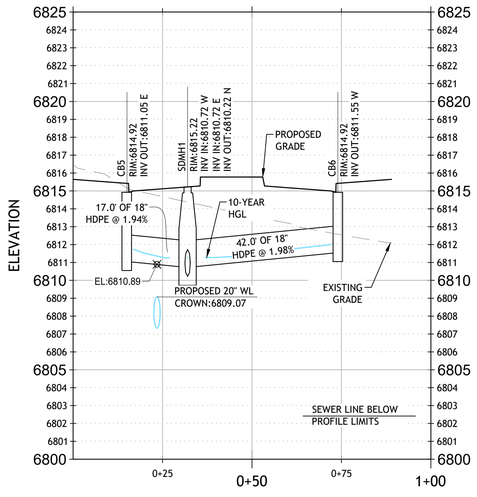
SD1.0

C:\Users\eric\DCCACCDocs\Peak Engineering, Inc. - AZ\JW Powell Extension\Project Files\CAD\PP_SD.dwg, 2/25/2026 2:14:13 PM

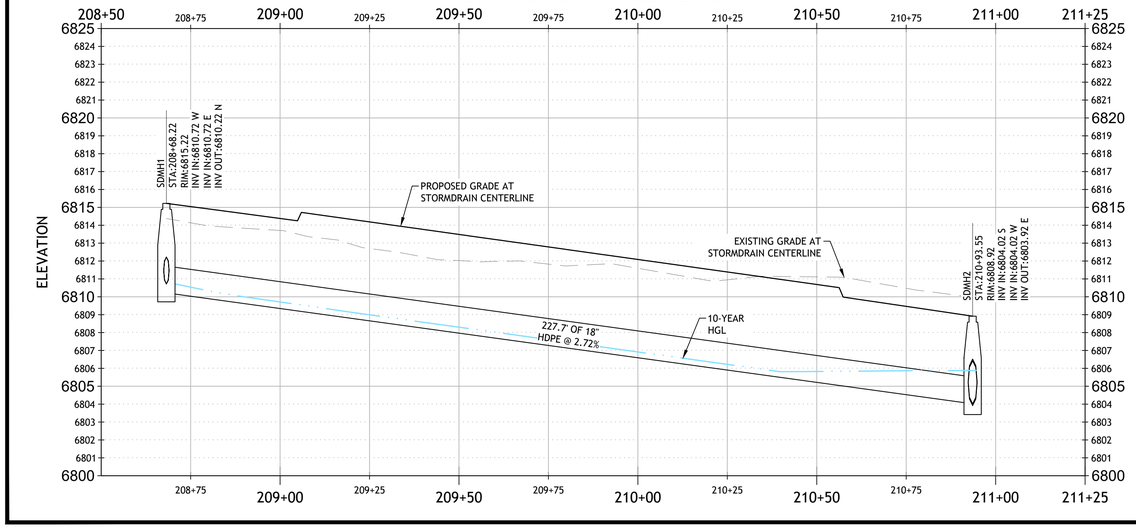
JW POWELL STORMDRAIN NETWORK PLAN VIEW



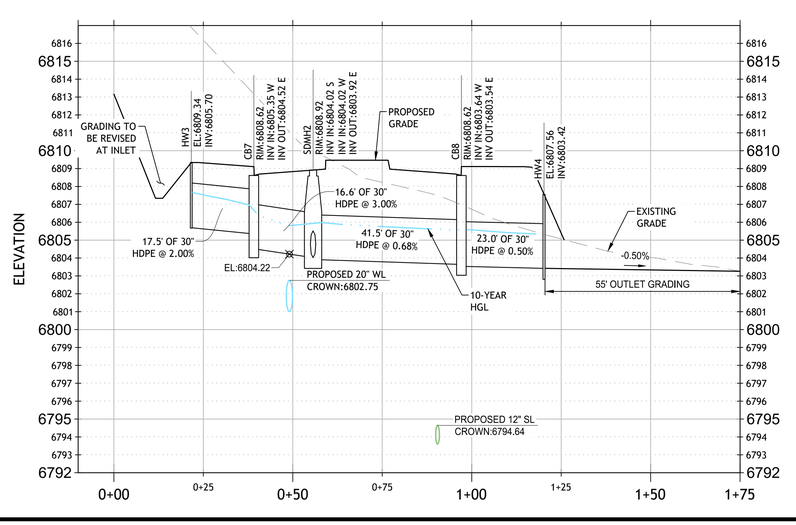
STORMDRAIN PROFILE VIEW STA: 208+68



STORMDRAIN PROFILE VIEW 3



STORMDRAIN PROFILE VIEW STA: 210+93



GRAPHIC SCALE
20 0 10 20 40
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE: 1" = 4'

CONSTRUCTION NOTES

DRAINAGE CONSTRUCTION:

(NOTE 500) 290 LF
NEW 18" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031.

(NOTE 502) 100 LF
NEW 30" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031. STORMDRAIN TO HAVE MANNING'S N OF 0.012.

(NOTE 503) 2 EA
NEW 60" STORMDRAIN MANHOLE PER MAG STD DTLS 520 & 522.

(NOTE 505) 4 EA
NEW MAG TYPE 'E' SINGLE CATCH BASIN PER MAG STD DTL 534. INCLUDES ENVIROPOD LITTATRAP FILTER.

(NOTE 507) 2 EA
NEW CMU OR REINFORCED CONCRETE HEADWALL PER MAG STD DTL 501.

(NOTE 508) 15 CY
INSTALL 33" THICK D50 = 15" RIPRAP PAD WITH FILTER FABRIC PER DTL 1, SHT SD1.0.

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CITY OF FLAGSTAFF
JW POWELL EXTENSION
STORMDRAIN NETWORK
PLAN AND PROFILE

JOB NO.:17COF02 | BY:EJW | CHECKED:EJW | DATE: FEBRUARY 2026

SD1.1

60% DESIGN

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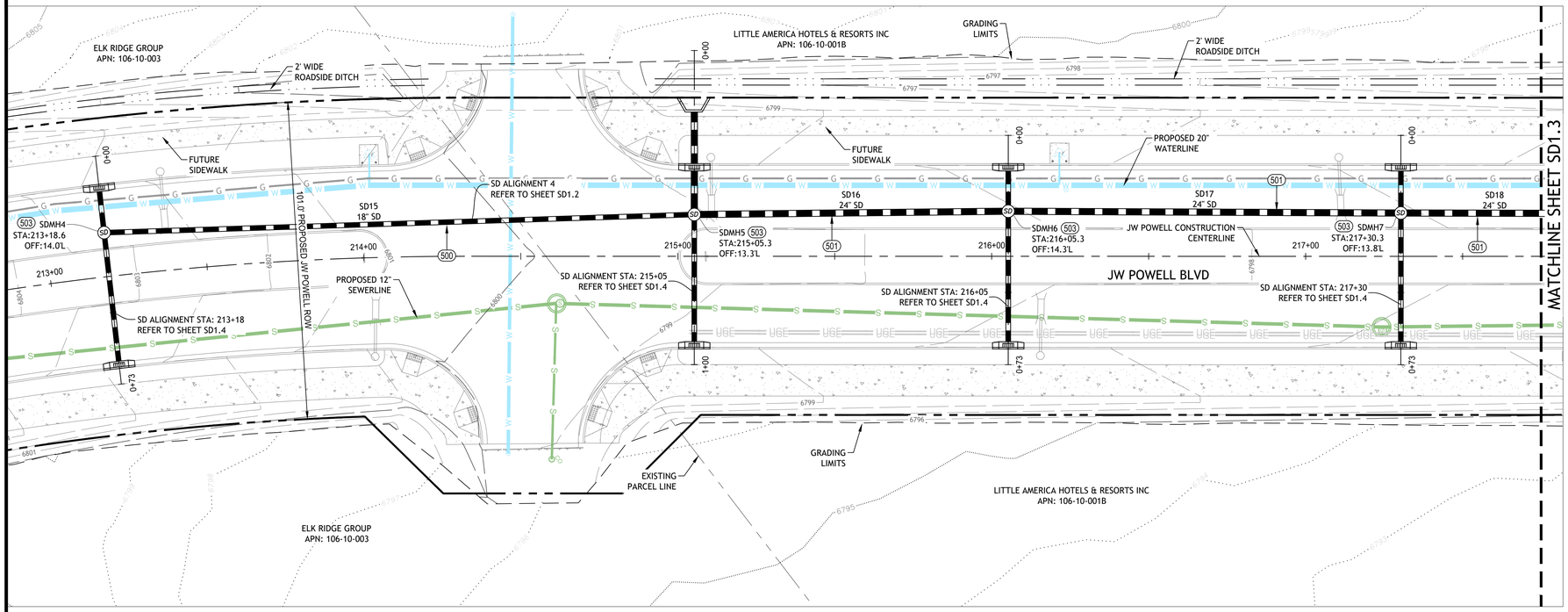
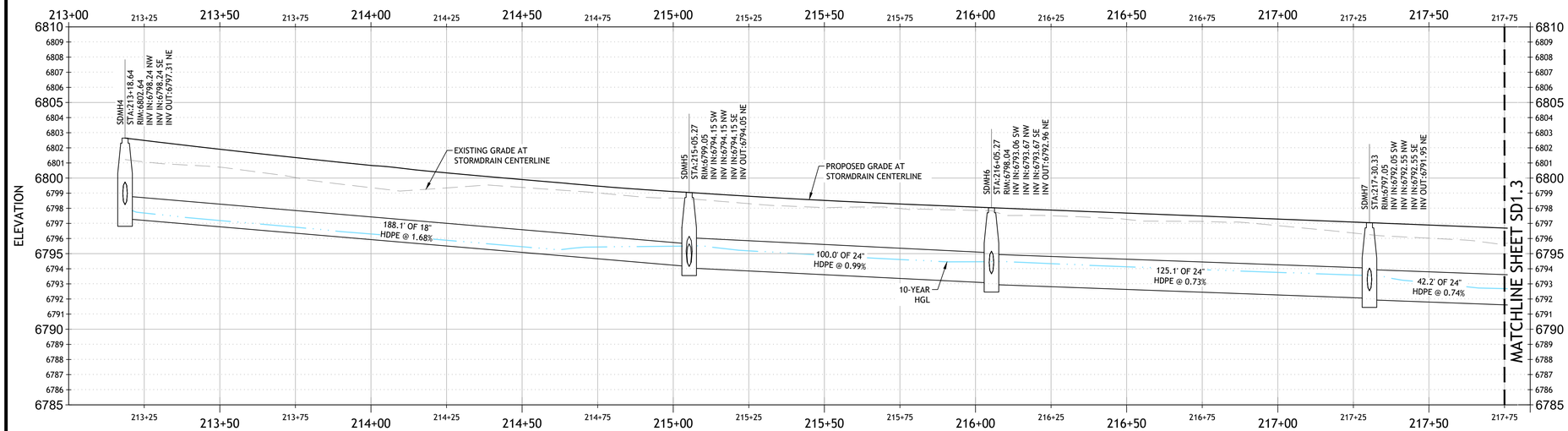
JW POWELL STORMDRAIN NETWORK PLAN VIEW



STORMDRAIN PROFILE VIEW 4



CONSTRUCTION NOTES

DRAINAGE CONSTRUCTION:

(NOTE 500) 190 LF
NEW 18" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031.

(NOTE 501) 270 LF
NEW 24" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031. STORMDRAIN TO HAVE MANNING'S N OF 0.012.

(NOTE 503) 4 EA
NEW 60" STORMDRAIN MANHOLE PER MAG STD DTLS 520 & 522.

GRAPHIC SCALE
20 0 10 20 40
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE: 1" = 4'

60% DESIGN

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CITY OF FLAGSTAFF
JW POWELL EXTENSION
STORMDRAIN NETWORK PLAN AND PROFILE

JOB NO:17COF02 | BY:EJW | CHECKED:EJW | DATE: FEBRUARY 2026

SD1.2

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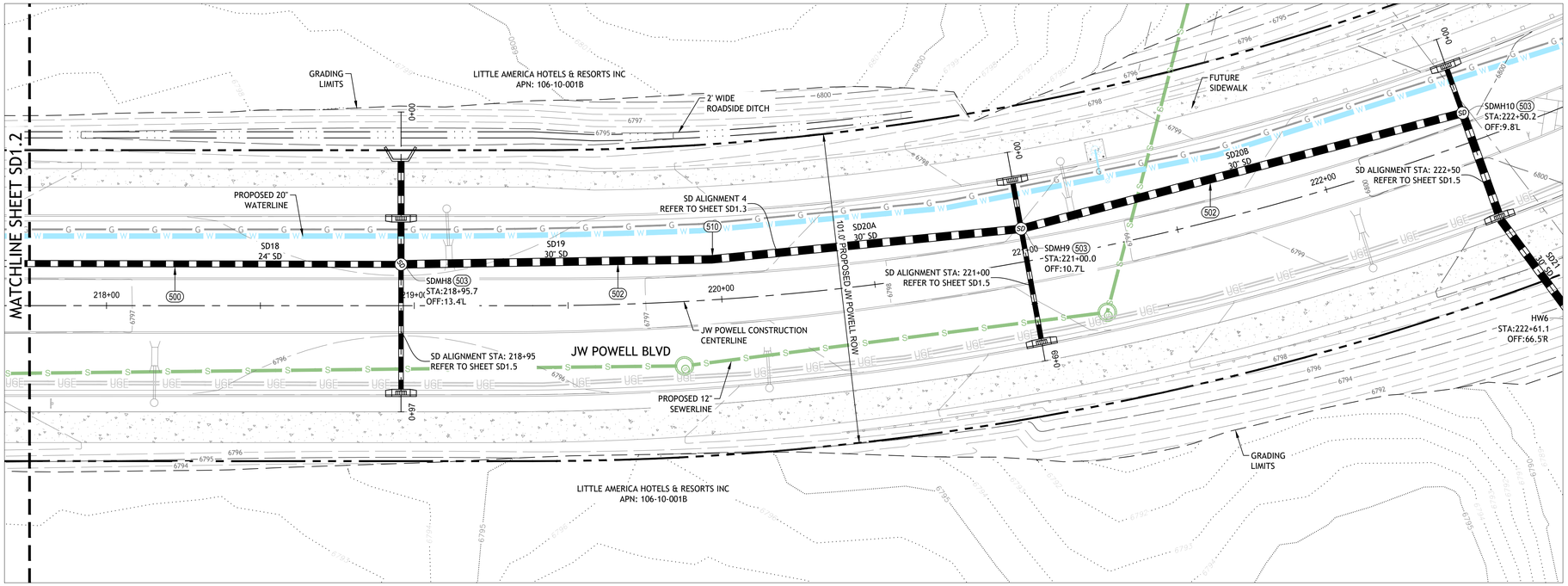
JW POWELL STORMDRAIN NETWORK PLAN VIEW



CONSTRUCTION NOTES

DRAINAGE CONSTRUCTION:

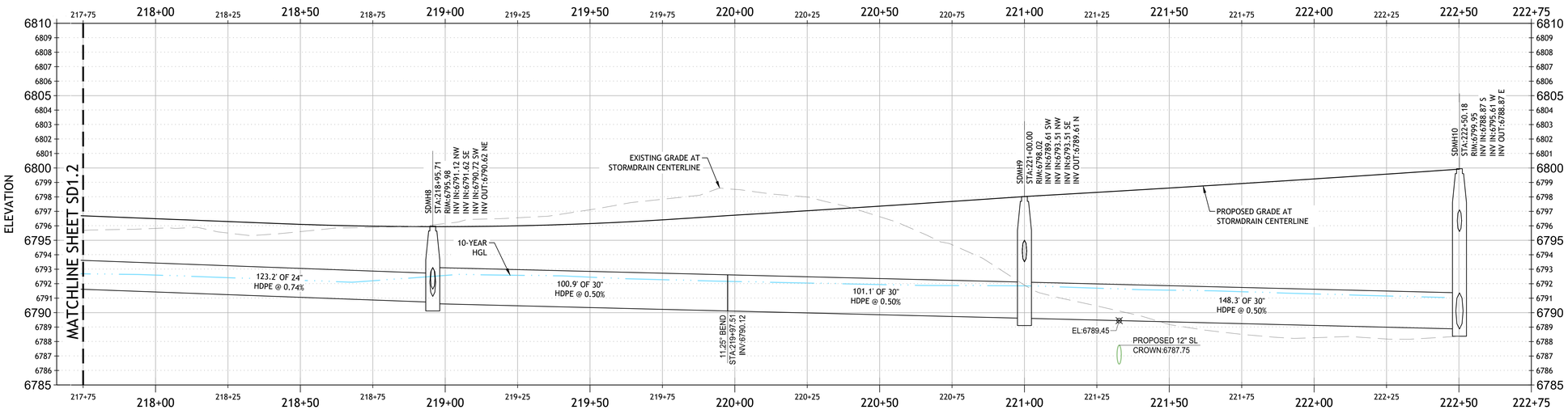
(NOTE 501) 125 LF
NEW 24" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031.
STORMDRAIN TO HAVE MANNING'S N OF 0.012.

(NOTE 502) 350 LF
NEW 30" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031.
STORMDRAIN TO HAVE MANNING'S N OF 0.012.

(NOTE 503) 3 EA
NEW 60" STORMDRAIN MANHOLE PER MAG STD DTLS 520 & 522.

(NOTE 510) 1 NPI
CONTRACTOR TO FABRICATE A 11.25° BEND.

STORMDRAIN PROFILE VIEW 4



GRAPHIC SCALE
20 0 10 20 40
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE: 1" = 4'

60% DESIGN

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STORMDRAIN NETWORK PLAN AND PROFILE

JOB NO:17COF02 | BY:EJW | CHECKED:EJW | DATE: FEBRUARY 2026

SD1.3

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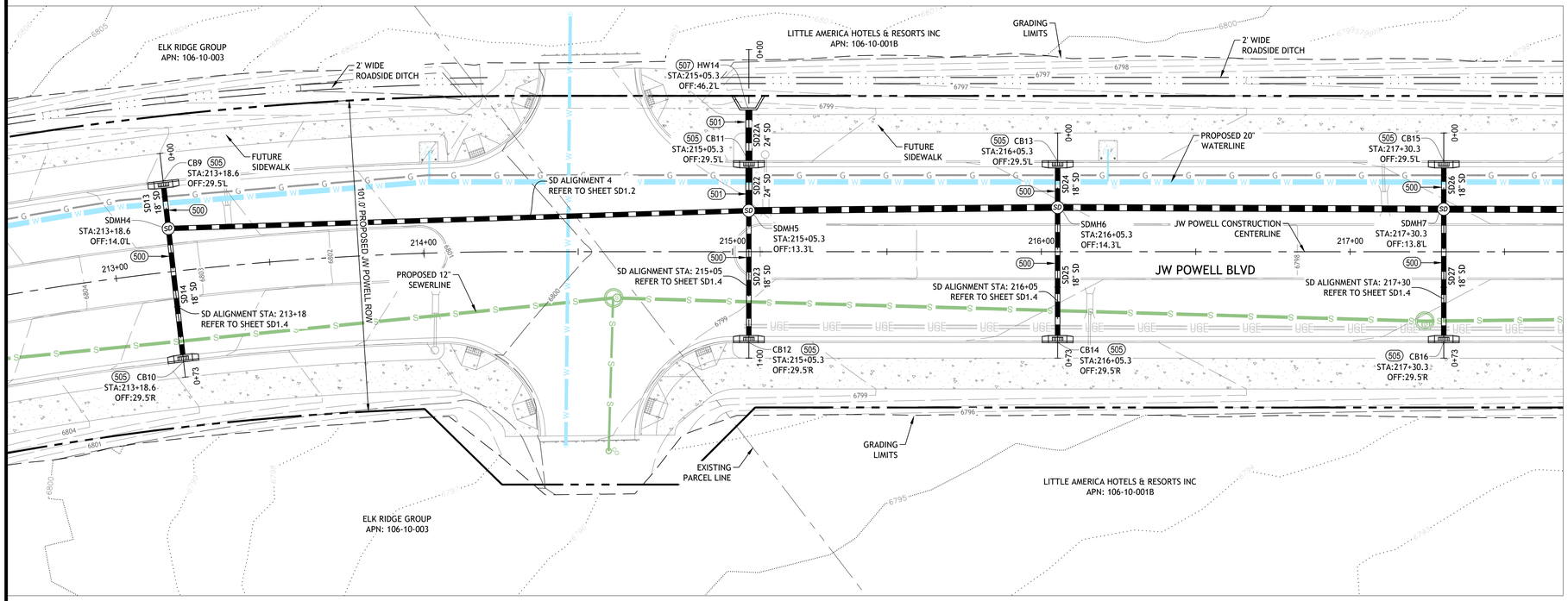
JW POWELL STORMDRAIN NETWORK PLAN VIEW



CONSTRUCTION NOTES

DRAINAGE CONSTRUCTION:

(NOTE 500) 220 LF
NEW 18" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031.

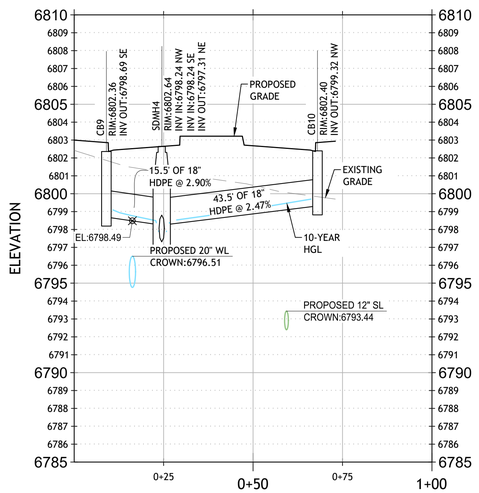
(NOTE 501) 35 LF
NEW 24" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031. STORMDRAIN TO HAVE MANNING'S N OF 0.012.

(NOTE 505) 8 EA
NEW MAG TYPE 'E' SINGLE CATCH BASIN PER MAG STD DTL 534. INCLUDES ENVIROPOD LITTATRAP FILTER.

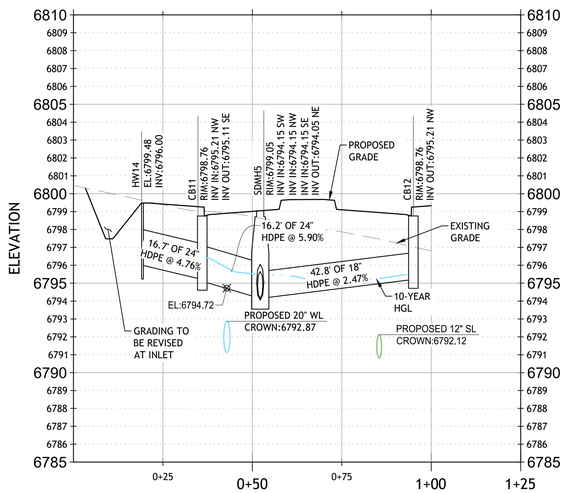
(NOTE 507) 1 EA
NEW CMU OR REINFORCED CONCRETE HEADWALL PER MAG STD DTL 501.

GRAPHIC SCALE
20 0 10 20 40
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE: 1" = 4'

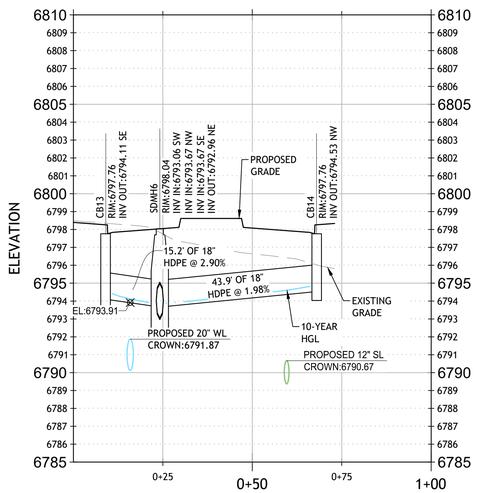
STORMDRAIN PROFILE VIEW STA: 213+18



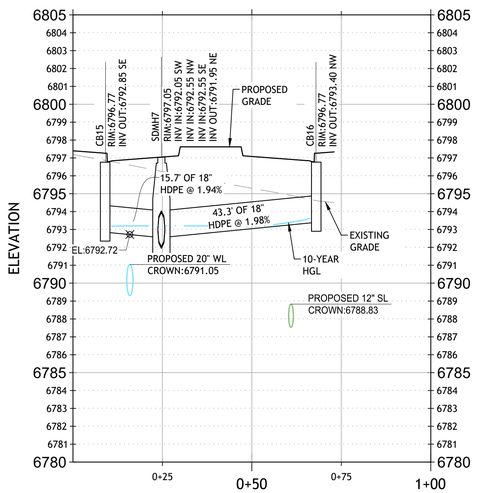
STORMDRAIN PROFILE VIEW STA: 215+05



STORMDRAIN PROFILE VIEW STA: 216+05



STORMDRAIN PROFILE VIEW STA: 217+30



60% DESIGN

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STORMDRAIN NETWORK PLAN AND PROFILE

JOB NO:17COF02 | BY:EJW | CHECKED:EJW | DATE: FEBRUARY 2026

SD1.4

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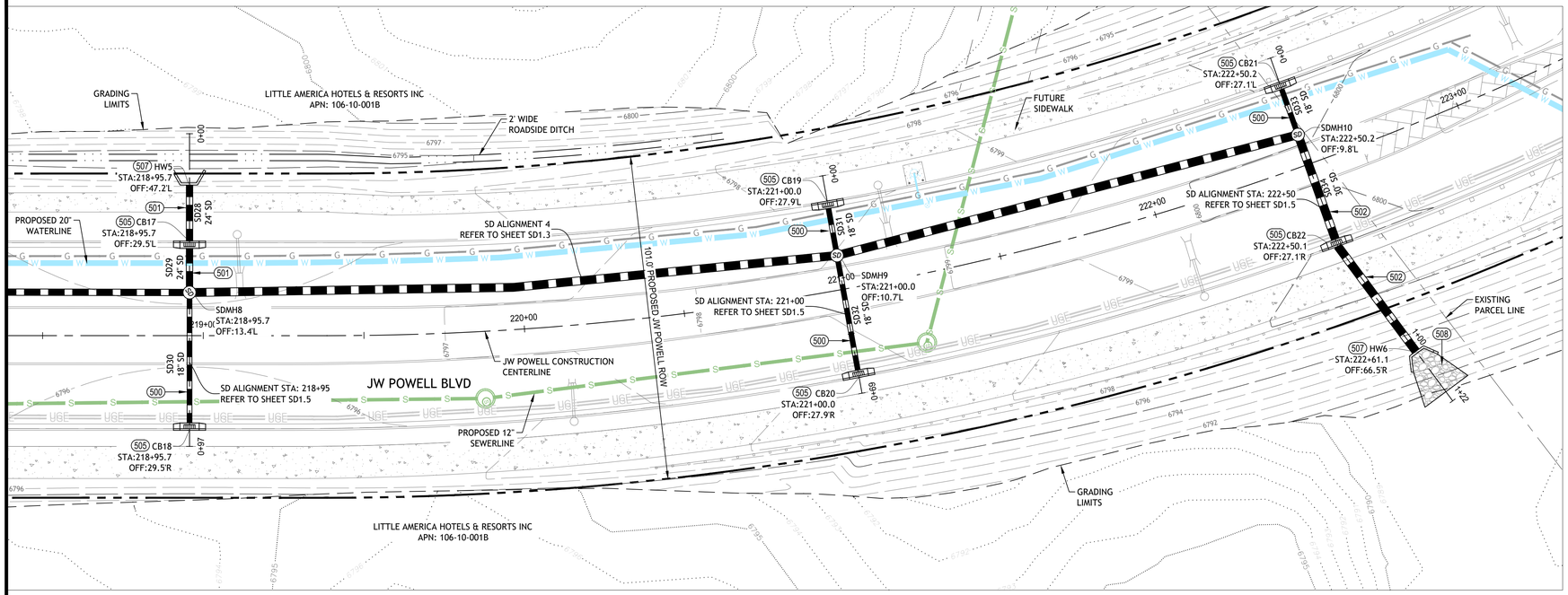
JW POWELL STORMDRAIN NETWORK PLAN VIEW



CONSTRUCTION NOTES

DRAINAGE CONSTRUCTION:

(NOTE 500) 115 LF
NEW 18" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031.

(NOTE 501) 80 LF
NEW 24" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031. STORMDRAIN TO HAVE MANNING'S N OF 0.012.

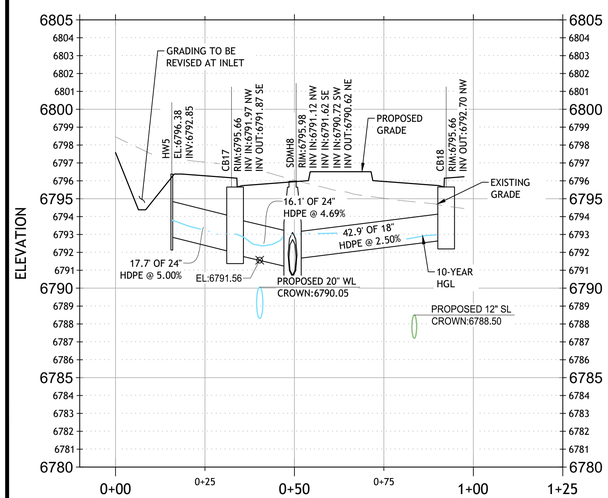
(NOTE 502) 350 LF
NEW 30" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031. STORMDRAIN TO HAVE MANNING'S N OF 0.012.

(NOTE 505) 6 EA
NEW MAG TYPE 'E' SINGLE CATCH BASIN PER MAG STD DTL 534. INCLUDES ENVIROPOD LITTATRAP FILTER.

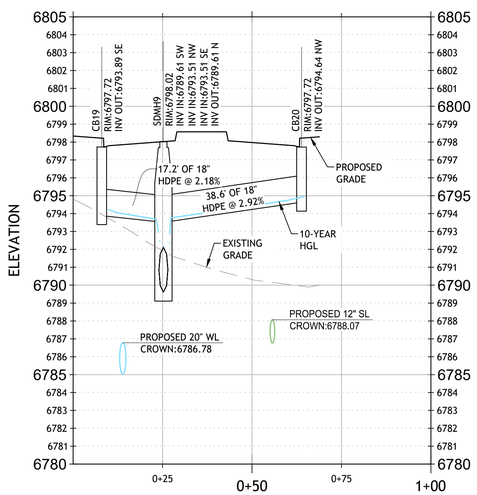
(NOTE 507) 2 EA
NEW CMU OR REINFORCED CONCRETE HEADWALL PER MAG STD DTL 501.

(NOTE 508) 15 CY
INSTALL 33" THICK D50 = 15" RIPRAP PAD WITH FILTER FABRIC PER DTL 1, SHT SD1.0.

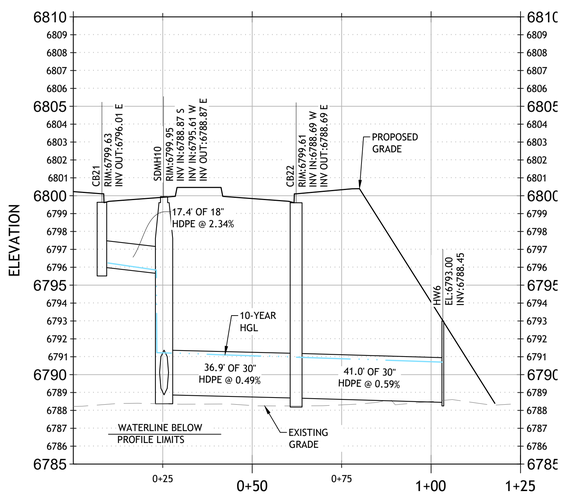
STORMDRAIN PROFILE VIEW STA: 218+95



STORMDRAIN PROFILE VIEW STA: 221+00



STORMDRAIN PROFILE VIEW STA: 222+50



GRAPHIC SCALE
20 0 10 20 40
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE: 1" = 4'

60% DESIGN

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STORMDRAIN NETWORK PLAN AND PROFILE

JOB NO:17COF02 | BY:EJW | CHECKED:EJW | DATE: FEBRUARY 2026

SD1.5

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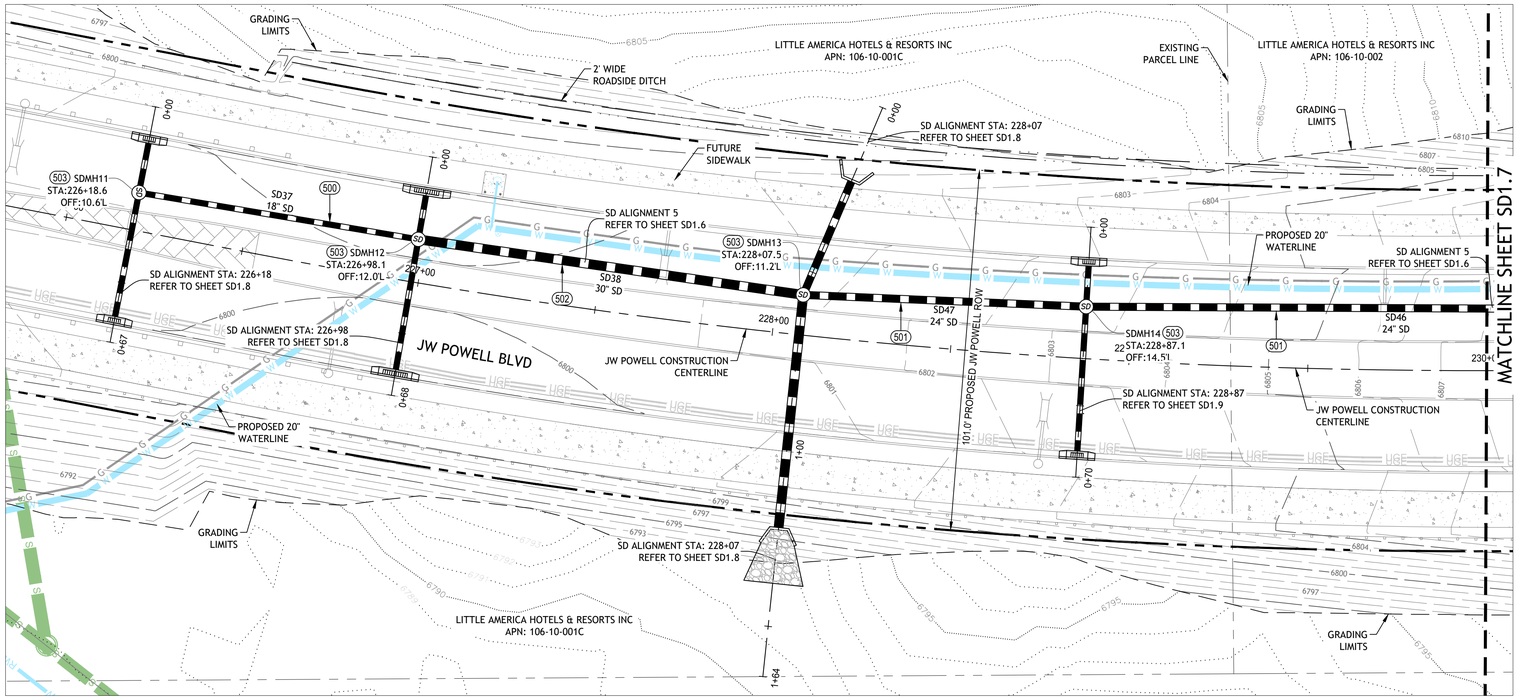
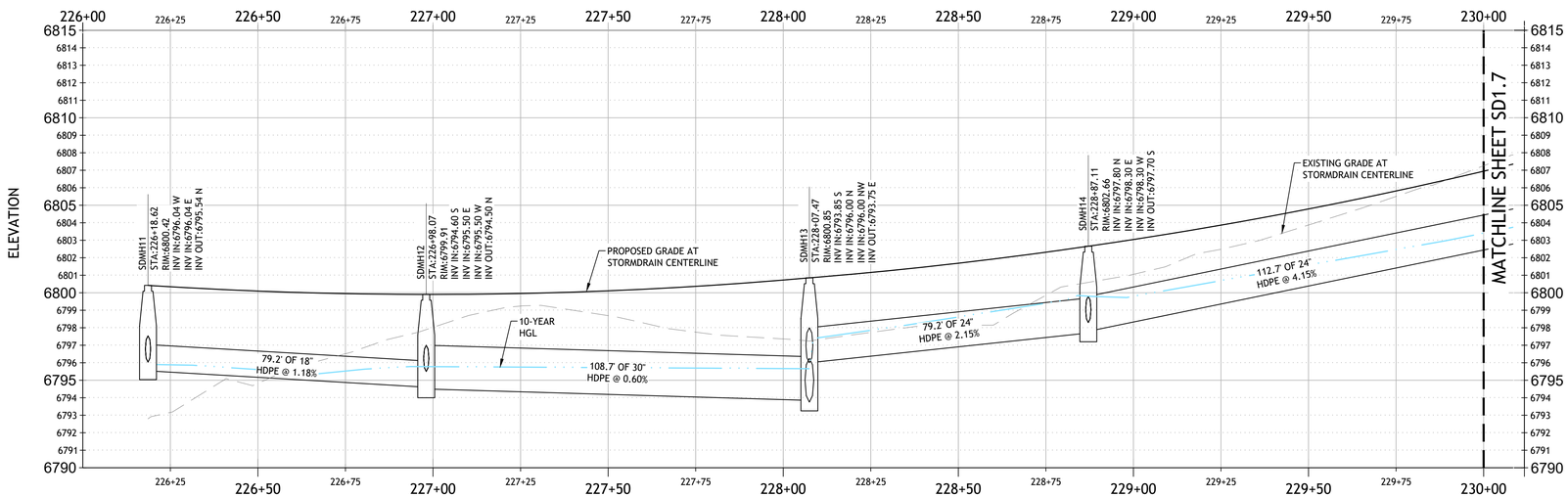
JW POWELL STORMDRAIN NETWORK PLAN VIEW



STORMDRAIN PROFILE VIEW 5



CONSTRUCTION NOTES

DRAINAGE CONSTRUCTION:

(NOTE 500) 80 LF
NEW 18" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031.

(NOTE 501) 195 LF
NEW 24" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031. STORMDRAIN TO HAVE MANNING'S N OF 0.012.

(NOTE 502) 110 LF
NEW 30" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031. STORMDRAIN TO HAVE MANNING'S N OF 0.012.

(NOTE 503) 4 EA
NEW 60" STORMDRAIN MANHOLE PER MAG STD DTLS 520 & 522.

GRAPHIC SCALE
20 0 10 20 40
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE: 1" = 4'

60% DESIGN

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STORMDRAIN NETWORK PLAN AND PROFILE

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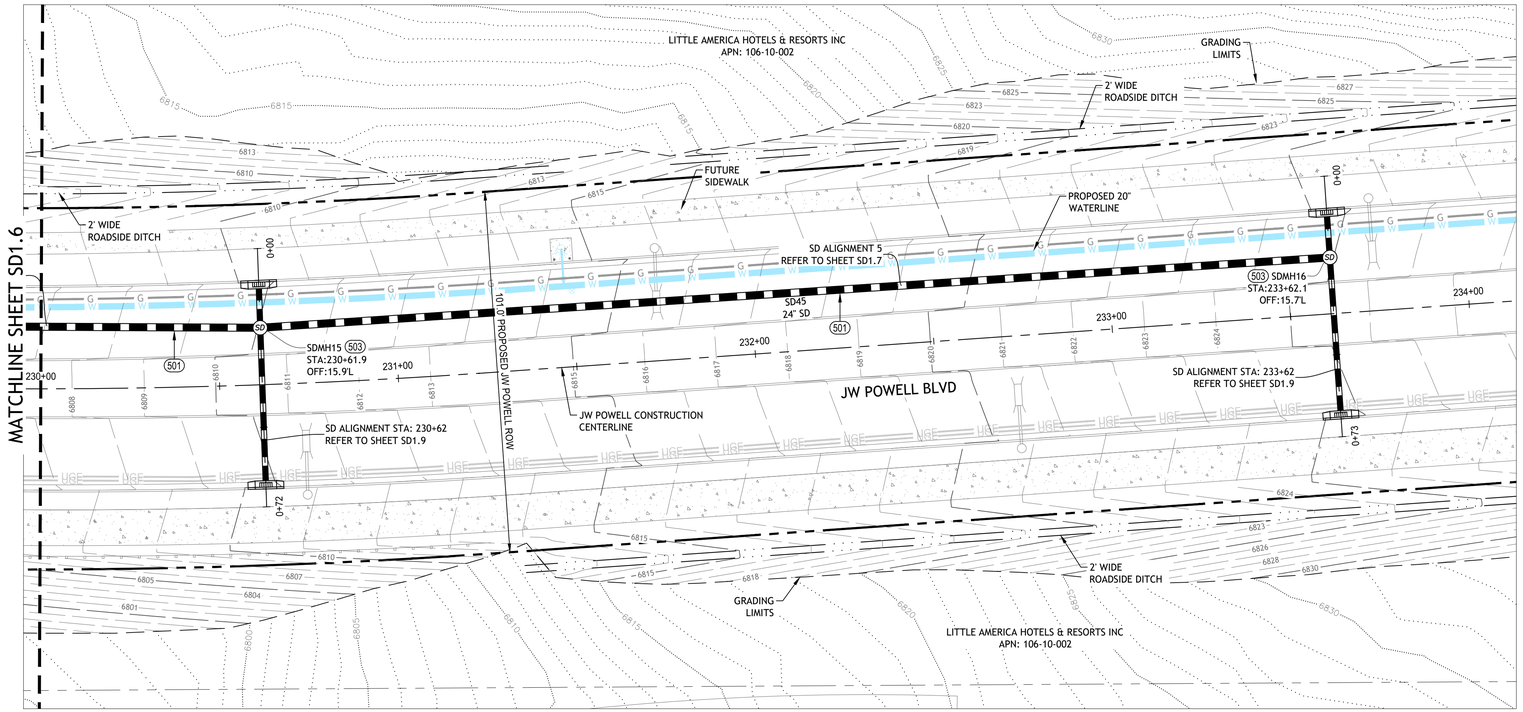
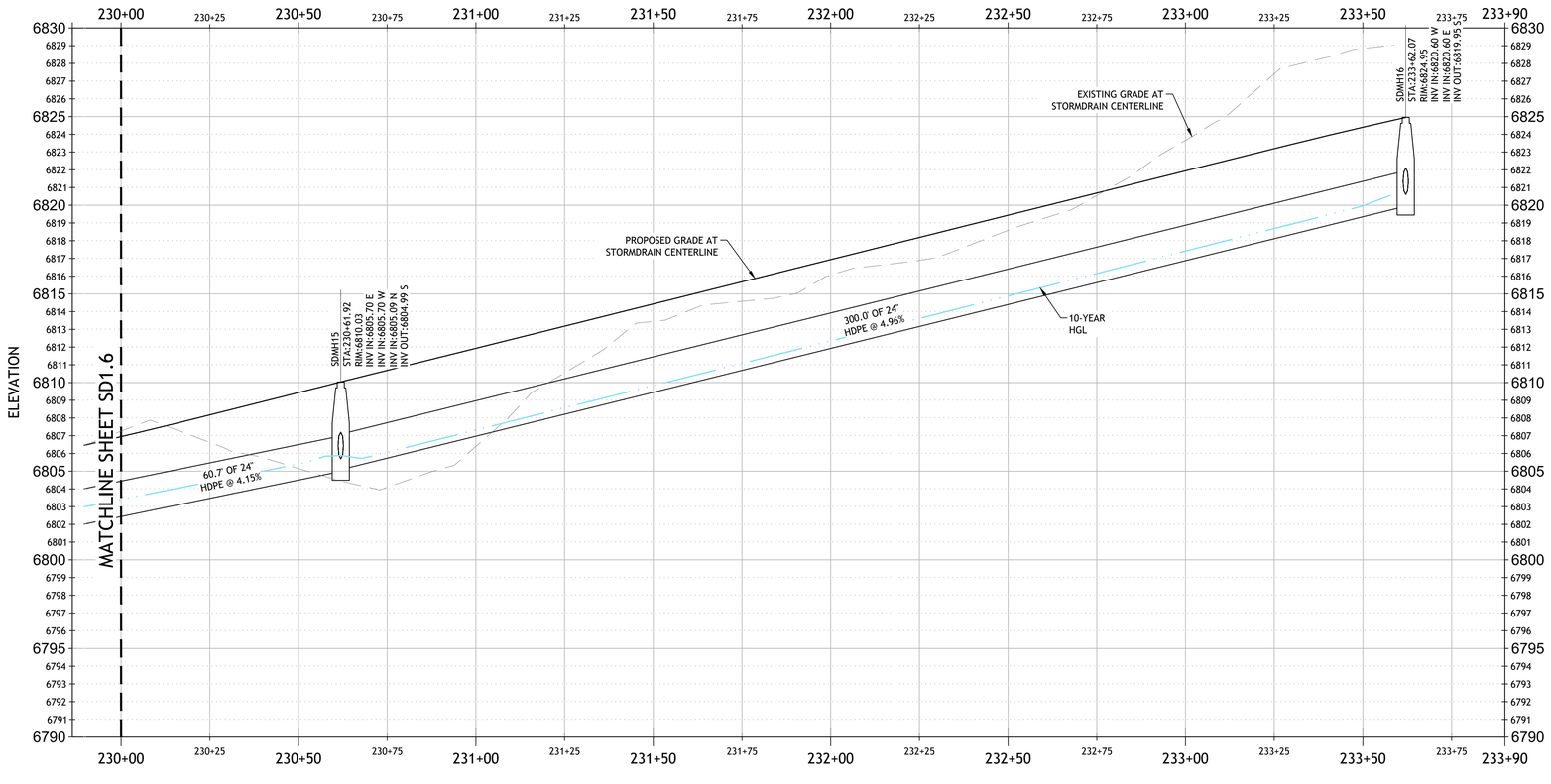
JW POWELL STORMDRAIN NETWORK PLAN VIEW



STORMDRAIN PROFILE VIEW 5

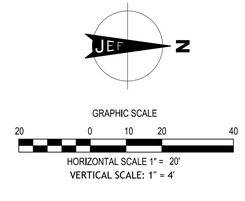


CONSTRUCTION NOTES

DRAINAGE CONSTRUCTION:

(NOTE 501) 360 LF
NEW 24" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031.
STORMDRAIN TO HAVE MANNING'S N OF 0.012.

(NOTE 503) 2 EA
NEW 60" STORMDRAIN MANHOLE PER MAG STD DTLS 520 & 522.



60% DESIGN

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PLAN AND PROFILE

JOB NO:17COF02	BY:EJW	CHECKED:EJW
DATE: FEBRUARY 2026		

SD1.7

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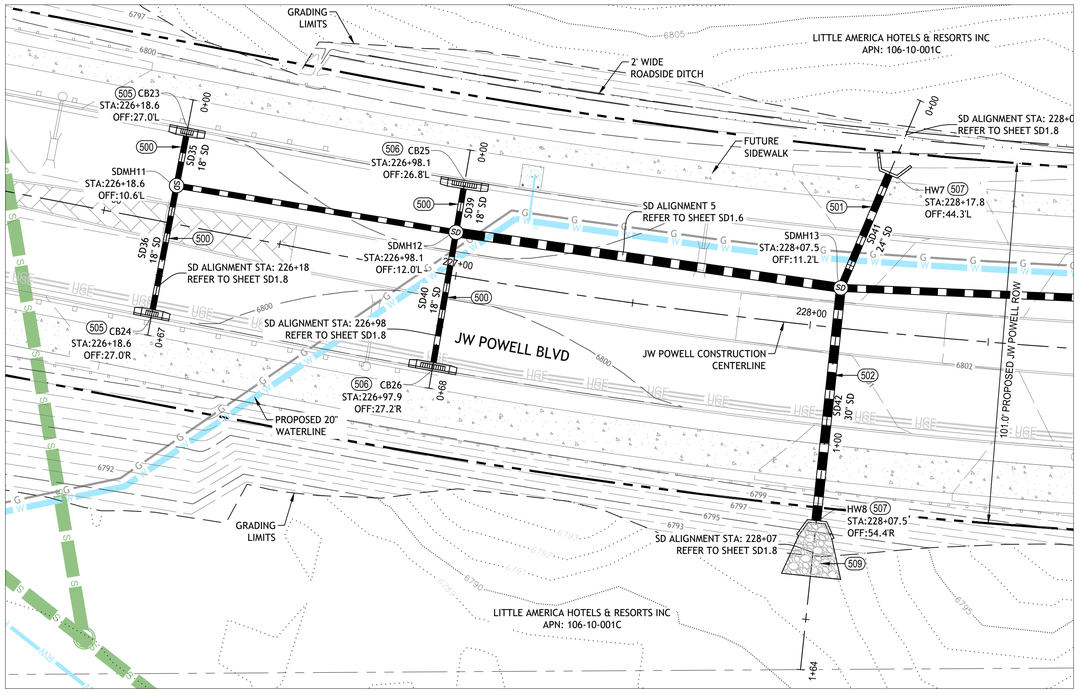
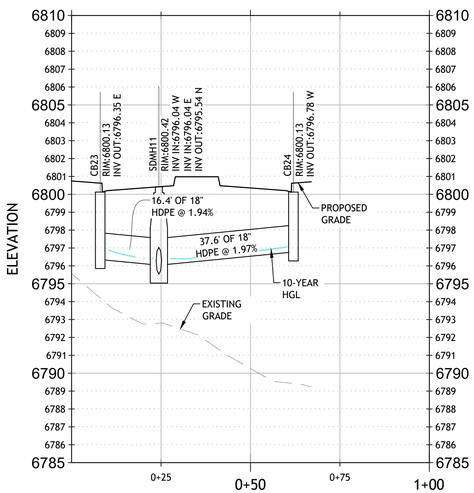
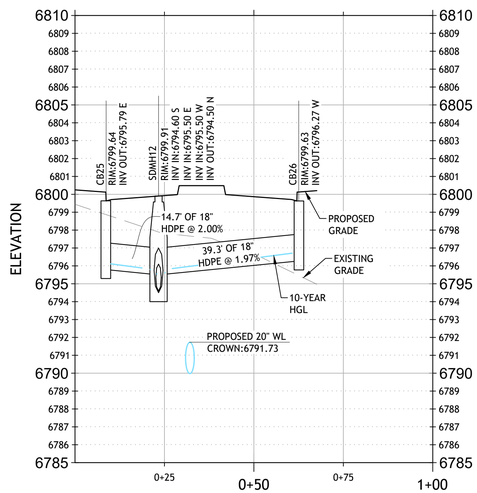
JW POWELL STORMDRAIN NETWORK PLAN VIEW



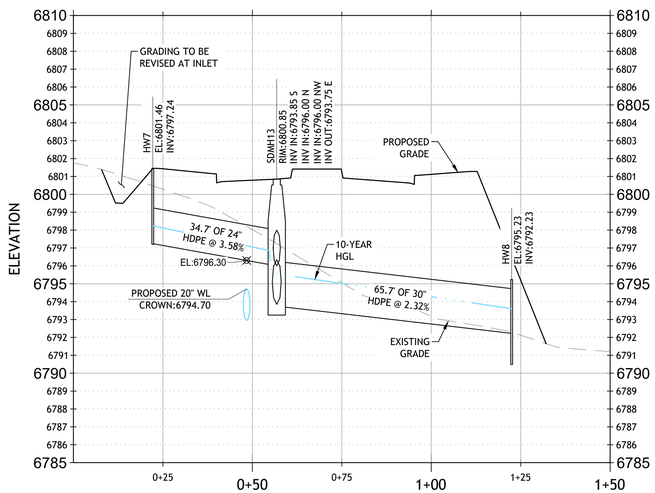
STORMDRAIN PROFILE VIEW STA: 226+18



STORMDRAIN PROFILE VIEW STA: 226+98



STORMDRAIN PROFILE VIEW STA: 228+07



GRAPHIC SCALE
20 0 10 20 40
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE: 1" = 4'

60% DESIGN

CONSTRUCTION NOTES

DRAINAGE CONSTRUCTION:

(NOTE 500) 110 LF
NEW 18" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031.

(NOTE 501) 35 LF
NEW 24" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031.
STORMDRAIN TO HAVE MANNING'S N OF 0.012.

(NOTE 502) 65 LF
NEW 30" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031.
STORMDRAIN TO HAVE MANNING'S N OF 0.012.

(NOTE 505) 2 EA
NEW MAG TYPE 'E' SINGLE CATCH BASIN PER MAG STD DTL 534. INCLUDES ENVIROPOD LITTATRAP FILTER.

(NOTE 506) 2 EA
NEW MAG TYPE 'E' DOUBLE CATCH BASIN PER MAG STD DTL 534. INCLUDES ENVIROPOD LITTATRAP FILTER.

(NOTE 507) 2 EA
NEW CMU OR REINFORCED CONCRETE HEADWALL PER MAG STD DTL 501.

(NOTE 509) 15 CY
INSTALL 33" THICK D50 = 15" GROUTED RIPRAP PAD.

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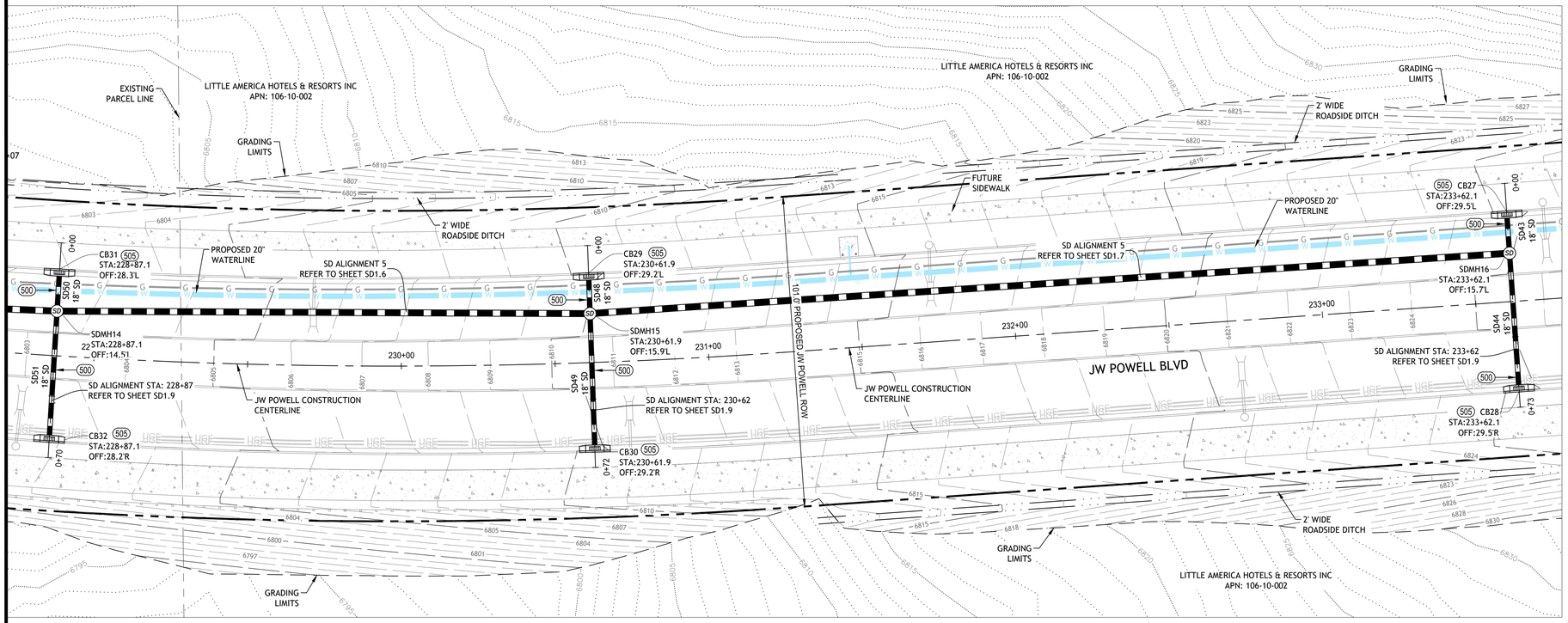
SD1.8

C:\Users\eric\DCACCDocs\Peak Engineering, Inc. - AZ\JW Powell Extension\Project Files\CAD\PP_SD.dwg, 2/25/2026 2:16:32 PM

JW POWELL STORMDRAIN NETWORK PLAN VIEW



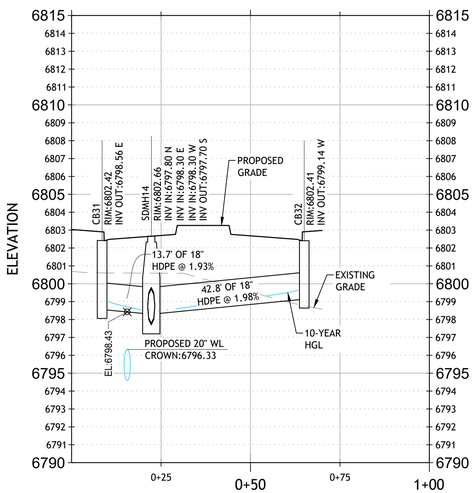
CONSTRUCTION NOTES

DRAINAGE CONSTRUCTION:

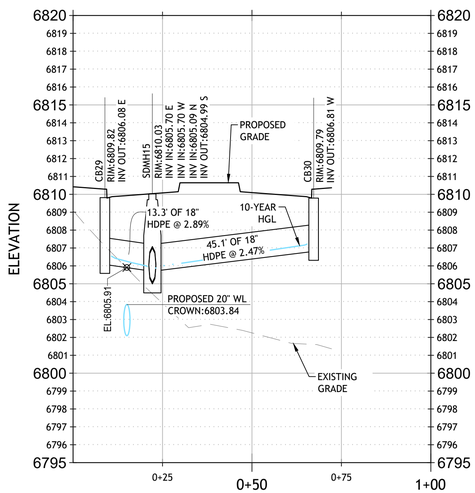
(NOTE 500) 175 LF
NEW 18" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031.

(NOTE 505) 6 EA
NEW MAG TYPE 'E' SINGLE CATCH BASIN PER MAG STD DTL 534. INCLUDES ENVIROPOD LITTATRAP FILTER.

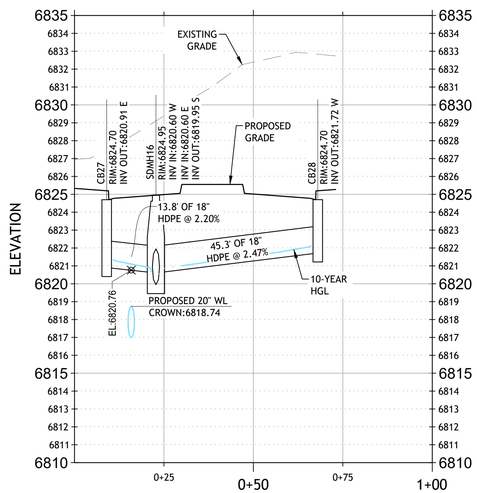
STORMDRAIN PROFILE VIEW STA: 228+87

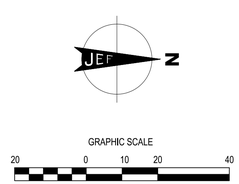


STORMDRAIN PROFILE VIEW STA: 230+61



STORMDRAIN PROFILE VIEW STA: 233+62





60% DESIGN

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CITY OF FLAGSTAFF
JW POWELL EXTENSION
STORMDRAIN NETWORK PLAN AND PROFILE

JOB NO:17COF02 | BY:EJW | CHECKED:EJW | DATE: FEBRUARY 2026

SD1.9

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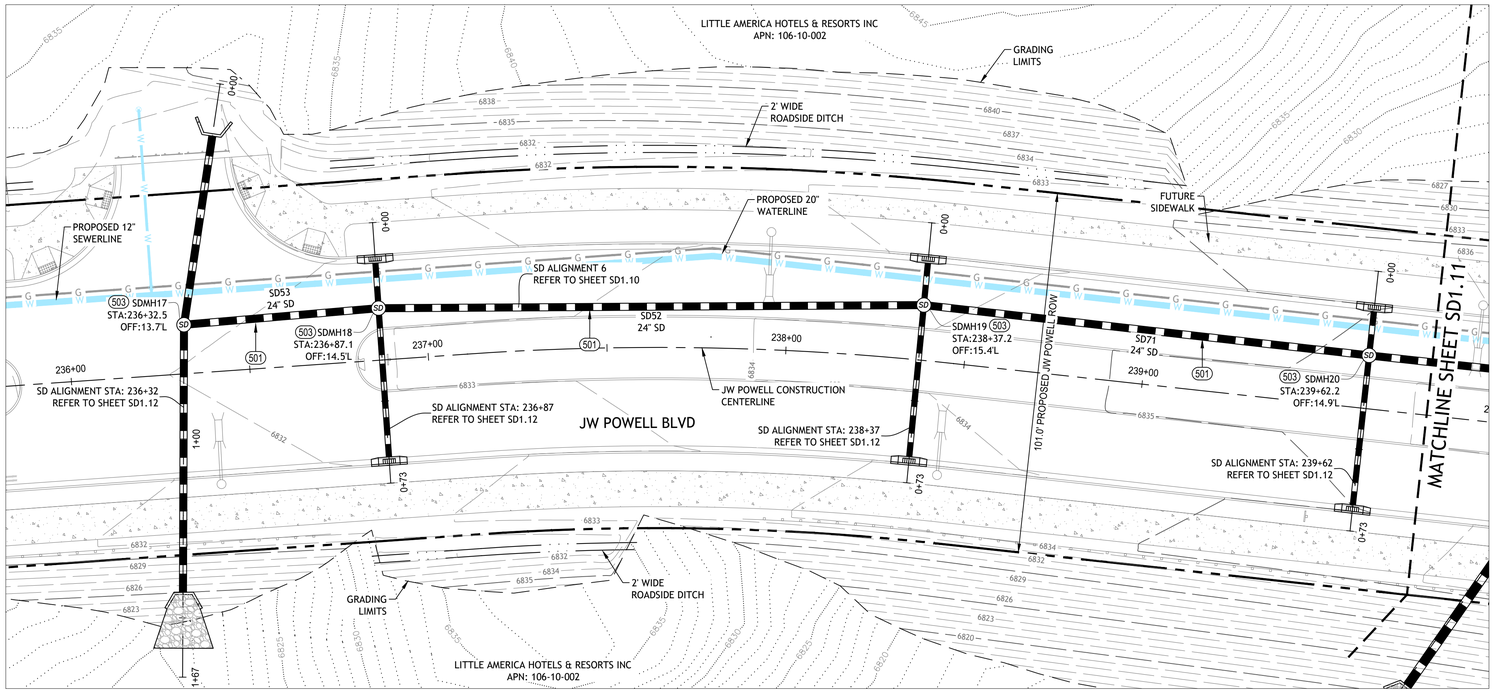
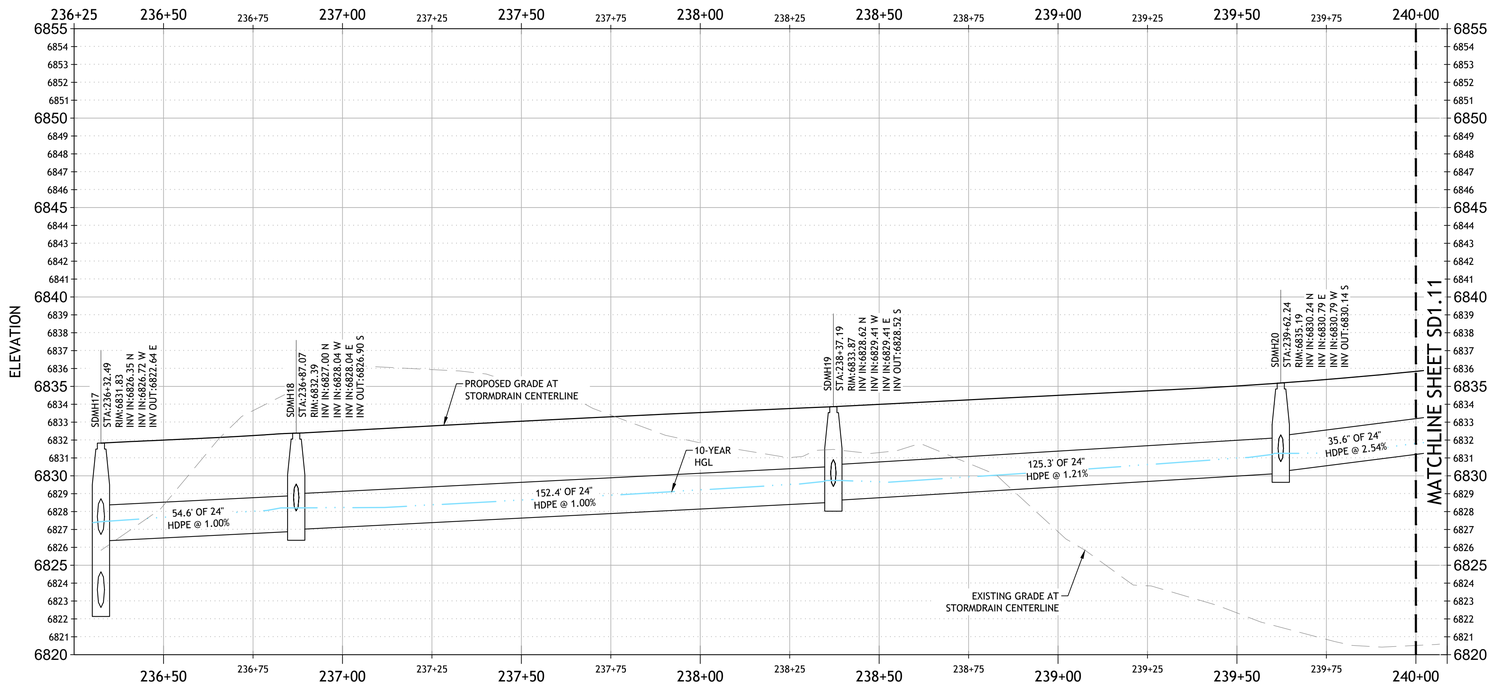
JW POWELL STORMDRAIN NETWORK PLAN VIEW



STORMDRAIN PROFILE VIEW 6



CONSTRUCTION NOTES

DRAINAGE CONSTRUCTION:

(NOTE 501) 370 LF
NEW 24" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031.
STORMDRAIN TO HAVE MANNING'S N OF 0.012.

(NOTE 503) 4 EA
NEW 60" STORMDRAIN MANHOLE PER MAG STD DTLS 520 & 522.

GRAPHIC SCALE
20 0 10 20 40
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE: 1" = 4'

60% DESIGN

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STORMDRAIN NETWORK PLAN AND PROFILE

JOB NO:17COF02 | BY:EJW | CHECKED:EJW | DATE: FEBRUARY 2026

SD1.10

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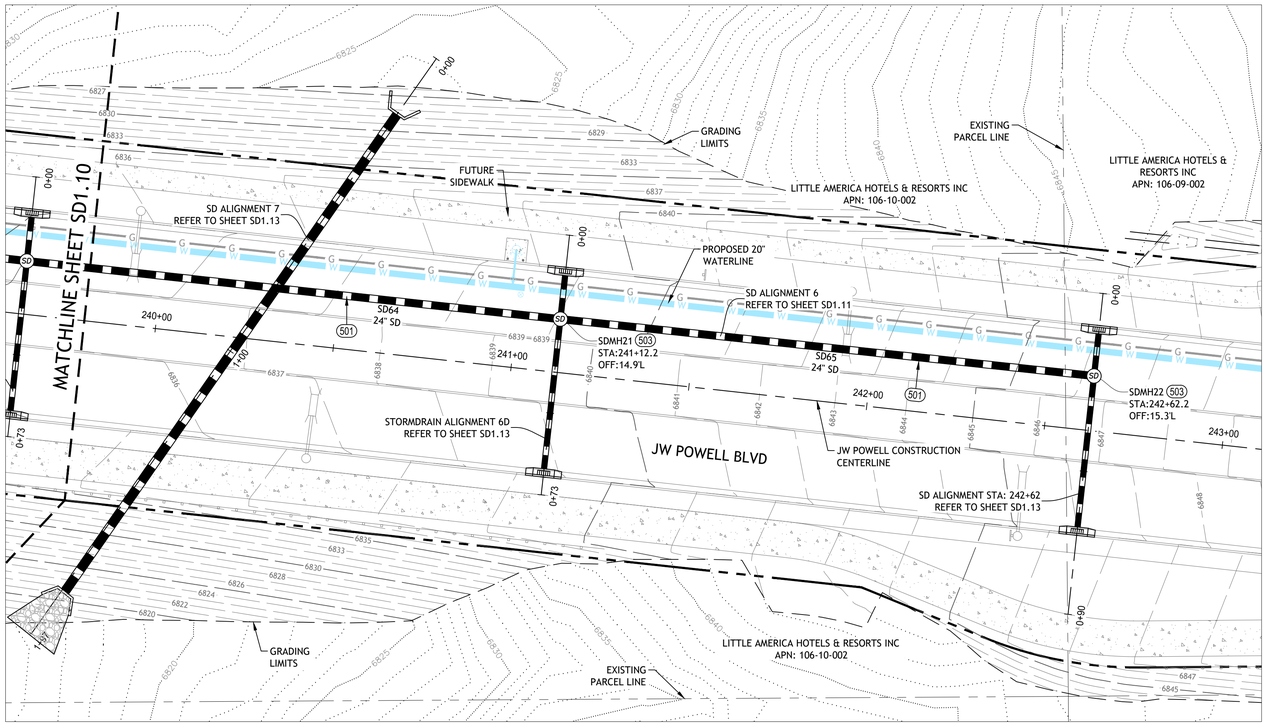
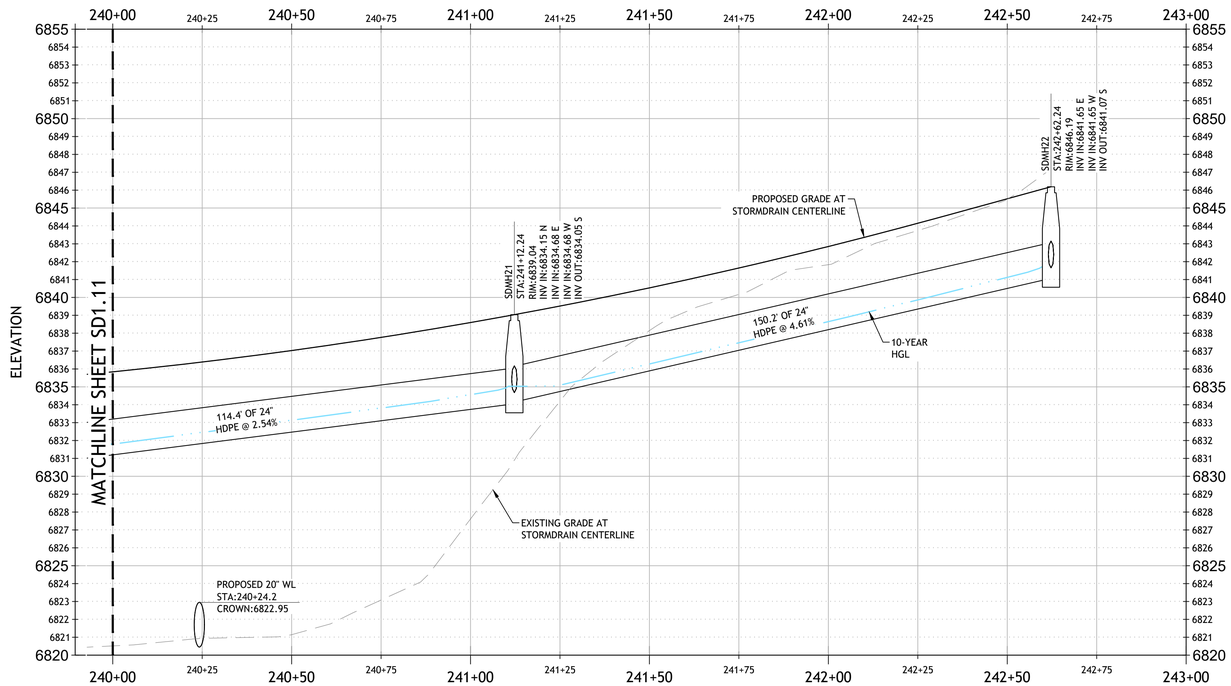
JW POWELL STORMDRAIN NETWORK PLAN VIEW



STORMDRAIN PROFILE VIEW 6



CONSTRUCTION NOTES

DRAINAGE CONSTRUCTION:

(NOTE 501) 270 LF
NEW 24" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031.
STORMDRAIN TO HAVE MANNING'S N OF 0.012.

(NOTE 503) 2 EA
NEW 60" STORMDRAIN MANHOLE PER MAG STD DTLS 520 & 522.

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GRAPHIC SCALE
20 0 10 20 40
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE: 1" = 4'

60% DESIGN

CITY OF FLAGSTAFF
JW POWELL EXTENSION
STORMDRAIN NETWORK
PLAN AND PROFILE

JOB NO:17COF02 | BY:EJW | CHECKED:EJW | DATE: FEBRUARY 2026

SD1.11

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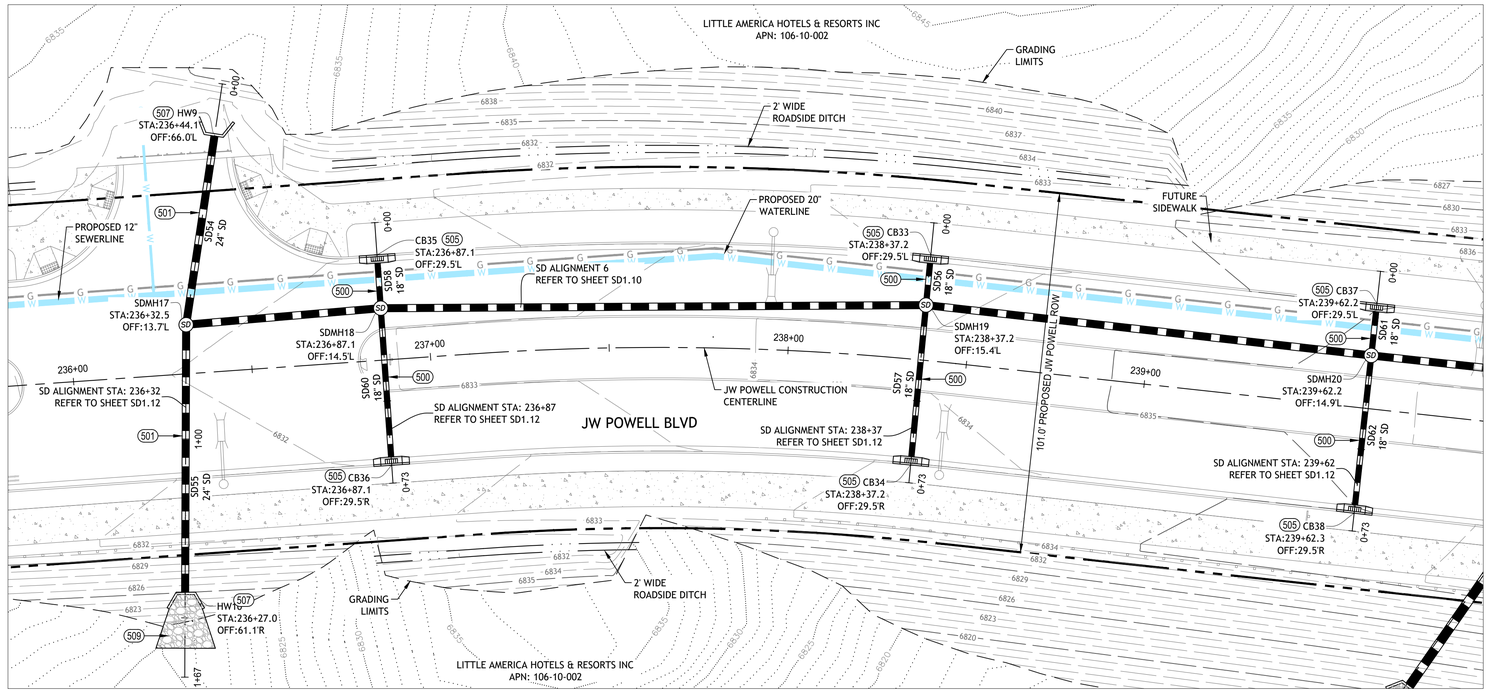
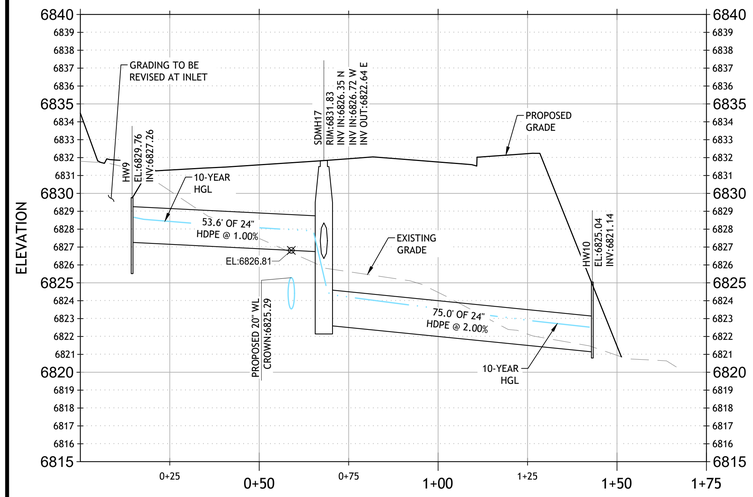
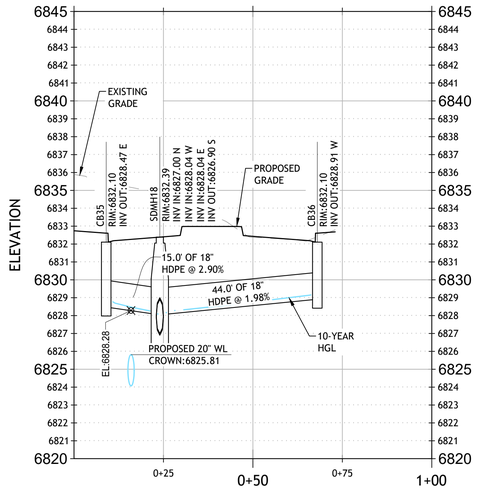
JW POWELL STORMDRAIN NETWORK PLAN VIEW



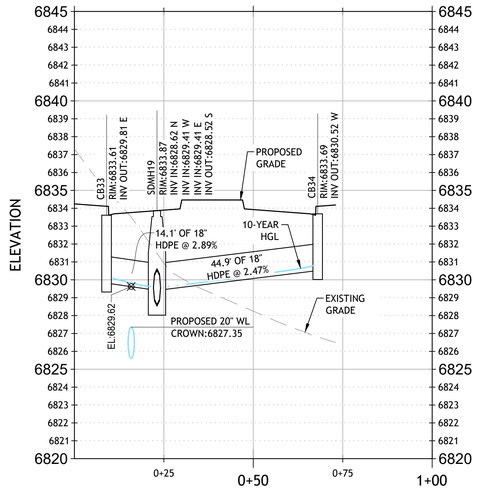
STORMDRAIN PROFILE VIEW STA: 236+32



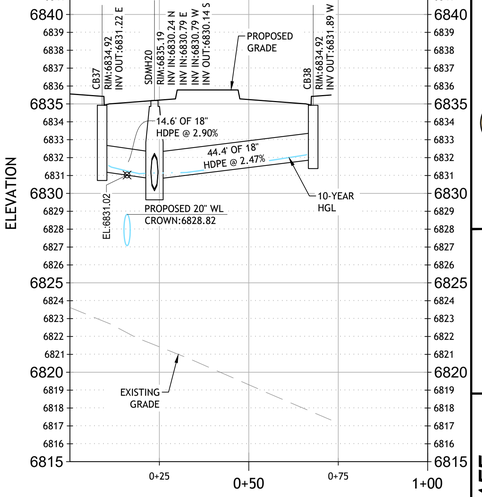
STORMDRAIN PROFILE VIEW STA: 236+87



STORMDRAIN PROFILE VIEW STA: 238+37



STORMDRAIN PROFILE VIEW STA: 239+62



CONSTRUCTION NOTES

DRAINAGE CONSTRUCTION:

(NOTE 500) 175 LF
NEW 18" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031.

(NOTE 501) 130 LF
NEW 24" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031. STORMDRAIN TO HAVE MANNING'S N OF 0.012.

(NOTE 505) 6 EA
NEW MAG TYPE 'E' SINGLE CATCH BASIN PER MAG STD DTL 534. INCLUDES ENVIROPOD LITTATRAP FILTER.

(NOTE 507) 2 EA
NEW CMU OR REINFORCED CONCRETE HEADWALL PER MAG STD DTL 501.

(NOTE 509) 15 CY
INSTALL 33" THICK D50 = 15" GROUTED RIPRAP PAD.

GRAPHIC SCALE
20 0 10 20 40
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE: 1" = 4'

60% DESIGN

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STORMDRAIN NETWORK
PLAN AND PROFILE

JOB NO:17COF02 | BY:EJW | CHECKED:EJW | DATE: FEBRUARY 2026

SD1.12

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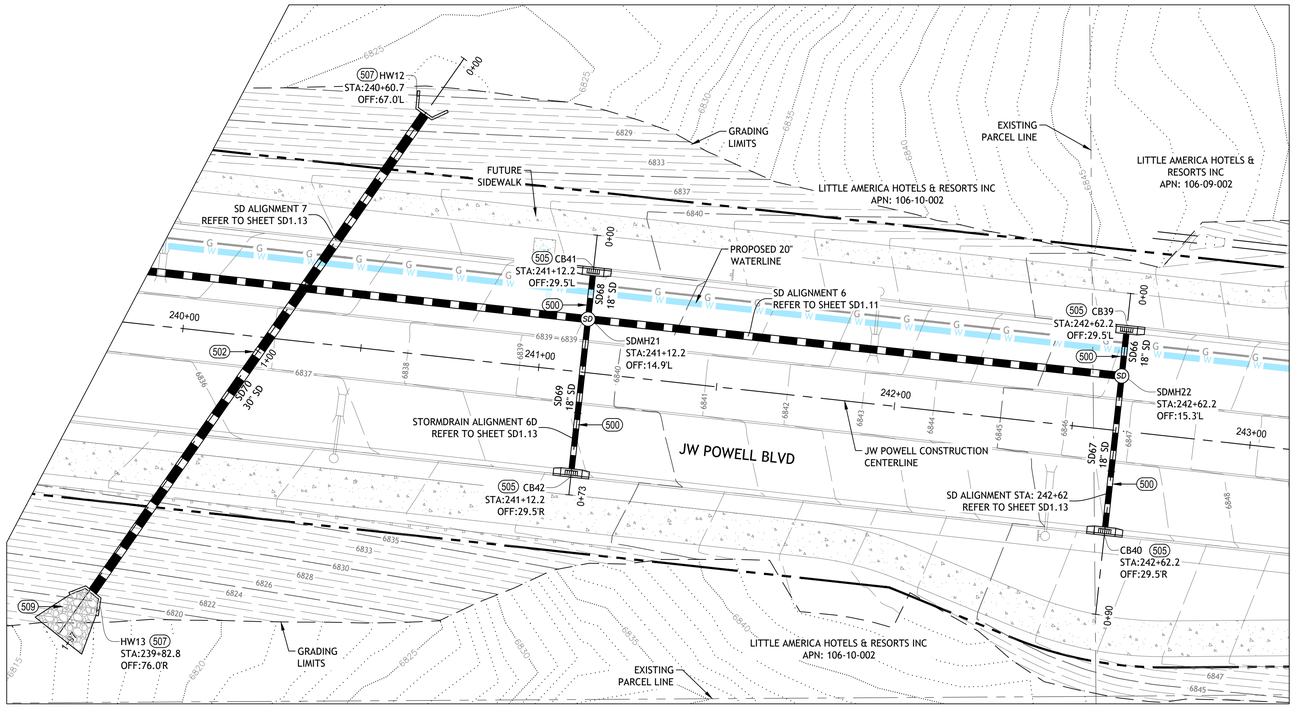
JW POWELL STORMDRAIN NETWORK PLAN VIEW



CONSTRUCTION NOTES

DRAINAGE CONSTRUCTION:

(NOTE 500) 120 LF
NEW 18" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031.

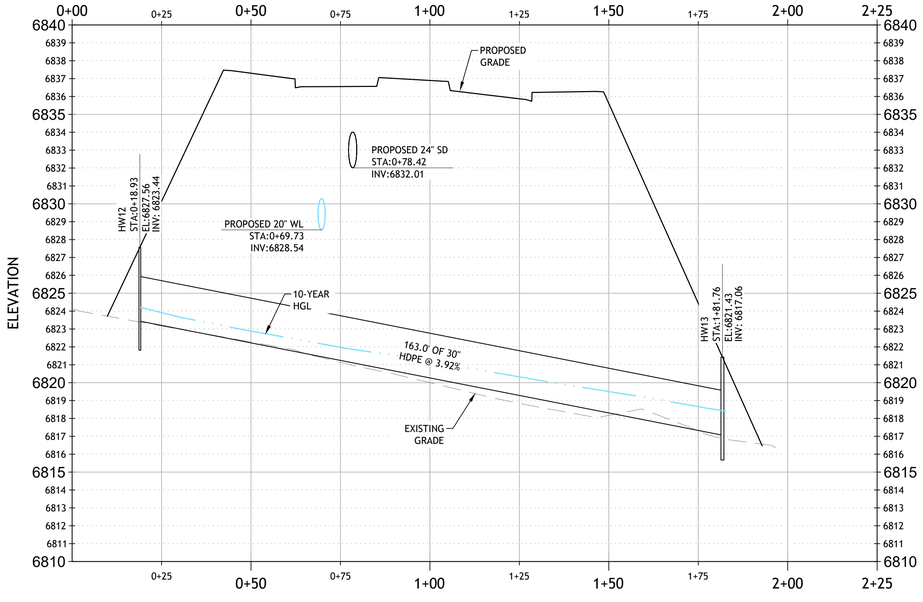
(NOTE 502) 170 LF
NEW 30" STORMDRAIN. TRENCHING AND ABC BACKFILL PER COF ENG DTL 09-01-031.
STORMDRAIN TO HAVE MANNING'S N OF 0.012.

(NOTE 505) 4 EA
NEW MAG TYPE 'E' SINGLE CATCH BASIN PER MAG STD DTL 534. INCLUDES ENVIROPOD LITTATRAP FILTER.

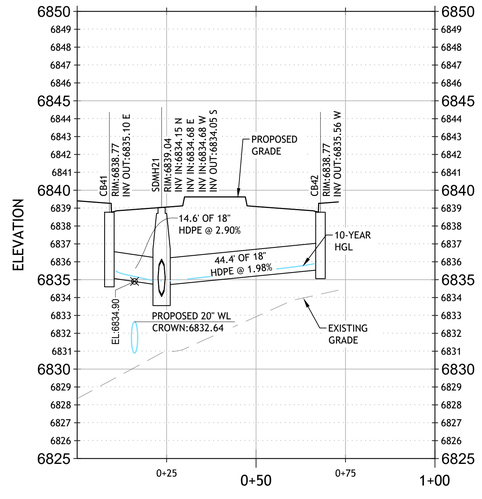
(NOTE 507) 2 EA
NEW CMU OR REINFORCED CONCRETE HEADWALL PER MAG STD DTL 501.

(NOTE 509) 15 CY
INSTALL 33" THICK D50 = 15" GROUTED RIPRAP PAD.

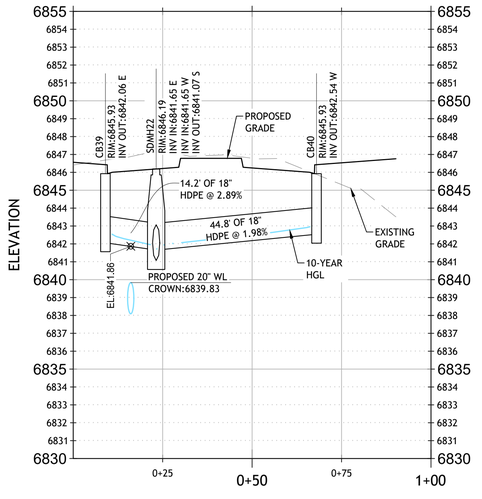
STORMDRAIN PROFILE VIEW 7



STORMDRAIN PROFILE VIEW STA: 241+12



STORMDRAIN PROFILE VIEW STA: 242+12



GRAPHIC SCALE
20 0 10 20 40
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE: 1" = 4'

60% DESIGN

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STORMDRAIN NETWORK
PLAN AND PROFILE

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DATE: FEBRUARY 2026 | CHECKED:EJW

SD1.13

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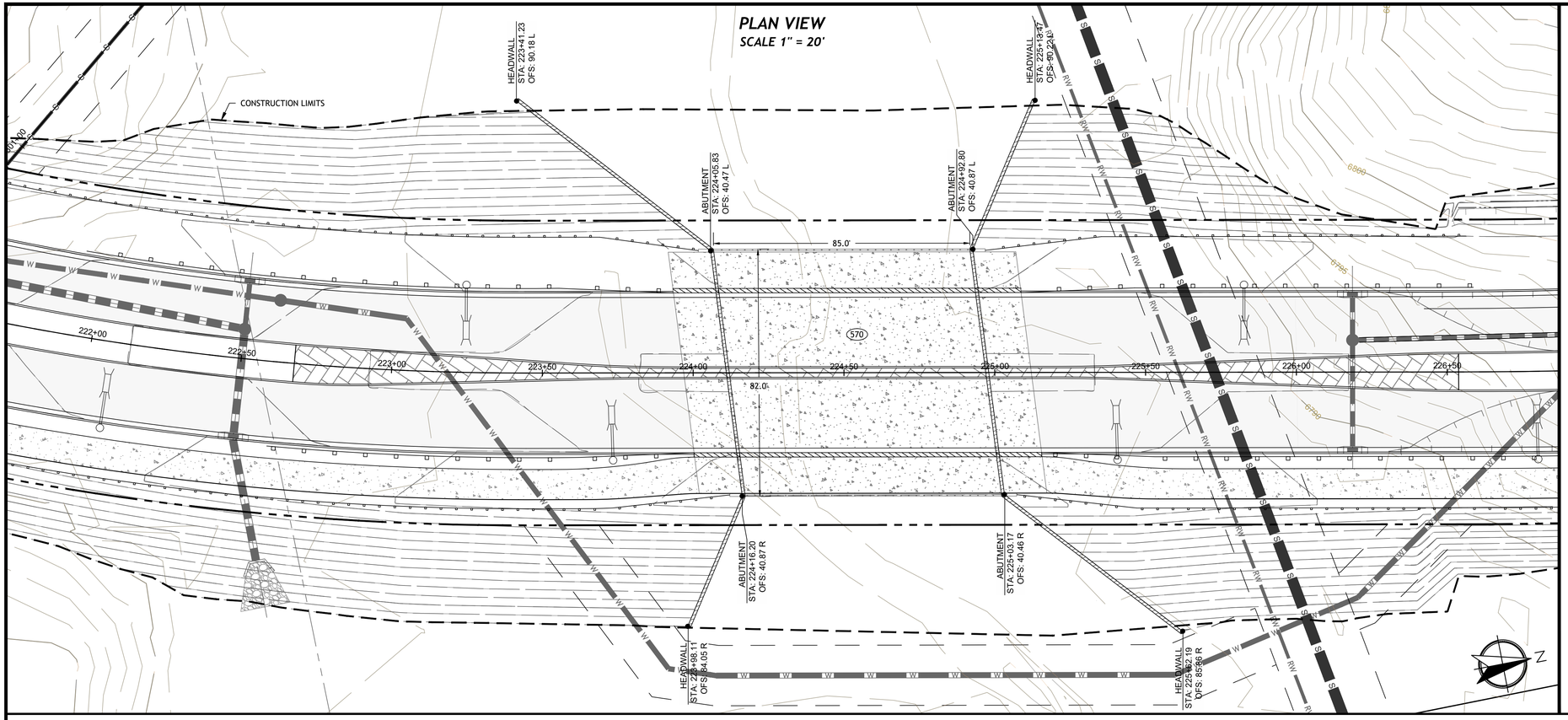
PLAN VIEW
SCALE 1" = 20'



CONSTRUCTION NOTES

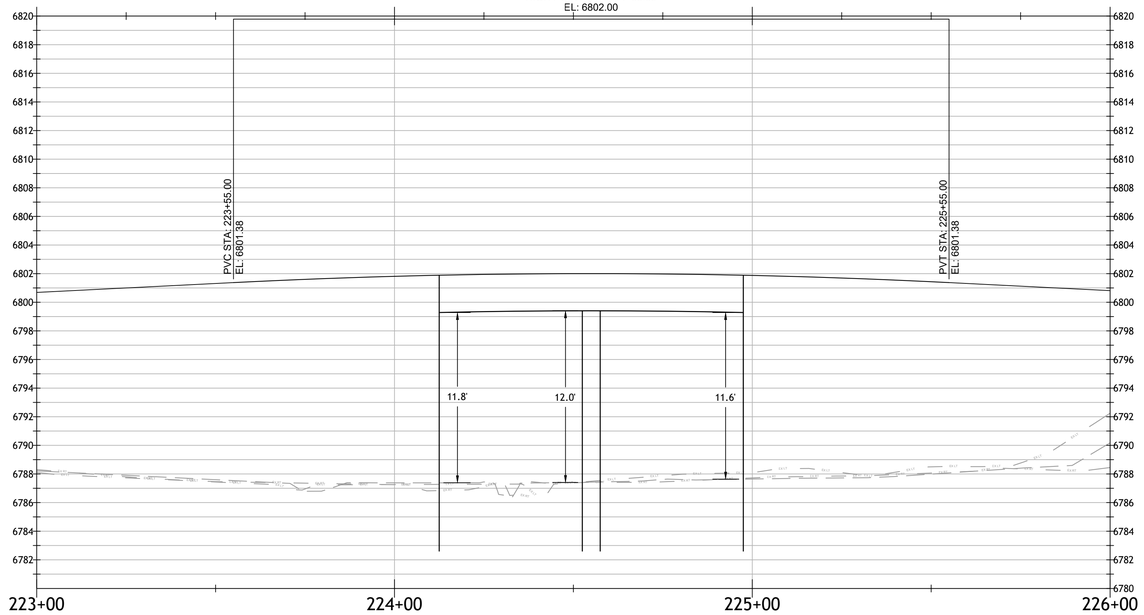
STORM (500)

570 BRIDGE, ABUTMENTS & HEADWALL PER STRUCTURAL PLANS

GRAPHIC SCALE 1" = 20'

20 0 20 40 60

PROFILE VIEW
HORIZ. SCALE 1" = 20'
VERT. SCALE 1" = 5'



60% DESIGN
COF PROJECT NO: 03-16010

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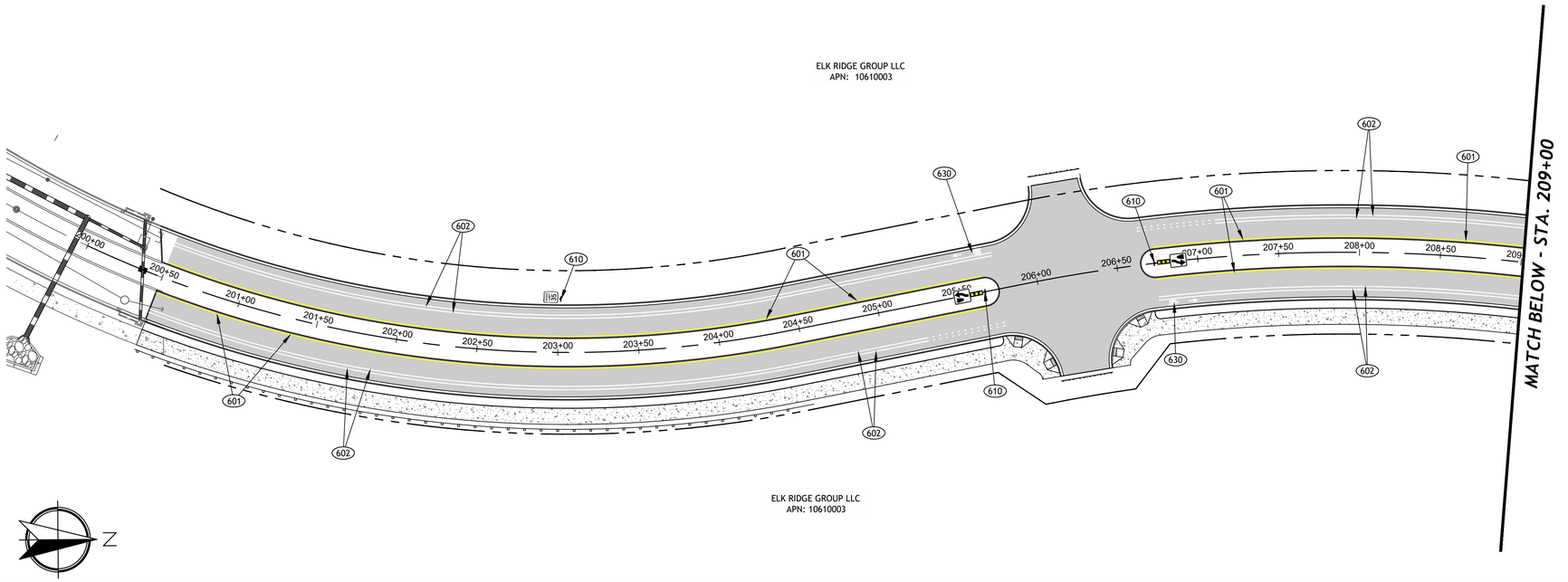
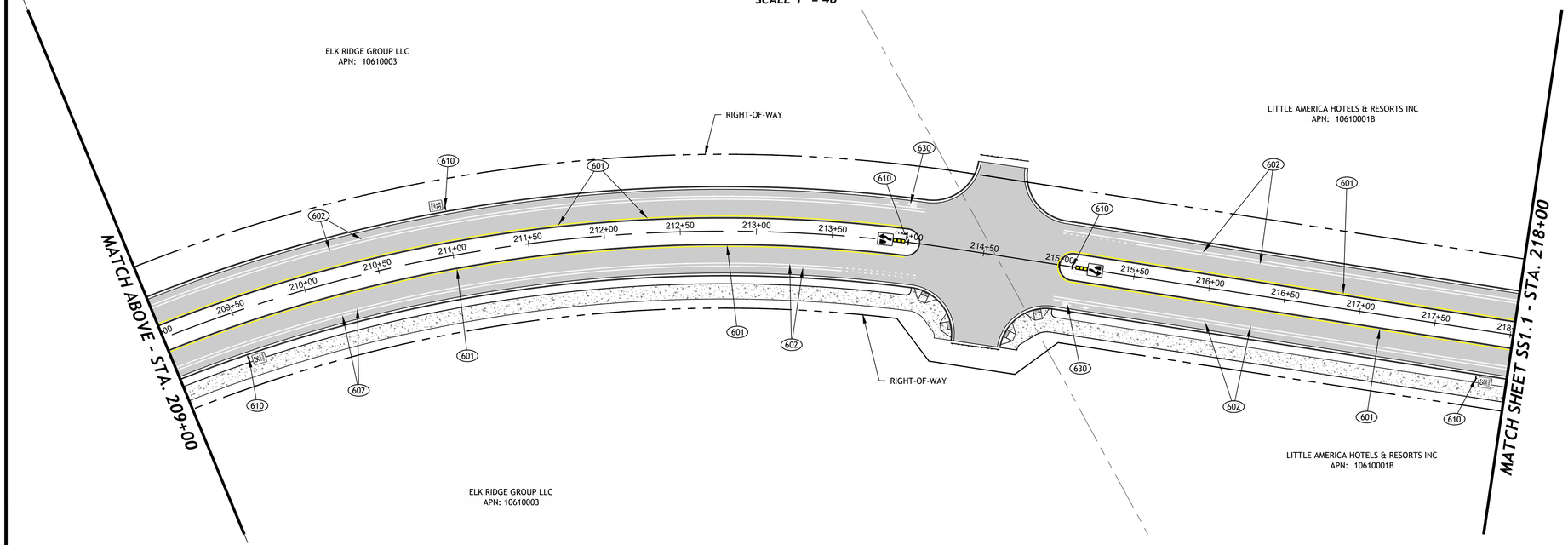
RIO CROSSING PLAN & PROFILE

JOB NO:17COF02 | BY:DCW/SJ
DATE: MARCH 2026 | CHECKED:JOL

SD2.0



PLAN VIEW
SCALE 1" = 40'



GRAPHIC SCALE 1" = 40'
40 0 40 80 120

60% DESIGN
COF PROJECT NO: 03-16010

CONSTRUCTION NOTES

STRIPING & SIGNAGE (600)

601 4" SOLID YELLOW

602 6" SOLID WHITE

610 SIGN ON POST PER MAG STD DETAIL 131

630 SYMBOL

LANE STRIPING SHALL BE PER MUTCD AND COF ENGINEERING STANDARDS AND DETAILS.

PAVEMENT MARKING SHALL BE PLACED PER MUTCD AD COF ENGINEERING DETAIL 16-06-010 AND COF ENGINEERING STANDARDS

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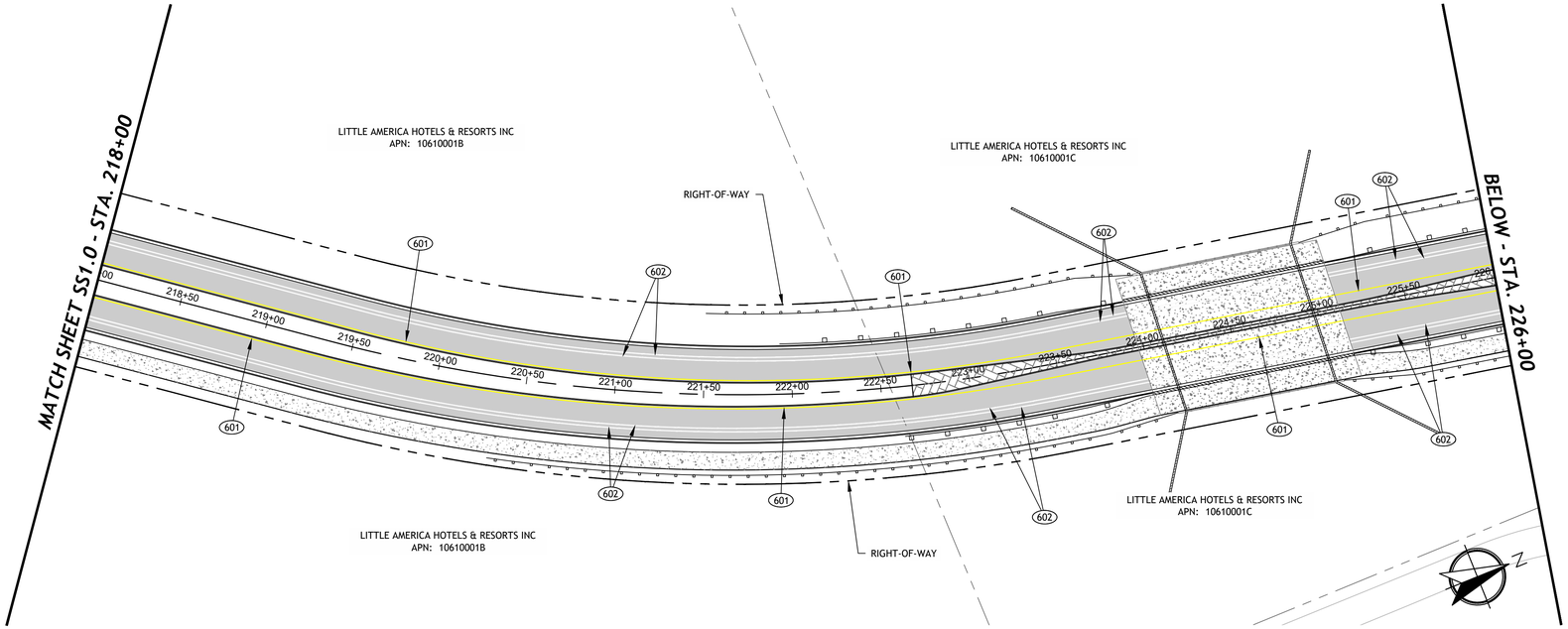
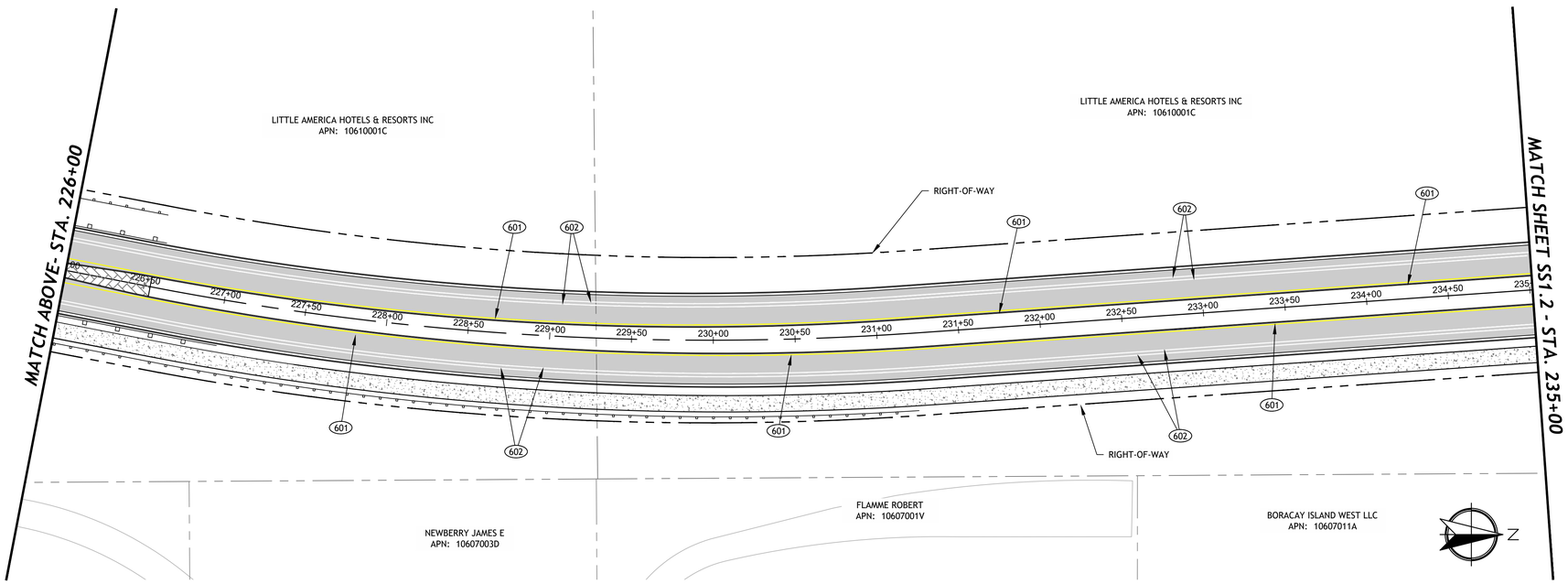
CITY OF FLAGSTAFF
JW POWELL EXTENSION
STRIPING & SIGNAGE

JOB NO:17COF02	BY:DCW/SJ
DATE: MARCH 2026	CHECKED:JOL

SS1.0





CONSTRUCTION NOTES

STRIPING & SIGNAGE (600)

601 4" SOLID YELLOW

602 6" SOLID WHITE

610 SIGN ON POST PER MAG STD DETAIL 131

630 SYMBOL

LANE STRIPING SHALL BE PER MUTCD AND COF ENGINEERING STANDARDS AND DETAILS.

PAVEMENT MARKING SHALL BE PLACED PER MUTCD AD COF ENGINEERING DETAIL 16-06-010 AND COF ENGINEERING STANDARDS

GRAPHIC SCALE 1" = 40'

40 0 40 80 120

60% DESIGN

COF PROJECT NO: 03-16010

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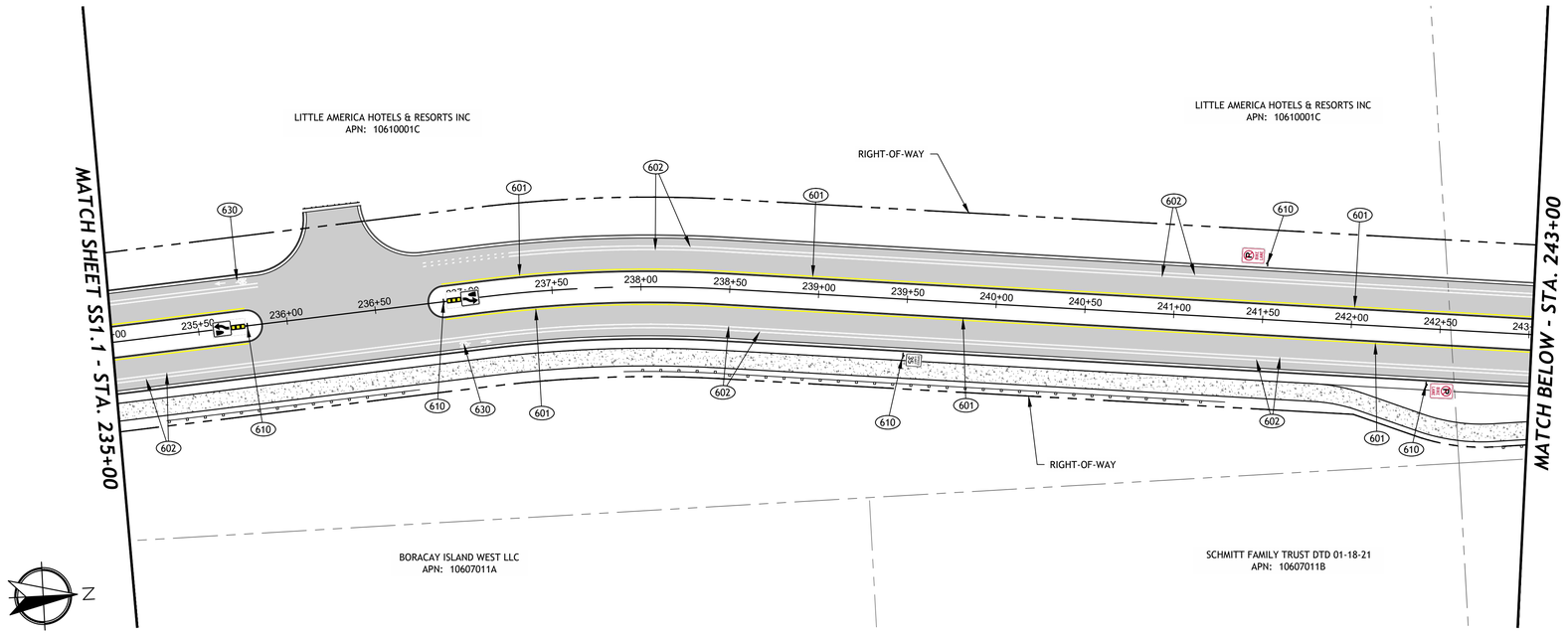
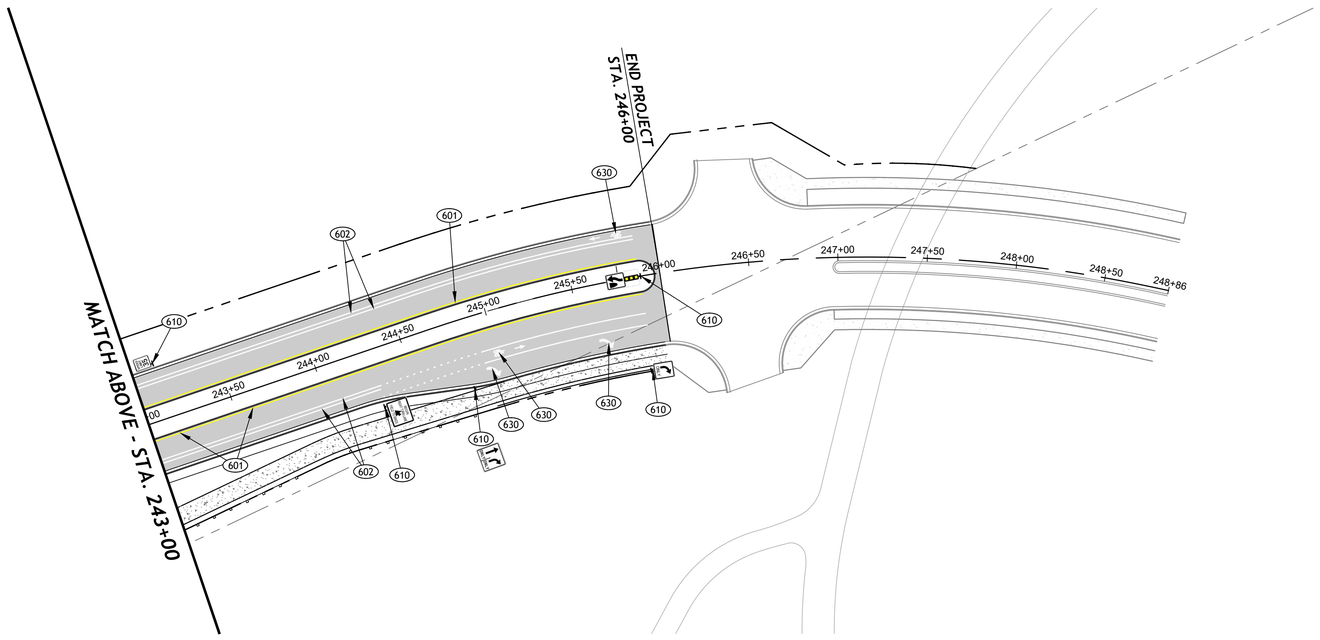
CITY OF FLAGSTAFF
JW POWELL EXTENSION
STRIPING & SIGNAGE

JOB NO:17COF02 | BY:DCW/SJ | CHECKED:JOL | DATE: MARCH 2026

SS1.1





CONSTRUCTION NOTES

STRIPING & SIGNAGE (600)

601 4" SOLID YELLOW

602 6" SOLID WHITE

610 SIGN ON POST PER MAG STD DETAIL 131

620 INTERSECTION STRIPING

630 SYMBOL

LANE STRIPING SHALL BE PER MUTCD AND COF ENGINEERING STANDARDS AND DETAILS.

PAVEMENT MARKING SHALL BE PLACED PER MUTCD AD COF ENGINEERING DETAIL 16-06-010 AND COF ENGINEERING STANDARDS

GRAPHIC SCALE 1" = 40'

40 0 40 80 120

60% DESIGN

COF PROJECT NO: 03-16010

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JW POWELL EXTENSION
STRIPING & SIGNAGE

JOB NO:17COF02 | BY:DCW/SJ

DATE: MARCH 2026 | CHECKED:JOL

SS1.2

CITY OF FLAGSTAFF

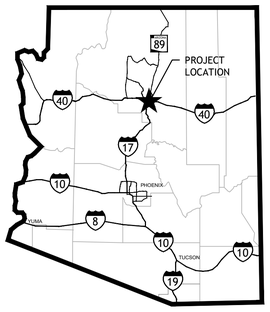
JW POWELL BOULEVARD EXTENSION

WATER AND SEWER PLANS

COF PROJECT NO: 03-16010

SHEET INDEX

UT1.0	UTILITY COVER
UT1.1	UTILITY NOTES & LEGEND
UT2.0	UTILITY DETAILS (FUTURE)
UT3.0 - UT3.1	UTILITY STANDARD DETAILS (FUTURE)
W1.0 - W1.5	WATERLINE PLAN & PROFILE
W2.0	RECLAIMED WATER PLAN & PROFILE
S1.0	SEWER PLAN & PROFILE
S2.0	SEWER TRANSMISSION MAIN



STATE MAP
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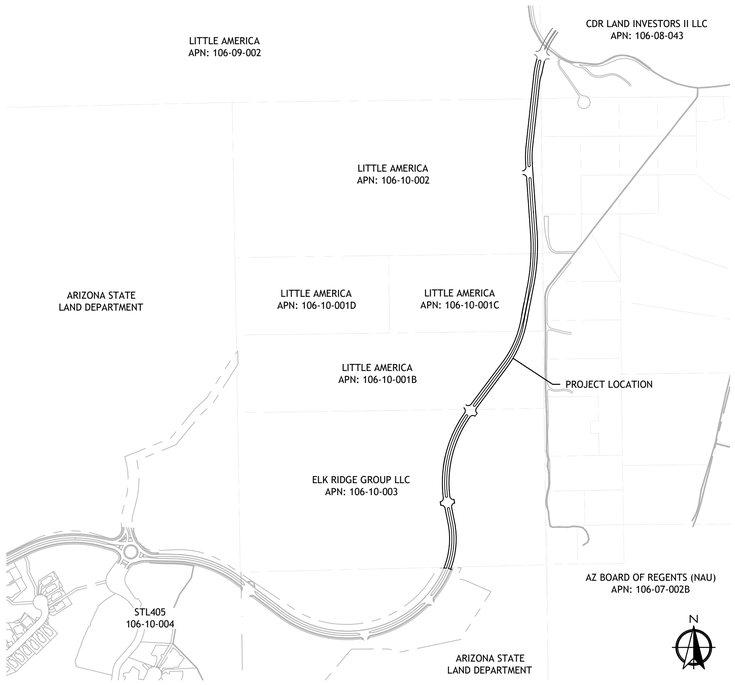

AREA MAP
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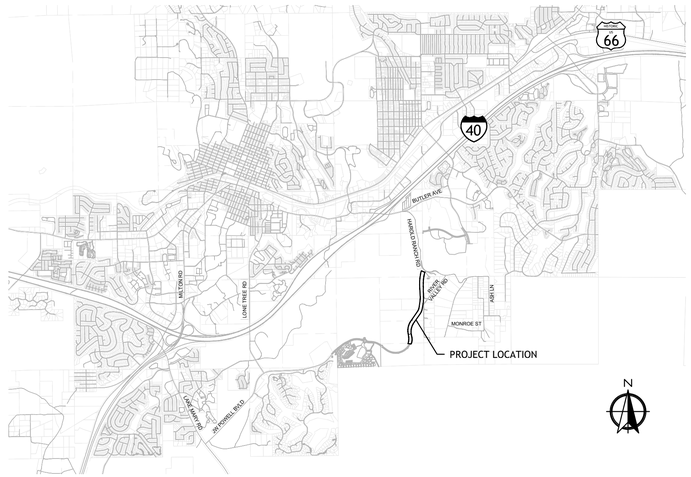

VICINITY MAP
N.T.S.

OWNER
City of Flagstaff
211 W Aspen Ave.
Flagstaff, AZ 86001
Contact: David Pedersen, P.E., Project Manager
Phone: (928) 213-2679

CIVIL ENGINEER
Peak Engineering,Inc.
201 E. Birch Ave, Suite 3
Flagstaff, AZ 86001
Contact: Julie Leid, P.E., Daniel Washburn, P.E.
Phone: (928) 774-4046

JE Fuller
3111 N. Caden Court, Suite 120
Flagstaff, AZ 86004
Contact: Eric Weidinger, P.E.
Phone: (928) 296-0070

CITY OF FLAGSTAFF APPROVALS

THE CITY OF FLAGSTAFF APPROVES THESE PLANS FOR CONCEPT ONLY. THE CITY SHALL NOT BE LIABLE FOR ERRORS OR OMISSIONS OF THE DESIGN ENGINEER.

City Engineer — DATE

City Public Works Director — DATE

Water Services Director — DATE

ADEQ APPROVALS

WATERLINE APPROVAL TO CONSTRUCT — DATE

SEWER CONSTRUCTION AUTHORIZATION — DATE

UTILITY ACKNOWLEDGEMENTS

Lumen — DATE

UniSource Energy Services — DATE

APS — DATE

Optimum — DATE

Contact Arizona 811 at least two full working days before you begin excavation
Call 811 or click Arizona811.com

REVISION	DESCRIPTION	DATE

201 E. Birch Ave., Suite 3
Flagstaff, AZ 86001
(928) 774-4046
Peak ENGINEERING, INC. Connecting Place to People

Preliminary Not For Construction

CITY OF FLAGSTAFF
JW POWELL EXTENSION
UTILITY COVER

JOB NO:17COF02 | BY:DCW/SJ | CHECKED:JOL | DATE: MARCH 2026

UT1.0

60% DESIGN
COF PROJECT NO: 03-16010

ENGINEER'S GENERAL NOTES

The work shall be done in accordance with the most current edition(s) of the following specifications and these plans.

- City of Flagstaff (COF) Engineering Design & Construction Standards
- Maricopa Association of Governments (MAG): Uniform Standard Specifications & Standard Details for Public Works Construction
- Manual on Uniform Traffic Control Devices (MUTCD)
- Arizona Department of Transportation Standard Specifications for Road and Bridge Construction

It is the Contractor's responsibility to obtain copies of the above Standards, Specifications and Details as well as all other standards and specifications referenced by or necessary for interpreting these plans.
The Contractor is not relieved of responsibility for making complete and accurate on-site determinations of the locations of all utilities, structures and field conditions, which may affect the progress of the work.

PERMITS. The Contractor is responsible for determining what permits are required for the work and obtaining, at his own expense, the permits required unless otherwise noted in the Special Provisions. Permitting includes compliance with the Arizona Department of Environmental Quality (ADEQ) Arizona Pollutant Discharge Elimination System (AZPDES) Construction General Permit. The Contractor is responsible for filing a Notice of Intent (NOI) and Notice of Termination (NOT) in accordance with AZPDES requirements.

UTILITIES. Underground utilities shown are approximate and were determined from field measurements, construction plans, record plans, or utility maps furnished by others. The Contractor is responsible for determining the actual locations of all underground lines that may affect the work. The Contractor is responsible for notifying appropriate utility companies prior to construction commencing. The number to call is 811. The Contractor shall allow 2 working days after 811 is notified before starting any excavation work in the proximity of buried utilities.
Where the plans call for connecting new structures to existing underground pipes or structures, the Contractor is responsible for determining the exact sizes, types and locations of existing underground improvements and furnishing the materials necessary for making the required connections.
At least 48 hours prior notice is required before disrupting utility service to make connections. The notice must include the exact time of disruption and the expected duration of loss of service.

QUANTITIES. The quantities shown are approximate. The Contractor is responsible for independently estimating work quantities prior to bidding.

TRAFFIC CONTROL. The Contractor is responsible for providing any necessary traffic control devices for vehicle, bicycle and pedestrian traffic affected by the construction.

STORMWATER MANAGEMENT. Adequate drainage, erosion and sediment control measures, best management practices (BMPs), and/or other stormwater management facilities shall be provided and maintained at all times during construction. The Contractor is responsible for damages to adjacent property and/or the construction site caused by his or her failure to provide and maintain adequate drainage and erosion/sediment control for the construction area.

Refer to the AZPDES Construction General Permit and ADEQ website for guidance, BMPs and reporting requirements: http://www.azdeq.gov/node/524

CITY OF FLAGSTAFF GENERAL NOTES

1. Approval of these plans by the City Engineer is for a one (1) year period, subsequent to the date of approval. If construction work is not started within the one (1) year period, or has been discontinued for any reason for longer than one (1) year, the plans shall be resubmitted for review and re-approval.
2. Plan review by the City does not extend to material quantities shown on the plans.
3. A public works permit, issued by the City, is required for all work in City rights-of-way or easements and for construction of any improvements intended to become public property.
4. The City shall be notified twenty-four (24) hours prior to beginning different phases of construction so that City Inspectors may be scheduled.
5. All materials and workmanship shall comply with Title 13, Engineering Design Standards and Specifications for New Infrastructure, current "MAG Uniform Standard Specifications and Details for Public Works Construction," the City of Flagstaff Stormwater Design Manual, and with generally accepted engineering design and construction practice. All work and materials, which do not conform to the standards and specifications, are subject to removal and replacement at the contractor's expense. The contractor is responsible for reviewing Chapter 13-21, which makes minor modifications to certain MAG Specifications and details.
6. Any work performed without the knowledge and approval of the City Engineer or his authorized representative is subject to removal and replacement at the contractor's expense.
7. The City Engineer or his authorized representative may suspend the work by written notice when, in his judgment, progress is unsatisfactory, work being done is unauthorized or defective, weather conditions are unsuitable, or there is danger to the public health or safety.
8. The City Engineer may order any or all materials used in the work to be tested according to the American Association of State Highway and Transportation Officials (AASHTO) and the American Society for Testing and Materials (ASTM) Standards. The Contractor shall, at his expense, supply all samples required for testing.
9. Access that meets Section 13-13-004-0001, Fire Access, shall be in place and approved before and at all times during on-site combustible construction and/or prior to issuance of building permits in new subdivisions. Fire Department and Engineering Section approval is required for obstruction of access or water system shutdown.
10. The contractor shall be responsible for maintenance of the streets and of partially completed portions of the work until final acceptance of the work. The contractor shall submit to the City Engineer for approval a construction schedule for any streets required to be closed or partially closed for the construction activity. The contractor shall reopen the streets no later than the opening date shown on the construction schedule or upon order of the City Engineer. The regulation and control of construction traffic shall be as directed by the City Engineer or his authorized representative.
11. Approval of a portion of the work in progress does not guarantee its final acceptance. Testing and evaluation may continue until written final acceptance of a complete workable unit. Any defects which appear in the work within one (1) year from the date of acceptance and which are due to improper workmanship or inferior materials supplied shall be corrected by or at the expense of the owner/developer or the contractor.
12. Acceptance of completed public improvements will not be given until defective or unauthorized work is removed, and final clean-up is complete.
13. Location of underground utilities before work is begun is to be accomplished in accordance with A.R.S. Section 40-360.22.
14. If work is done on private property in relation to a project constructed under these standards, the contractor will provide the City with written authorization from the property owner to do so.
15. The establishment and use of temporary construction yards shall conform to the current City zoning code standards for temporary uses.
16. All excavated material shall be disposed of in accordance with applicable City codes and regulations. The contractor shall obtain all required City approvals and permits as deemed necessary by the City to dispose of excavated material.
17. All construction staking shall be the responsibility of the contractor/developer and performed under the direct supervision of a registered land surveyor or civil engineer.
18. All traffic sign sheeting shall be Type VIII as designed by ASTM D4956-07e1 Standard Specifications for Retroreflective Sheeting for Traffic Control, unless specified otherwise on the construction plans.
19. When the construction plans specify graffiti control on bridges or other structures, the contractor shall seal the structure first using Monochem Aquaseal ME 12 and then apply Monochem Permashield, Sacrificial Graffiti Control System (or approved equal).
20. All areas disturbed during construction shall be stabilized and reseeded in accordance with Chapter 13-17. In the event that the construction activity disturbs more than one (1) acre, a stormwater pollution prevention plan (SWPPP) shall be prepared in order to obtain a construction general permit from ADEQ.
21. All survey monuments within or around the construction area shall be protected in place. Any monuments that are disturbed or displaced by construction shall be reset by the RLS at the contractor's expense in accordance with City of Flagstaff Engineering Standards Section 13-03-005-0004 and A.R.S. Section 33-103.
22. The use of trench plating shall be prohibited from November 1st to April 1st unless specifically allowed by the City Engineer. (Ord. 2017-22, Rep&ReEn, 07/05/2017; Ord. 2024-13, Amended, 04/16/2024 (Res. 2024-15))

CITY OF FLAGSTAFF WATER & SEWER NOTES

All design, construction, testing and inspection shall conform to the ADEQ requirements: water distribution in accordance with Bulletins 10 and 8, and sewer collection in accordance with AAC Title 18. In the event the ADEQ requirements conflict with these standards, the more restrictive shall apply.

A. Rough grading shall be completed within one-tenth (1/10) of a foot of plan grade and approved by the City Engineer's authorized representatives prior to installation of underground utilities.
B. No trench shall be filled with bedding material or backfill until the excavation and pipe laying, respectively, have been approved by the City Engineer's authorized representative.
C. A water pressure test is required of all water lines and a hydrostatic or air test is required of all sewer lines and manholes. Tests are to be conducted after backfilling is complete and compacted on all public and/or private underground utilities.
D. Water and sewer service lines are to be marked as shown on the standard service details.
E. Water line disinfection is to be accomplished as outlined in Arizona Department of Environmental Quality (ADEQ) "Bulletin No. 8."
F. Water pipe classification shall be Class 305 for A.W.W.A. C-900 PVC and Class 350 for ductile iron unless otherwise approved by the City Engineer. C-900 shall conform to cast-iron-equivalent outside diameter and have elastromeric gaskets and couplings. All ductile iron pipe shall be polyethylene encased in accordance with MAG Specifications.
G. All materials that come into contact with drinking water shall conform to NSF Standard 61 including, but not limited to, gaskets, lubricants, pipe fittings, and valves (NSF-pw seal) (R18-4-119B).
H. All public sanitary sewer lines and private sewer service lines within a public utility easement or right-of-way will be inspected prior to acceptance by the City.
I. Water and sewer mains shall be separated in order to protect public water systems from possible contamination. All distances are measured perpendicularly from the outside of the sewer main to the outside of the water main. Separation requirements are as follows:
   1. A water main shall not be placed:
      a. Within six (6) feet, horizontal distance, and less than two (2) feet, vertical distance, above the top of a sewer main unless extra protection is provided. Extra protection shall consist of constructing the sewer main with mechanical joint ductile iron pipe or with slip-joint ductile iron pipe if joint restraint is provided. Alternate extra protection shall consist of encasing both the water and sewer mains in at least six (6) inches of concrete for at least ten (10) feet beyond the area covered by this subsection.
      b. Within two (2) feet horizontally and two (2) feet below the sewer main. When a water main is placed below a sewer main, extra protection is always required regardless of the vertical separation.
   2. No water pipe shall pass through or come into contact with any part of a sewer manhole. The minimum horizontal separation between water mains and manholes shall be six (6) feet, measured from the center of the manhole.
   3. The minimum separation between force mains or pressure sewers and water mains shall be two (2) feet vertically and six (6) feet horizontally under all conditions. Where a sewer force main crosses above or less than six (6) feet below a water line, the sewer mains shall be encased in at least six (6) inches of concrete or constructed using mechanical joint ductile iron pipe for ten (10) feet on either side of the water main.
   4. Even when extra protection is utilized, the minimum clearance between water and sewer shall be one (1) foot.
   5. The separation requirements do not apply to building, plumbing, or individual house service connections.
J. When hydrostatic testing is performed, sewer lines shall be tested for infiltration/exfiltration in accordance with ADEQ Engineering Bulletin No. 11. Manholes shall be tested by filling the manhole with water. The applicant shall ensure that the drop in water level does not exceed one-thousandth (0.001) of the total manhole volume in one (1) hour.

When air testing is performed, sewer lines shall be tested in accordance with ASTM F1417-92. Manholes shall be tested in accordance with ASTM C1244.

K. Sewer pipe shall be SDR 35, ASTM D3034 for PVC pipe, or Class 150 DIP lined with Protecto 401 ceramic epoxy or HDPE ASTM F894. All ductile iron pipelines shall be polyethylene encased in accordance with MAG Specifications. Special design considerations may require a higher class rating of DIP.
L. No water settling of trench fill material is allowed.
M. All water and sewer design and construction shall conform to the current Arizona Department of Environmental Quality (ADEQ) requirements. When ADEQ requirements are in conflict with these standards, the more restrictive shall apply.
N. Tracer wires and tapes shall be installed prior to testing the water or sewer main as required by Section 13-09-001-0002. (Strip wire two (2) inches at termination of the service.)
O. Water valves shall be adjusted in accordance with City of Flagstaff Engineering Detail No. 9-03-060 and manholes shall be adjusted in accordance with City of Flagstaff Engineering Detail No. 9-03-062.
P. One hundred percent (100%) of the sewer line shall be tested for uniform slope by remote camera and tested for short-term deflection.
   1. When a sewer service is required to be abandoned, it shall be abandoned at the property line and capped using the appropriate materials (PVC, clay, or concrete).
   2. When an existing water service is required to be abandoned, it shall be abandoned at the main. The saddle and corp. stop shall be removed and the main clamped with an approved full circle repair clamp.
Q. The location of water services shall be identified by branding a "W" on the top or face of curb.
R. Sewer service locations shall be identified by branding an "S" on the top or face of the curb.
S. Any existing water stub which is not utilized as part of the approved civil plans shall be abandoned and the valve at the main shall be removed and replaced with a blind flange, repair coupling or other approved method.
T. The contractor shall verify that the size of water service and water meter indicated on these plans matches that indicated on the approved building plumbing plan set. In the event there is a discrepancy, contact City of Flagstaff Water Services to confirm correct size prior to installation of water service. Where the new service is being installed to a parcel or lot for which no City-approved construction plans exist, consult Engineering Standard Table 13-09-003-04 for the most applicable water service size based on the anticipated use of the property and taking into account those subdivisions where residential fire sprinklers are required.
U. All new or relocated fire hydrants shall be tested in accordance with AWWA M-17 procedure and observed by a representative of the City Engineer with the test procedure and results documented on a form prescribed by the City Engineer. All hydrant testing shall be scheduled with the Engineering Division. Under no circumstances may an active hydrant be operated by persons other than authorized City of Flagstaff personnel. (Ord. 2017-22, Rep&ReEn, 07/05/2017; Ord. 2024-13, Amended, 04/16/2024 (Res. 2024-15))

FLOOD ZONE DETERMINATION

The majority of the water and sewer mains are in FEMA Zone X, areas determined to be outside the 0.2% annual chance flood. Where the water and sewer mains cross the Rio de Flag FEMA regulated floodplain, scour protection is required as shown. The sewer main and sewer transmission main are within the Rio de Flag FEMA regulated floodplain. The design includes extra protection for shallow cover and scour.

ADEQ NOTES

Waterline construction materials shall be lead free as defined in A.A.C. R18-4-101 in accordance to A.A.C. R18-5-504.

Waterlines shall be pressure and leak tested per AWWA C600 for DIP, C605 for PVC (latest version) or MAG Specification 611.2.2.

The minimum pipe cover is XX ft given by the Engineering Bulletin No. 10.

PIPE LENGTHS

Pipe lengths labeled in profiles are the 3D pipe length. Pipe quantities are the 2D pipe length measured along the centerline of the pipe per MAG Specifications.

LEGEND

EXISTING	PROPOSED
	MAJOR CONTOUR
	MINOR CONTOUR
	PARCEL
	RIGHT-OF-WAY
	CENTER
	EASEMENT
	EXISTING GRADE AT LT BC
	EXISTING GRADE AT RT BC
	UTILITY COVER
W	WATER LINE
S	SEWER LINE
G	GAS LINE
E	ELECTRIC LINE
COMM	COMMUNICATION LINE
	STORMDRAIN/CULVERT
	FLOWLINE/DITCH
	FENCE
RW	RECLAIMED WATER
	FUTS RAIL FENCE
	WATER VALVE
	FIRE HYDRANT
	SEWER MANHOLE
	SEWER CLEANOUT
	GAS VALVE
	ELECTRICAL CABINET
	LIGHT POLE
	COMMUNICATION RISER
	STORM DRAIN MANHOLE
	CATCH BASIN
	BOLLARD/POST
	SIGN
	SURVEY CONTROL
	AIR RELEASE VALVE
	TREE (APPROXIMATE LOCATION)
	ASPHALT
	CONCRETE
	LANDSCAPE
	DETECTIBLE WARNING

ABBREVIATIONS

AC	ASPHALTIC CONCRETE PAVEMENT
ADOT	ARIZONA DEPARTMENT OF TRANSPORTATION
APN	ASSESSORS PARCEL NUMBER
ARV	AIR RELEASE VALVE
BC	TOP BACK OF CURB
BO	BLOW-OFF
BP	BEGIN POINT ALIGNMENT
BW	BOTTOM OF WALL
C&G	CURB & GUTTER
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
COF	CITY OF FLAGSTAFF
E	EASTING
EG	EXISTING GRADE
EL - ELEV	ELEVATION
EX	EXISTING
FC	FACE OF CURB
FG	FINISHED GRADE
HDPE	HIGH DENSITY POLYETHYLENE
INV	INVERT
LT - L	LEFT
MAG	MARICOPA ASSOCIATION OF GOVERNMENTS
MAX	MAXIMUM
ME	MATCH EXISTING
MIN	MINIMUM
N	NORTHING
OFS	OFFSET
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PCCP	PORTLAND CEMENT CONCRETE PAVEMENT
PRC	POINT OF REVERSE CURVATURE
PRV	PRESSURE RELIEF VALVE
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
RAD - R	RADIUS
ROW - R/W	RIGHT OF WAY
RT - R	RIGHT
S	SIGN
SD	STORM DRAIN
SRP	SPIRAL RIBBED PIPE
SS	SANITARY SEWER
STA	STATION
SW	SIDEWALK
TC	TOP OF CURB
WL	WATER LINE
WM	WATER METER
WV	WATER VALVE

60% DESIGN
COF PROJECT NO: 03-16010

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ARIZONA811
Call 811 or click Arizona811.com

REVISION	DESCRIPTION	DATE

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(928) 774-4046

Peak ENGINEERING, INC.
Connecting Place to People

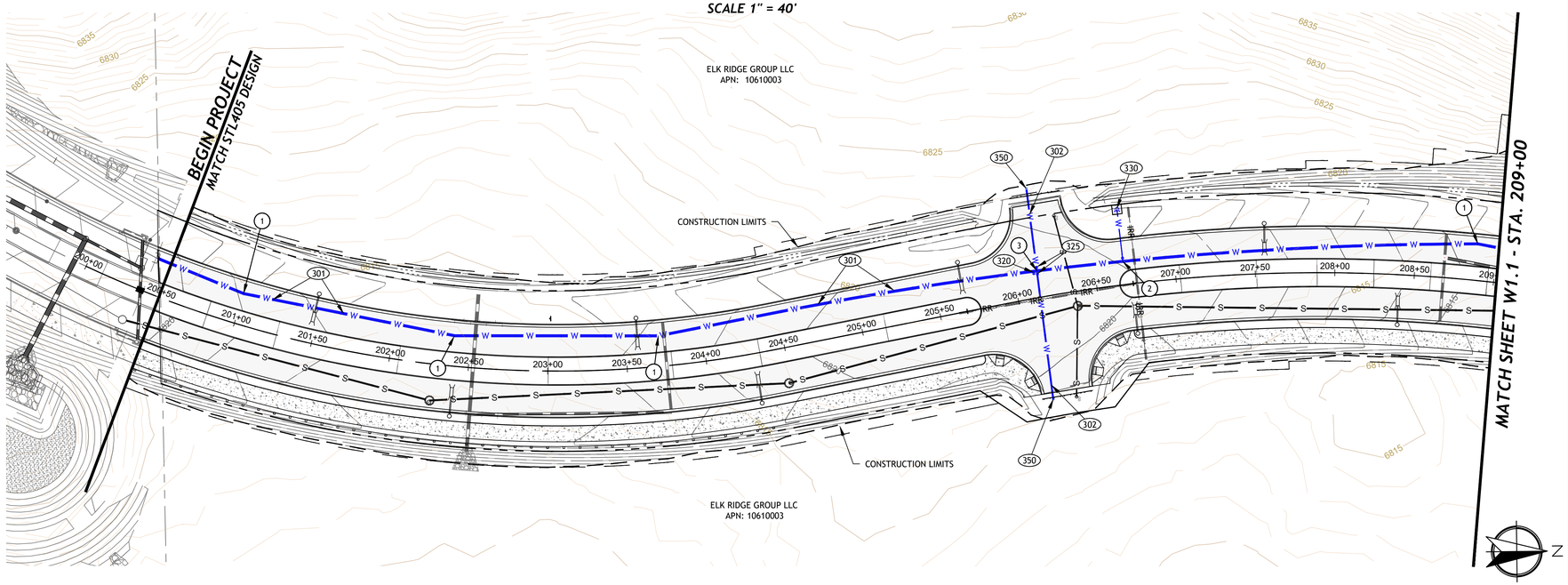
Preliminary Not For Construction

CITY OF FLAGSTAFF
JW POWELL EXTENSION
NOTES & LEGEND

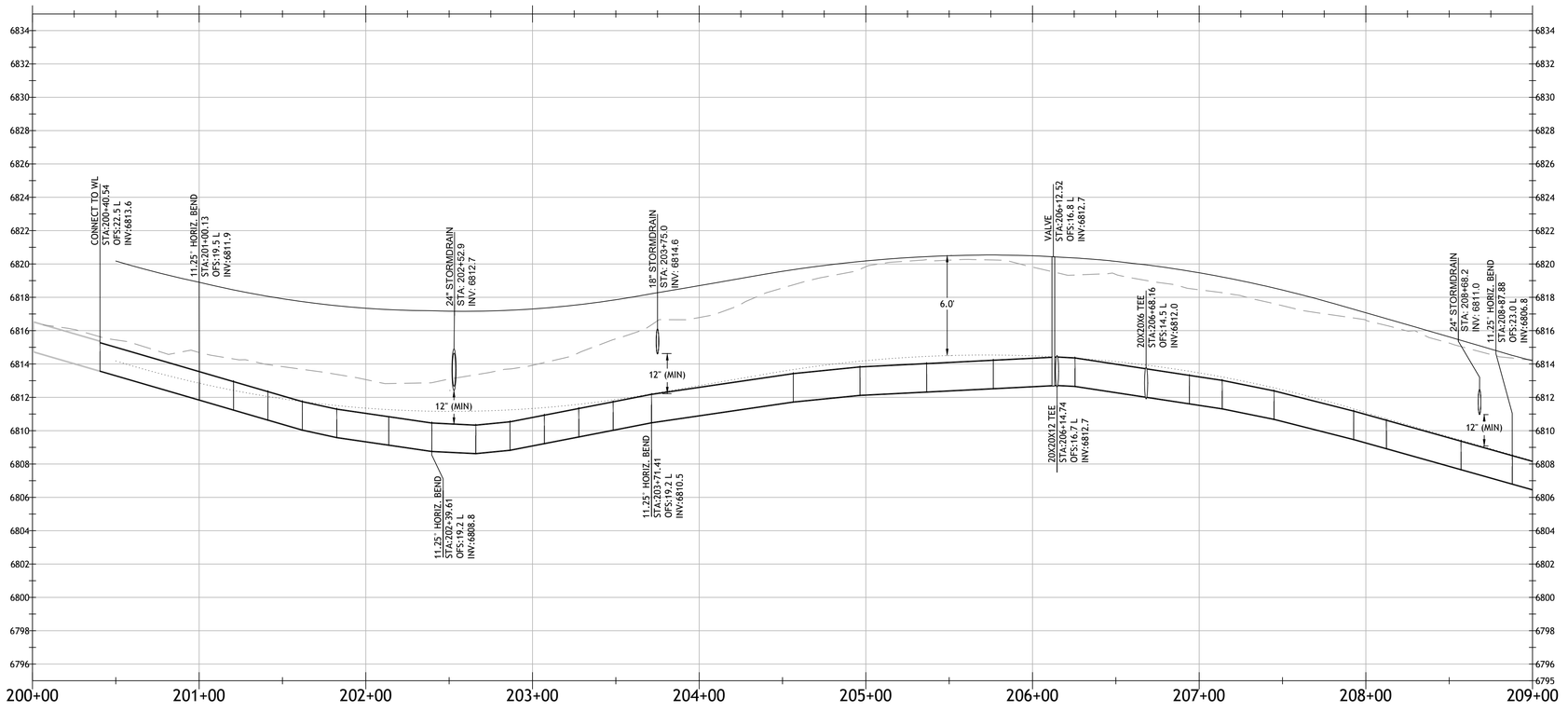
JOB NO:17COF02 | BY:DCW/SJ | CHECKED:JOL
DATE: MARCH 2026

UT1.1

PLAN VIEW
SCALE 1" = 40'



PROFILE VIEW
HORIZ. SCALE 1" = 40'
VERT. SCALE 1" = 4'



CONSTRUCTION NOTES

WATER (300)

301 20" D.I.P. water main, class 250, restrained joint, polyethylene encased. Trenching per COF Eng. Detail 09-01-031.

302 12" PVC C-900 or D.I.P. class 250 water main. Trenching per COF Eng. Detail 09-01-031.

320 20" gate valve, class 250, epoxy coated resilient seat. Includes valve box and cover.

325 12" gate valve, class 250, epoxy coated resilient seat. Includes valve box and cover.

330 Fire hydrant assembly per COF Eng. Detail 13-03-011.

350 End-of-Line Temporary Blowoff.

PIPE FITTINGS

1 BEND

2 TEE

3 CROSS

GRAPHIC SCALE 1" = 40'
40 0 40 80 120

60% DESIGN
COF PROJECT NO: 03-16010

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Peak ENGINEERING, INC.
Connecting Place to People

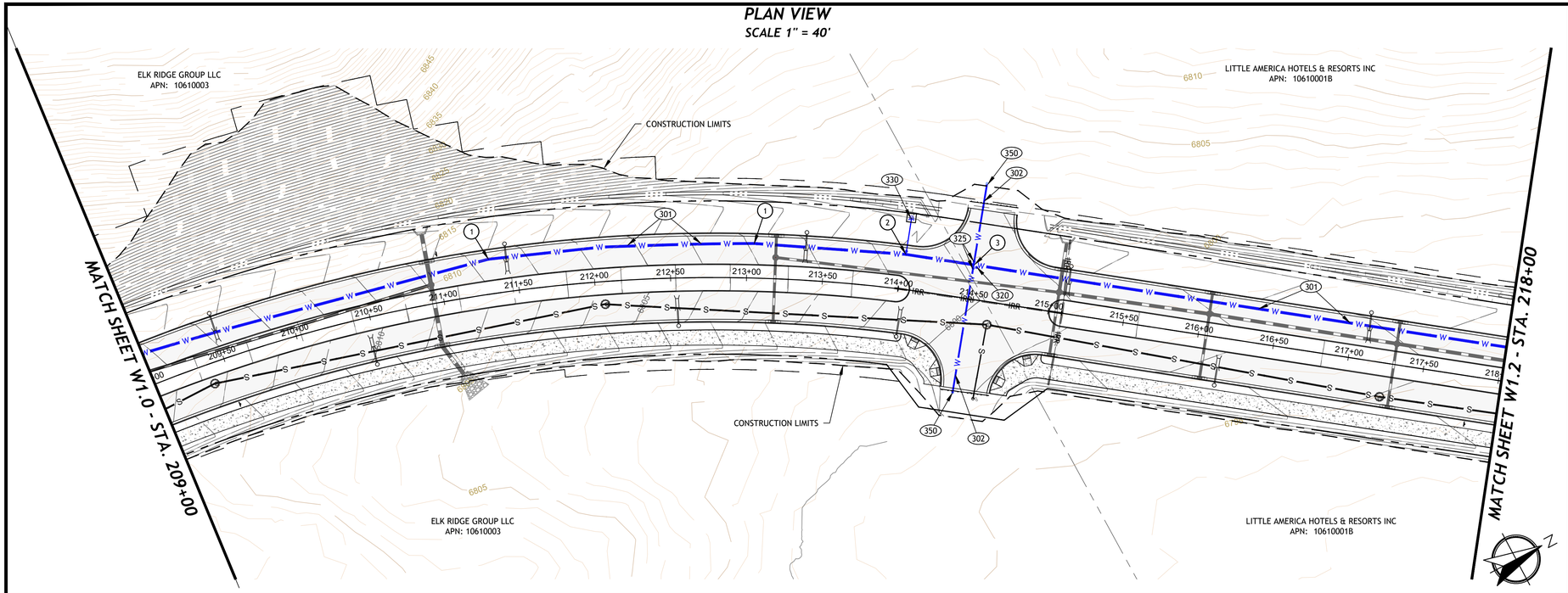
preliminary
Not For
Construction

CITY OF FLAGSTAFF
JW POWELL EXTENSION
WATERLINE PLAN & PROFILE
STA: 200+00 TO 209+00

JOB NO:17COF02 | BY:DCW/SJ
DATE: MARCH 2026 | CHECKED:JOL

W1.0

PLAN VIEW
SCALE 1" = 40'



PROFILE VIEW
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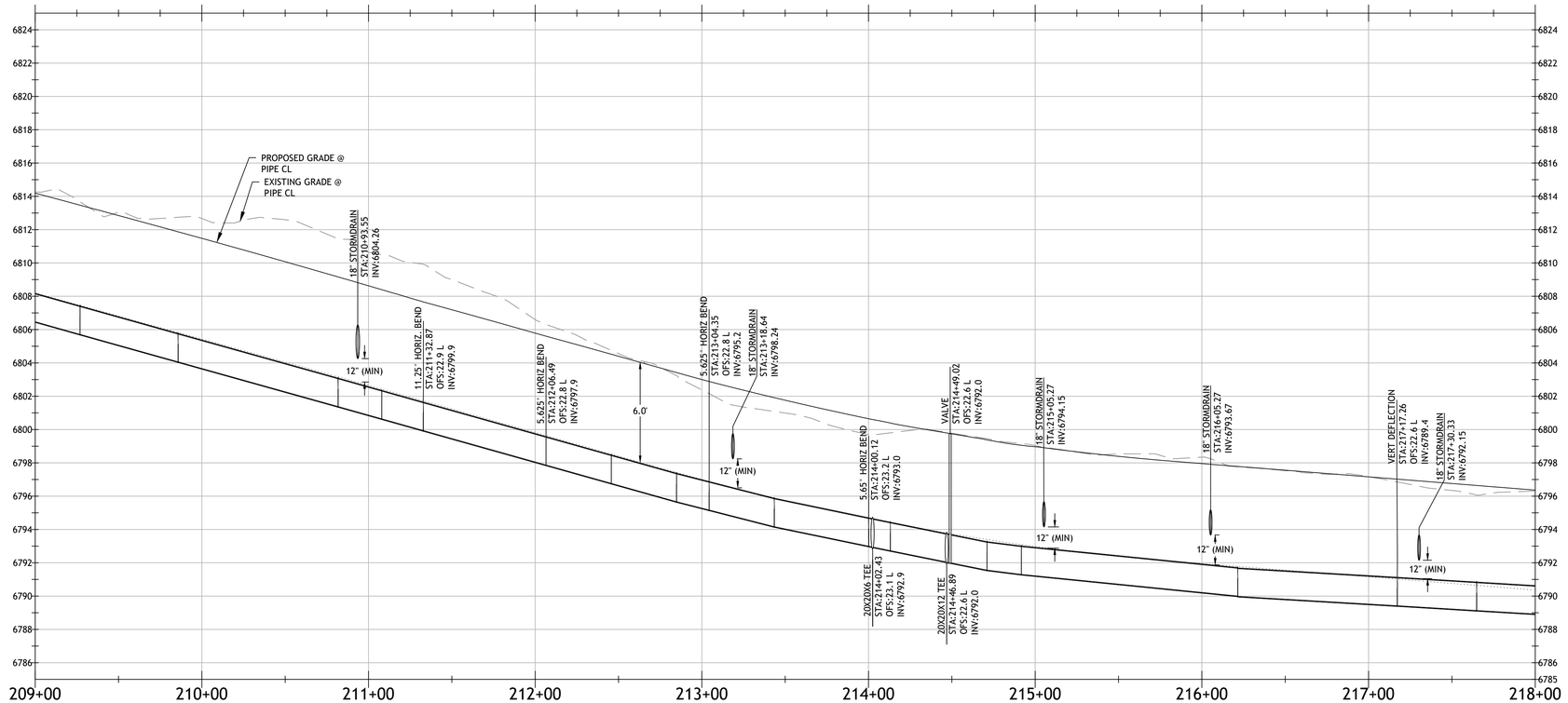

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60% DESIGN
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CONSTRUCTION NOTES

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325 12" gate valve, class 250, epoxy coated resilient seat. Includes valve box and cover.

330 Fire hydrant assembly per COF Eng. Detail 13-03-011.

350 End-of-Line Temporary Blowoff.

PIPE FITTINGS

1 BEND

2 TEE

3 CROSS

Contact Arizona 811 at least two full working days before you begin excavation
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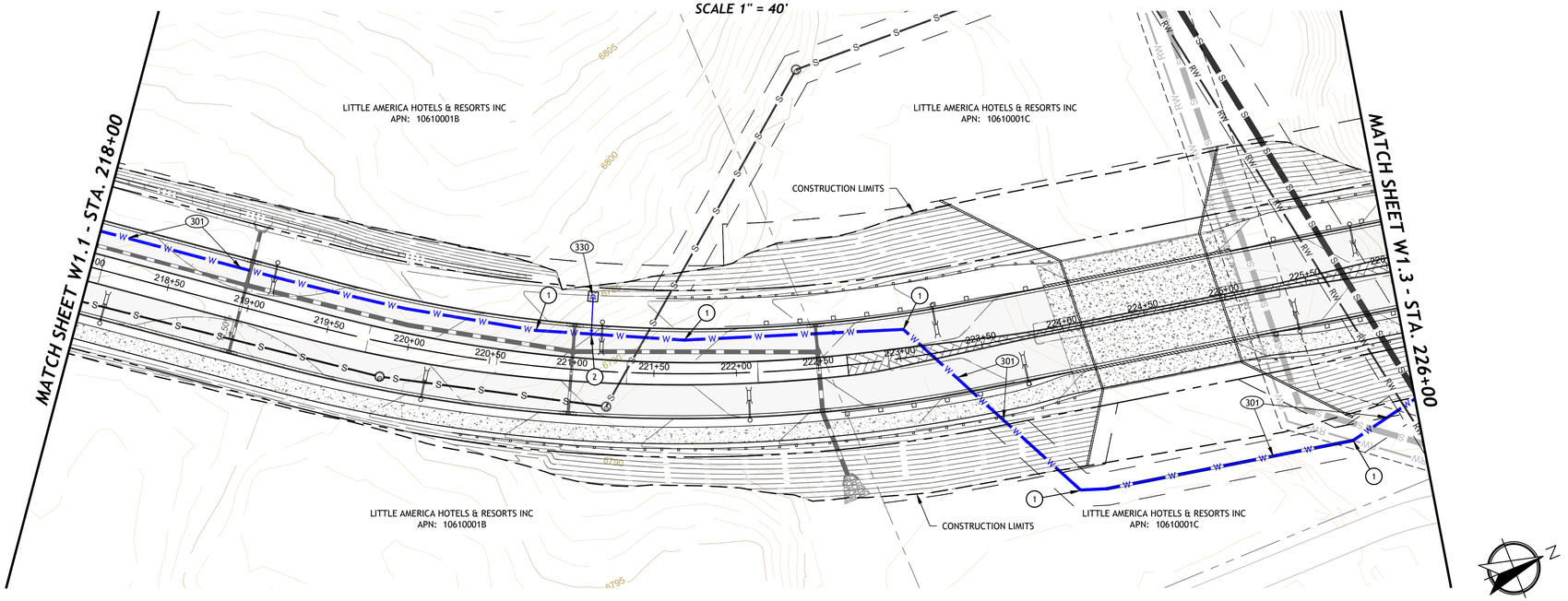
Preliminary Not For Construction

CITY OF FLAGSTAFF
JW POWELL EXTENSION
WATERLINE PLAN & PROFILE
STA: 209+00 TO 218+00

JOB NO:17COF02	BY:DCW/SJ
DATE: MARCH 2026	CHECKED:JOL

W1.1

PLAN VIEW
SCALE 1" = 40'



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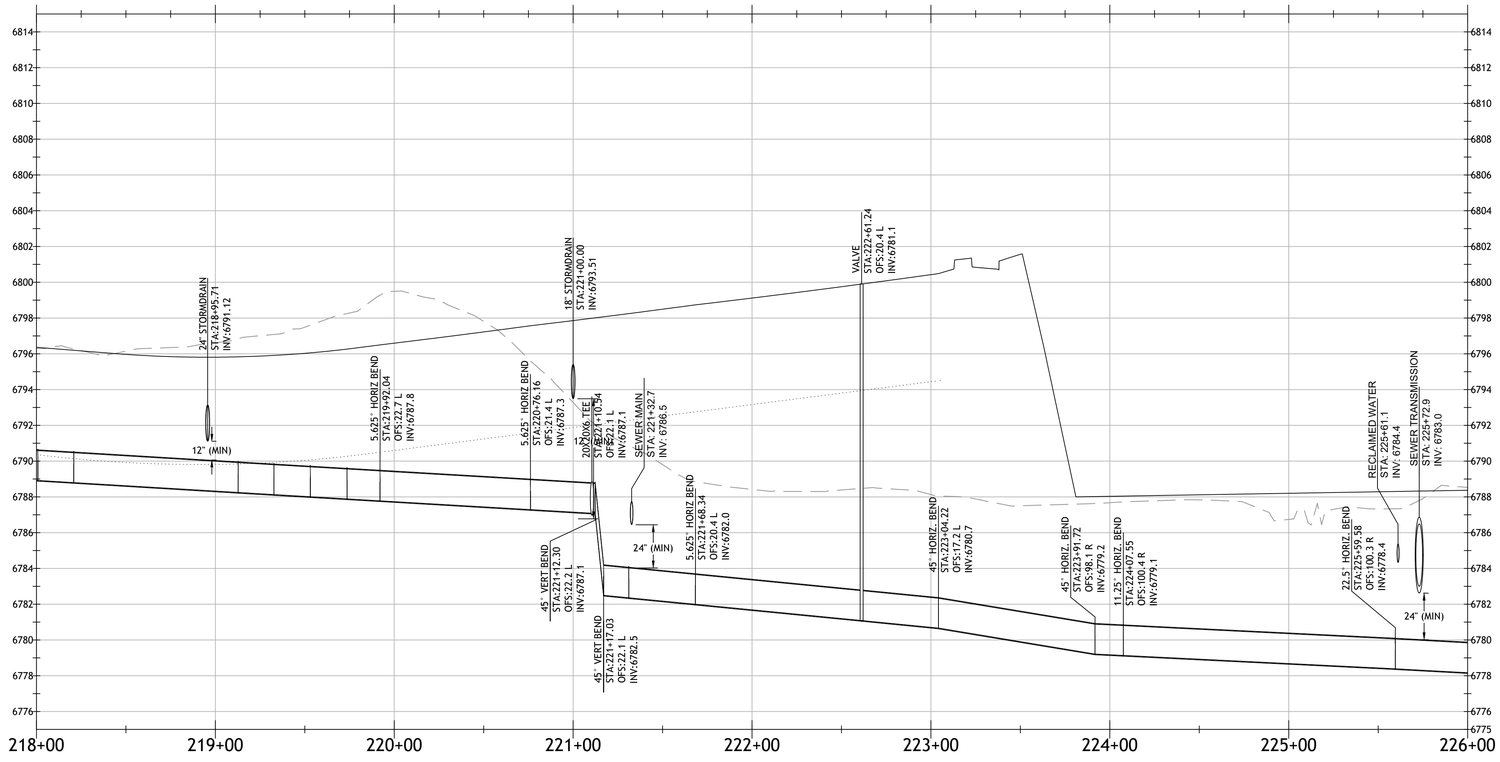

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CONSTRUCTION NOTES

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340 Combination Air Release Valve, 2", per COF Eng. Detail 09-03-100.

PIPE FITTINGS

1 BEND

2 TEE

3 CROSS

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REVISION	DESCRIPTION	DATE

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Connecting Place to People
201 E. Birch Ave., Suite 3
Flagstaff, AZ 86001
(928) 774-4046

preliminary
Not For
Construction

CITY OF FLAGSTAFF
JW POWELL EXTENSION
WATERLINE PLAN & PROFILE
STA: 218+00 TO 226+00

W1.2

JOB NO:17COF02 | BY:DCW/SJ
DATE: MARCH 2026 | CHECKED:JOL

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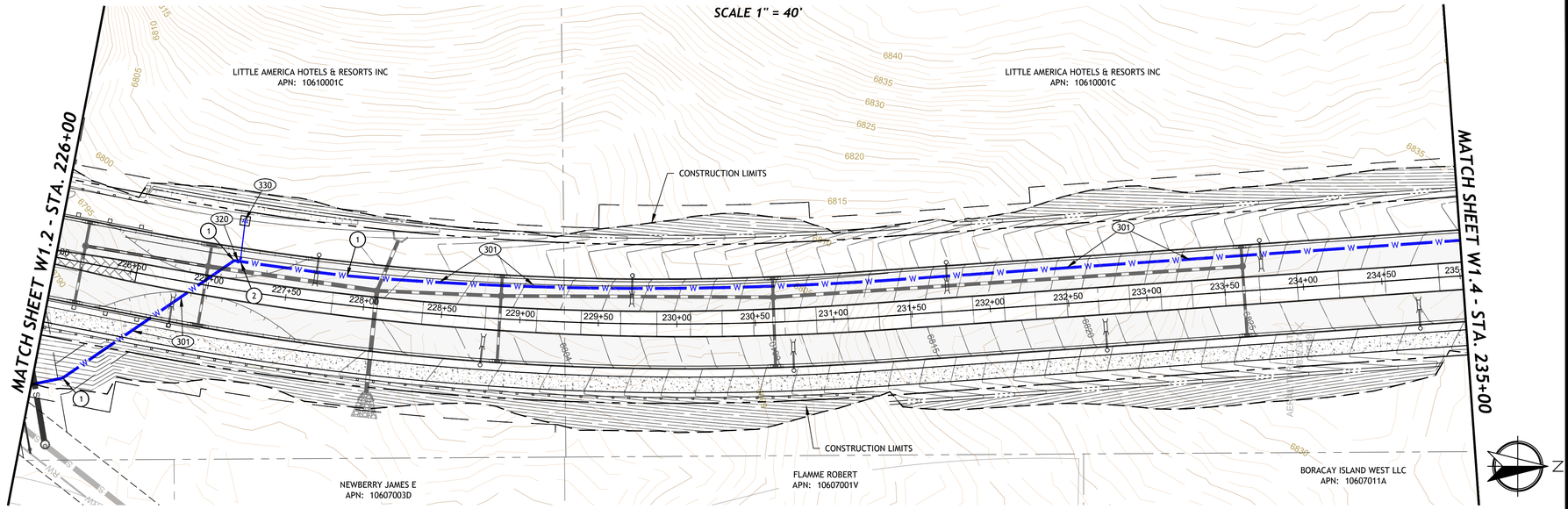

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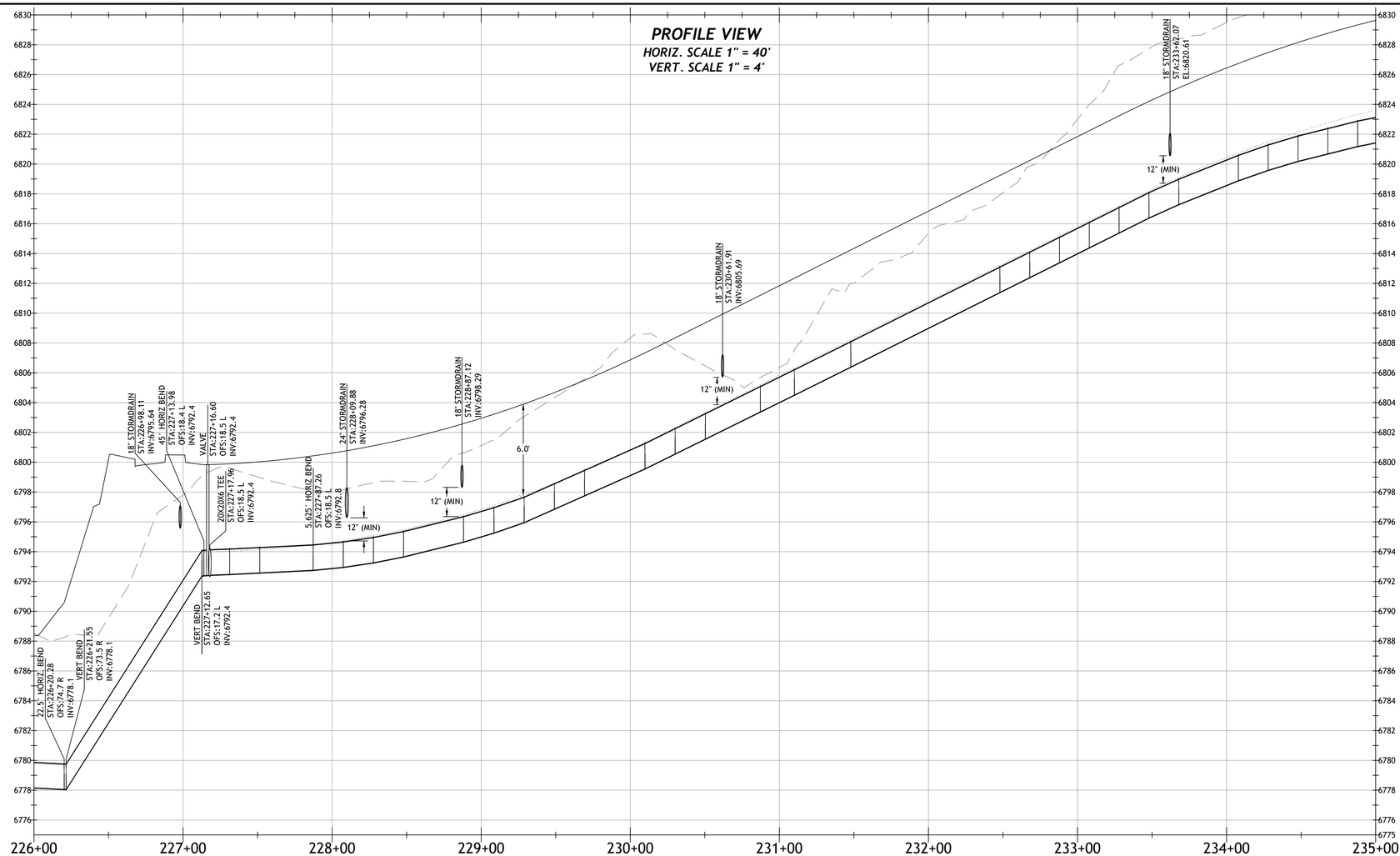

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CITY OF FLAGSTAFF
JW POWELL EXTENSION
WATERLINE PLAN & PROFILE
STA: 226+00 TO 235+00

JOB NO:17COF02	BY:DCW/SJ
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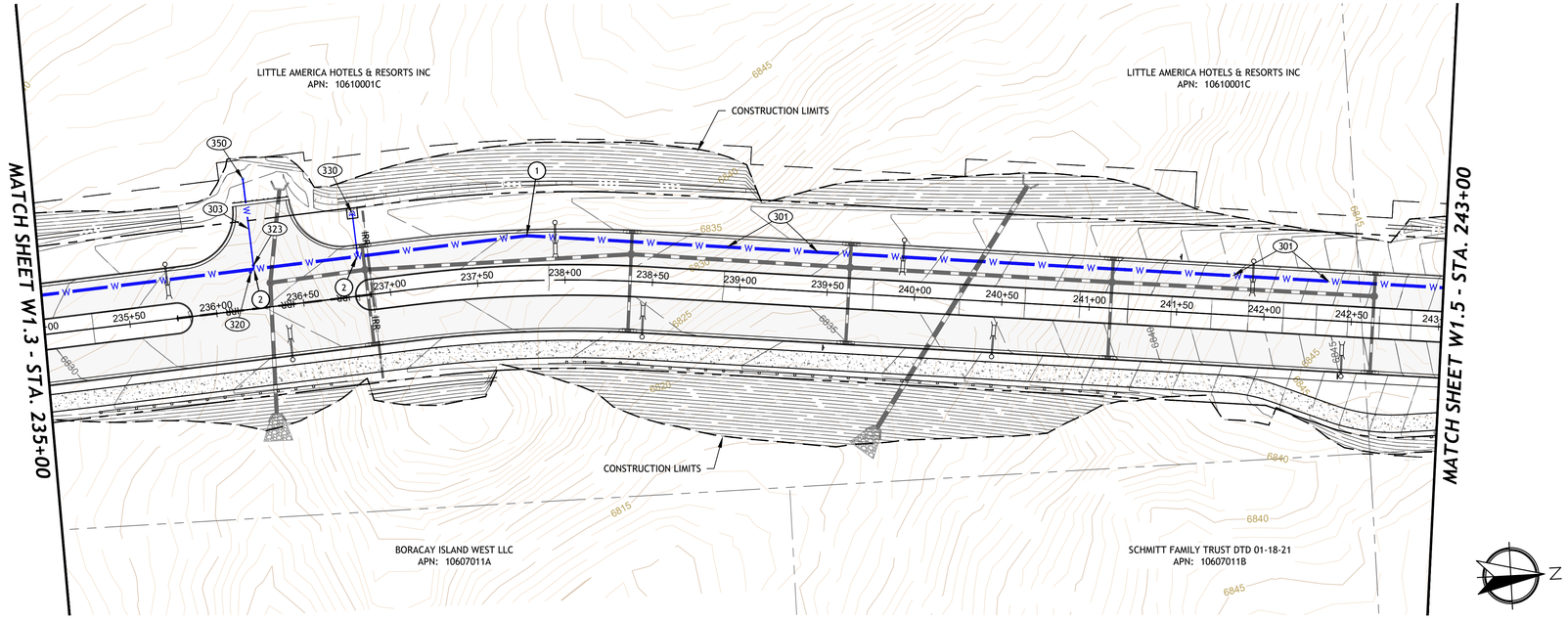
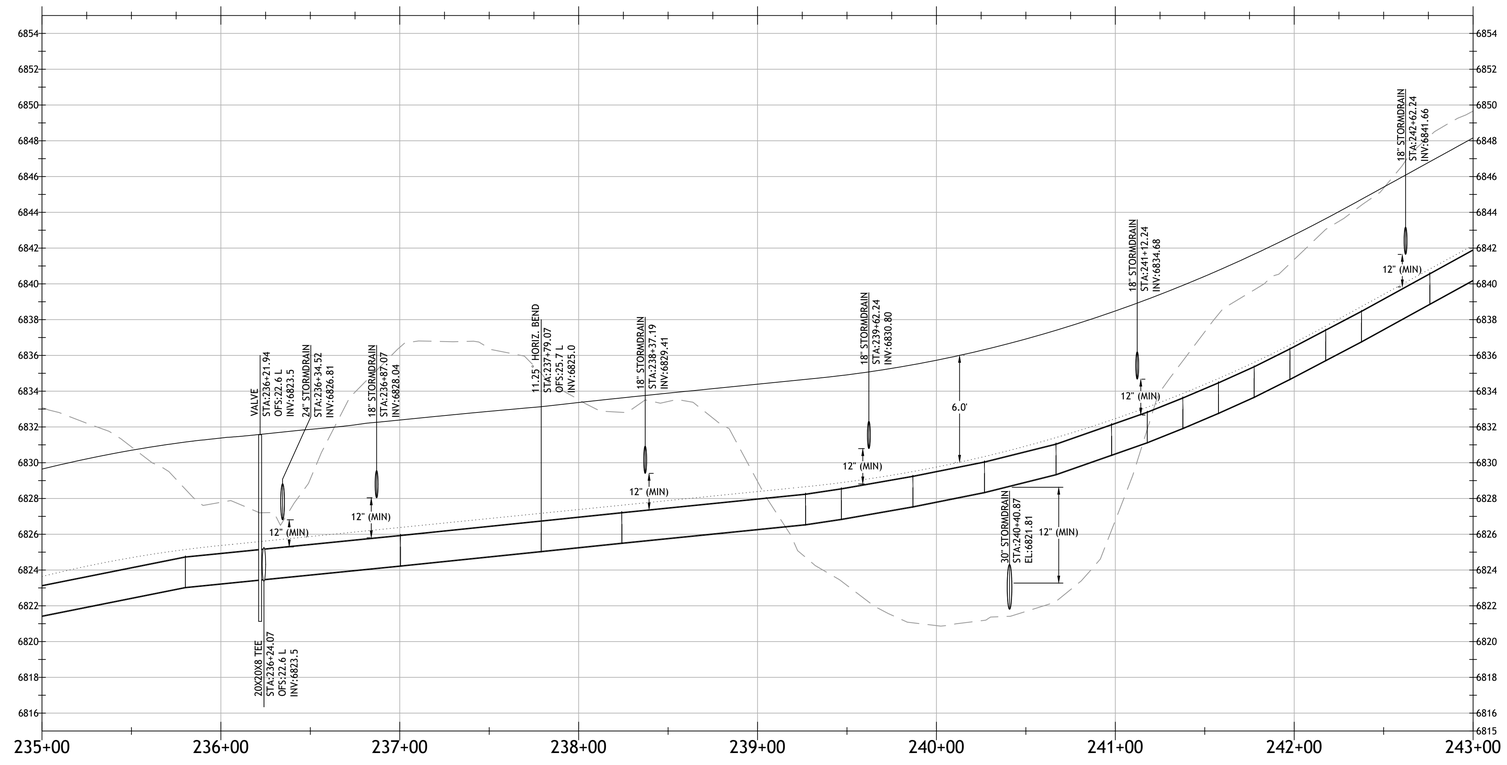
W1.3

PLAN VIEW
SCALE 1" = 40'



PROFILE VIEW
HORIZ. SCALE 1" = 40'
VERT. SCALE 1" = 4'



GRAPHIC SCALE 1" = 40'
40 0 40 80 120

60% DESIGN
COF PROJECT NO: 03-16010

CONSTRUCTION NOTES

WATER (300)

301 20" D.I.P. water main, class 250, restrained joint, polyethylene encased. Trenching per COF Eng. Detail 09-01-031.

303 8" PVC C-900 or D.I.P. class 250 water main. Trenching per COF Eng. Detail 09-01-031.

320 20" gate valve, class 250, epoxy coated resilient seat. Includes valve box and cover.

323 8" gate valve, class 250, epoxy coated resilient seat. Includes valve box and cover.

330 Fire hydrant assembly per COF Eng. Detail 13-03-011.

350 End-of-Line Temporary Blowoff.

PIPE FITTINGS

1 BEND

2 TEE

3 CROSS

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REVISION	DESCRIPTION	DATE

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Flagstaff, AZ 86001
(928) 774-4046
Peak ENGINEERING, INC.
Connecting Place to People

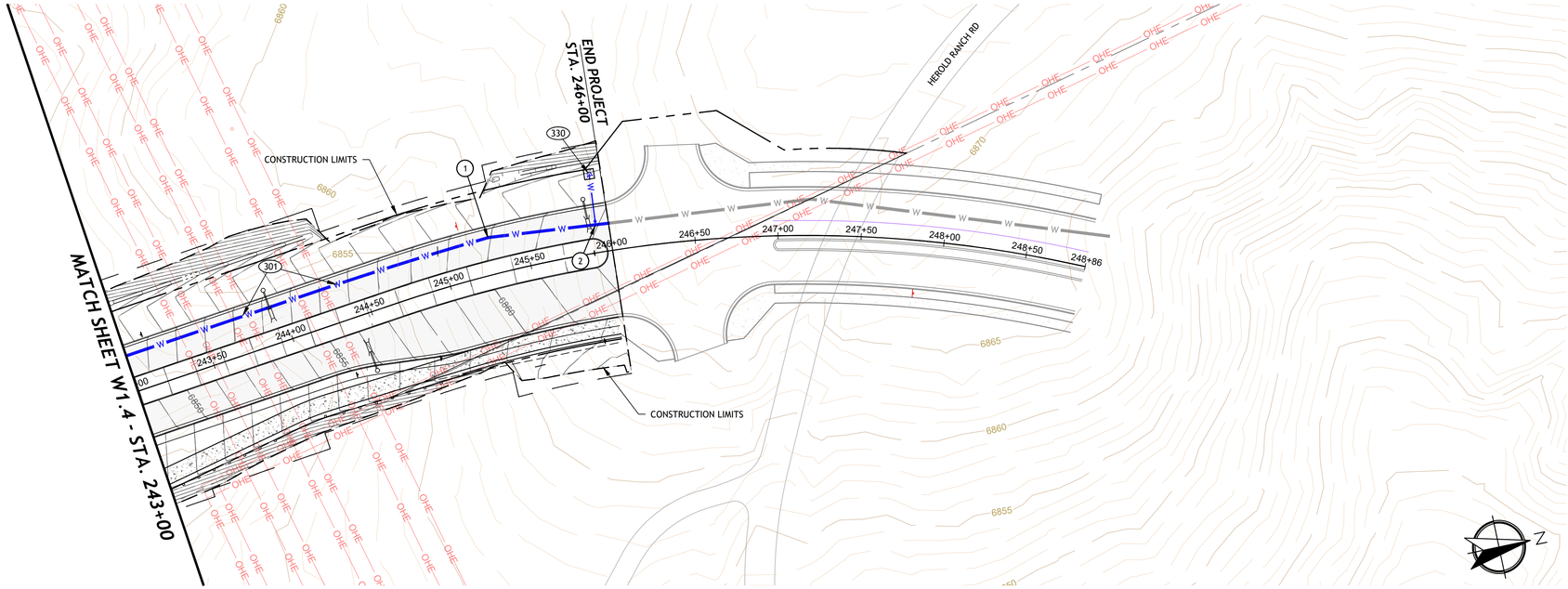
Preliminary Not For Construction

CITY OF FLAGSTAFF
JW POWELL EXTENSION
WATERLINE PLAN & PROFILE
STA: 235+00 TO 243+00

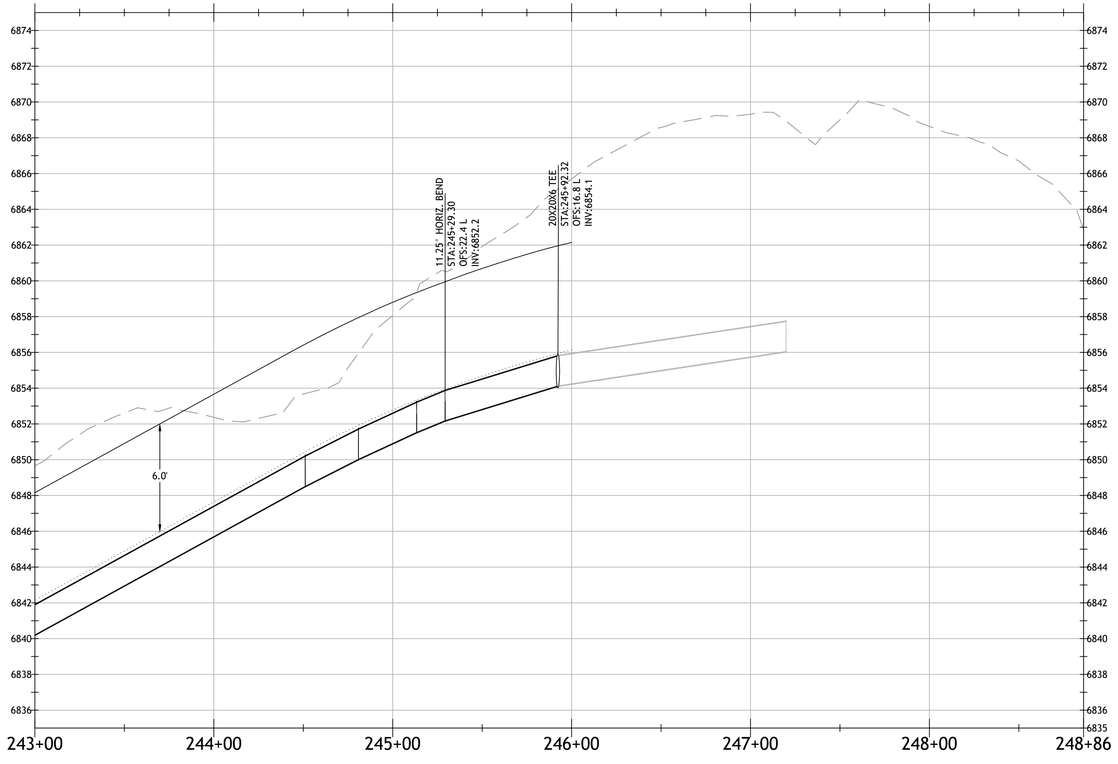
JOB NO:17COF02	BY:DCW/SJ
DATE: MARCH 2026	CHECKED:JOL

W1.4

PLAN VIEW
SCALE 1" = 40'



PROFILE VIEW
HORIZ. SCALE 1" = 40'
VERT. SCALE 1" = 4'



CONSTRUCTION NOTES

WATER (300)

301 20" D.I.P. water main, class 250, restrained joint, polyethylene encased. Trenching per COF Eng. Detail 09-01-031.

320 20" gate valve, class 250, epoxy coated resilient seat. Includes valve box and cover.

330 Fire hydrant assembly per COF Eng. Detail 13-03-011.

PIPE FITTINGS

1 BEND

2 TEE

3 CROSS

GRAPHIC SCALE 1" = 40'
40 0 40 80 120

60% DESIGN
COF PROJECT NO: 03-16010

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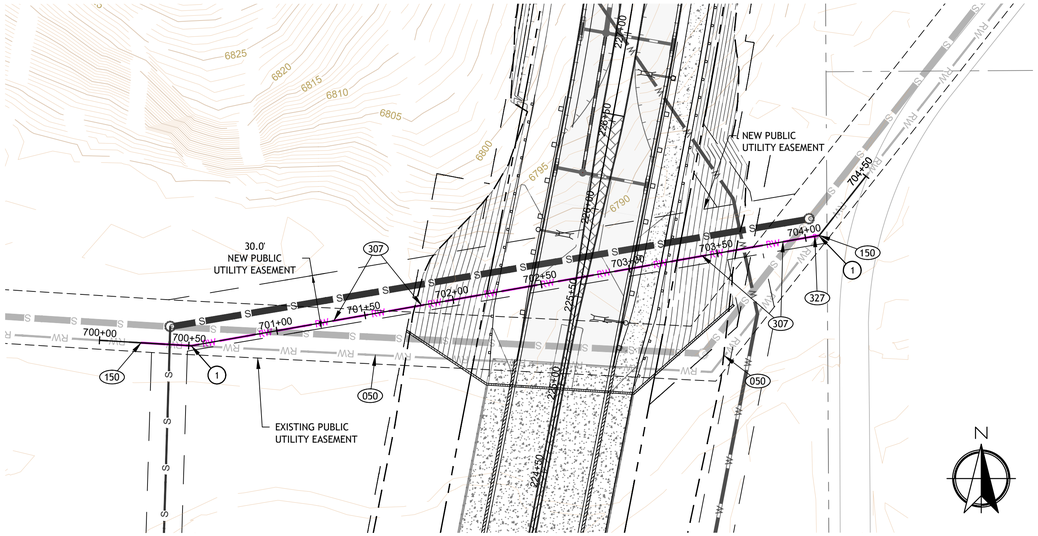
Preliminary Not For Construction

CITY OF FLAGSTAFF
JW POWELL EXTENSION
WATERLINE PLAN & PROFILE
STA: 243+00 TO END

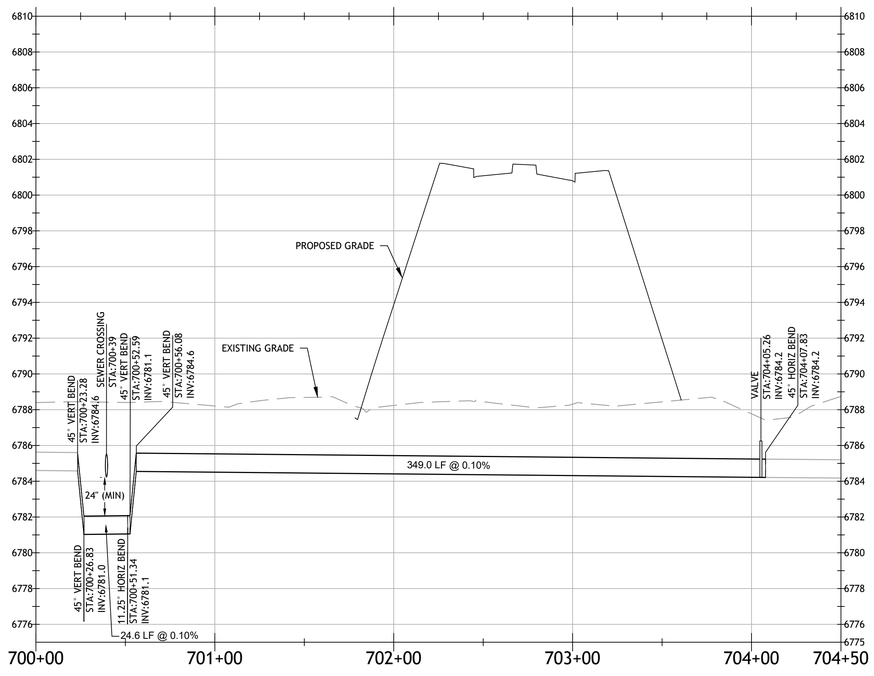
JOB NO:17COF02 | BY:DCW/SJ
DATE: MARCH 2026 | CHECKED:JOL

W1.5

PLAN VIEW
SCALE 1" = 40'



PROFILE VIEW
HORIZ. SCALE 1" = 40'
VERT. SCALE 1" = 4'



CONSTRUCTION NOTES

DEMO (000)

050 Remove and dispose of existing reclaimed water main.

ADJUSTMENTS (000)

150 Connect to existing reclaimed water main.

WATER (300)

307 12" PVC C-900 or D.I.P. class 250 reclaimed water main (purple). Trenching per COF Eng. Detail 09-01-031.

327 12" gate valve, class 250, epoxy coated resilient seat. Includes valve box and cover.

PIPE FITTINGS

1 BEND

2 TEE

GRAPHIC SCALE 1" = 40'
40 0 40 80 120

60% DESIGN
COF PROJECT NO: 03-16010

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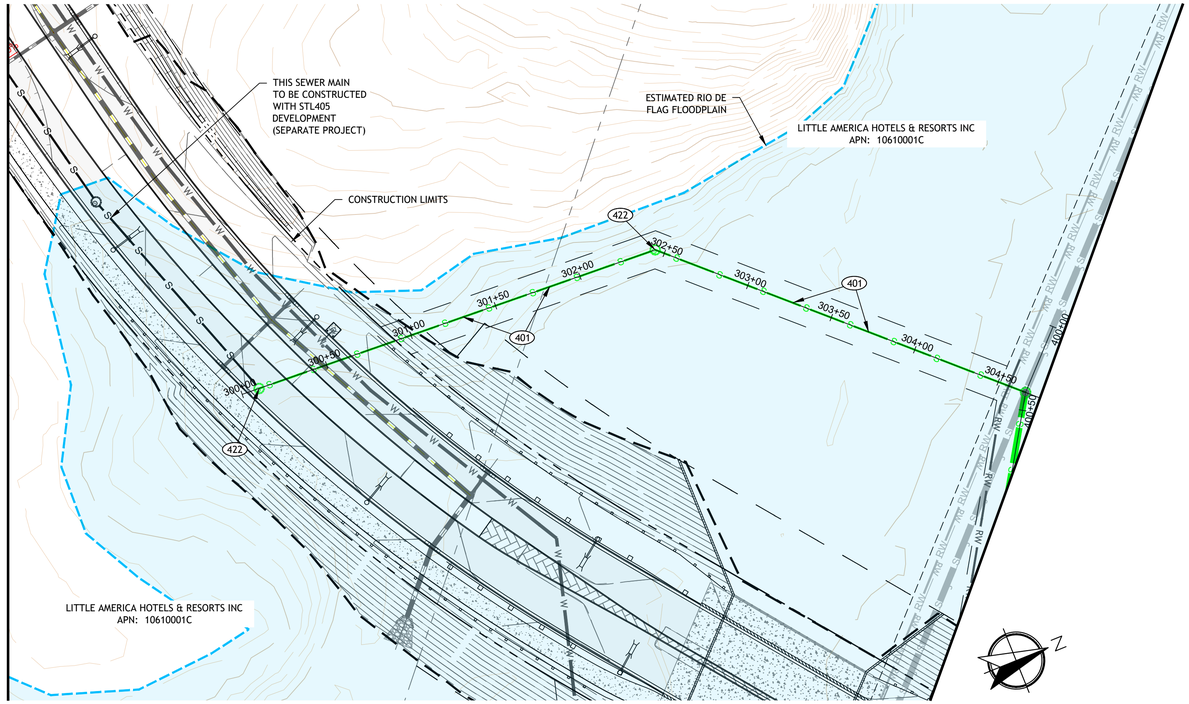
CITY OF FLAGSTAFF
JW POWELL EXTENSION
RECLAIMED WATER
PLAN & PROFILE

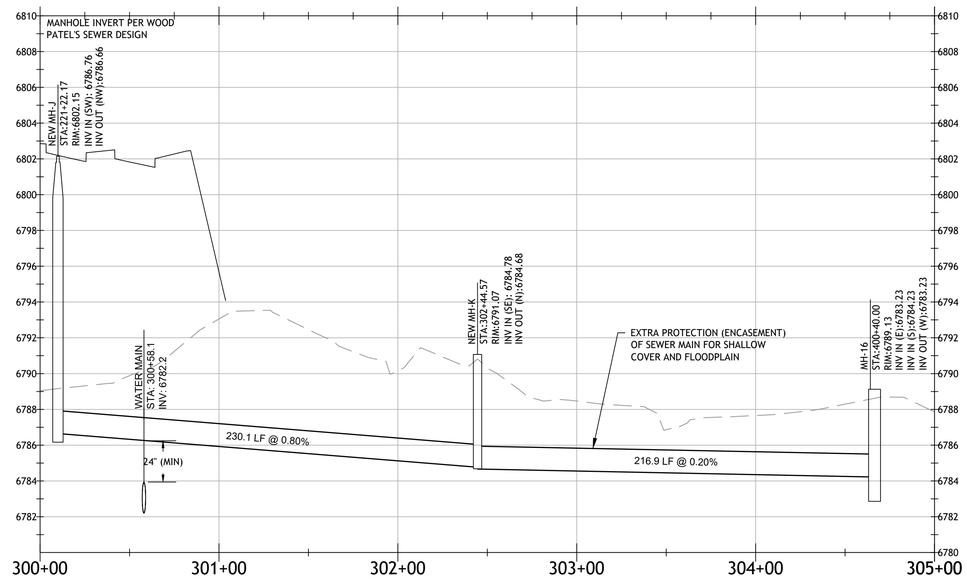
JOB NO:17COF02	BY:DCW/SJ
DATE: MARCH 2026	CHECKED:JOL

W2.0

PLAN VIEW
SCALE 1" = 40'



PROFILE VIEW
HORIZ. SCALE 1" = 40'
VERT. SCALE 1" = 4'



CONSTRUCTION NOTES

SEWER (400)

401 12" Class 150 DIP or SDR 35 sewer main. Trenching per COF Eng. Detail 09-01-031.

422 60" dia manhole with 30" frame and cover per MAG Std Detail 420 and 423-2 or 424-2 (in floodplain, water-tight).

GRAPHIC SCALE 1" = 40'
40 0 40 80 120

60% DESIGN
COF PROJECT NO: 03-16010

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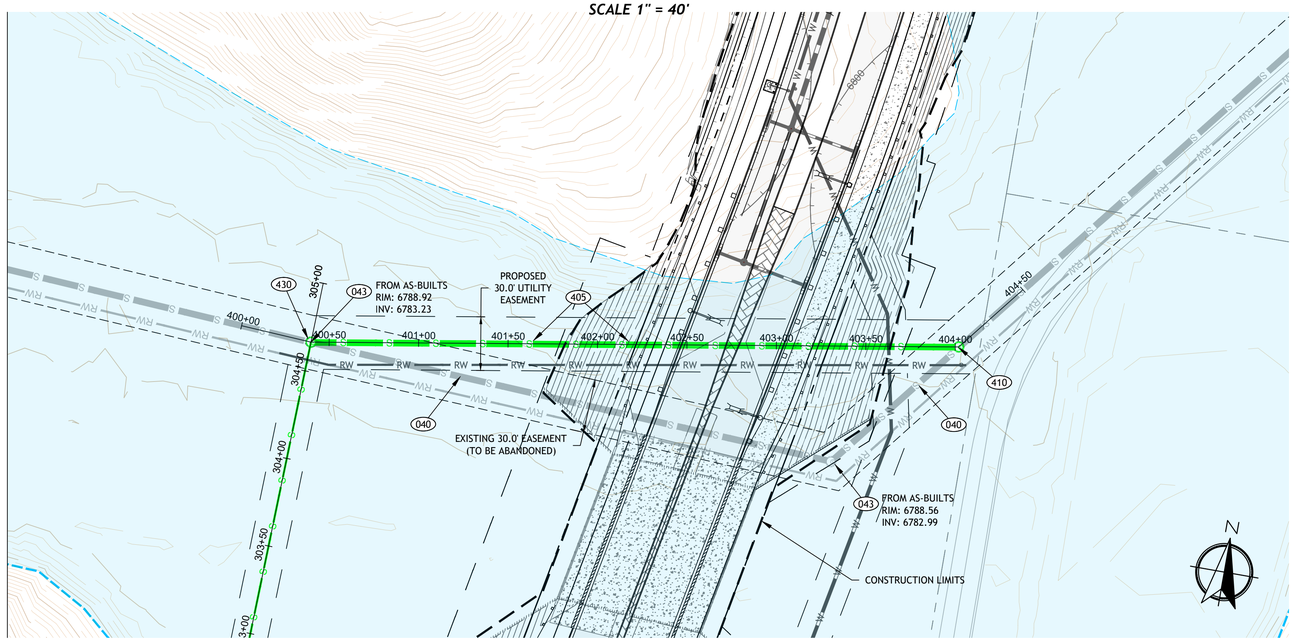
CITY OF FLAGSTAFF
JW POWELL EXTENSION
SEWER PLAN & PROFILE

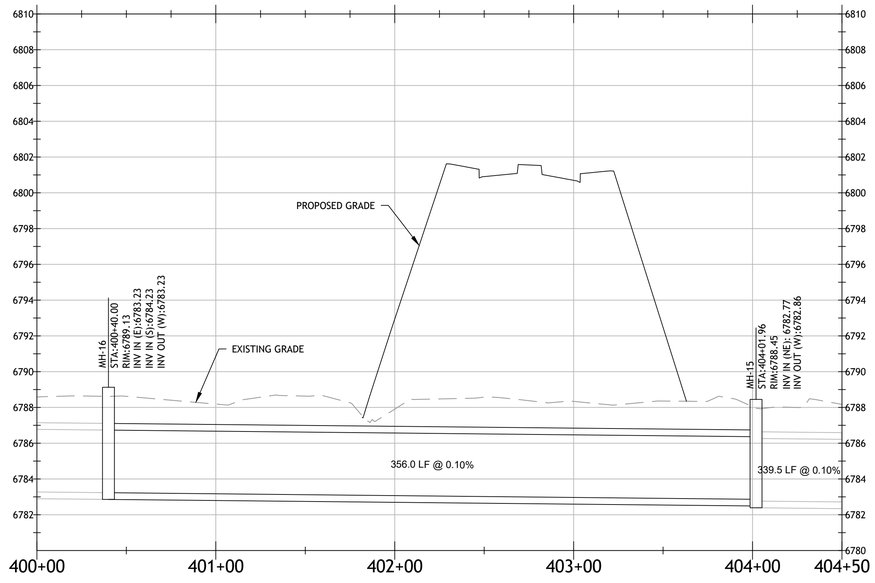
JOB NO:17COF02 | BY:DCW/SJ
DATE: MARCH 2026 | CHECKED:JOL

S1.0

PLAN VIEW
SCALE 1" = 40'



PROFILE VIEW
HORIZ. SCALE 1" = 40'
VERT. SCALE 1" = 4'



CONSTRUCTION NOTES

DEMO (000)

040 Remove & dispose sewer transmission main.

043 Remove & dispose sewer manhole.

SEWER (400)

405 42" ADS Sanitite HP Triple Wall sewer line or approved equal.

410 72" Dia sewer polymer concrete (water-tight) Type "A" top manhole per MAG Std Detail 419. 30" frame and cover per MAG Std Detail 424-2.

430 Junction structure.

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40 0 40 80 120

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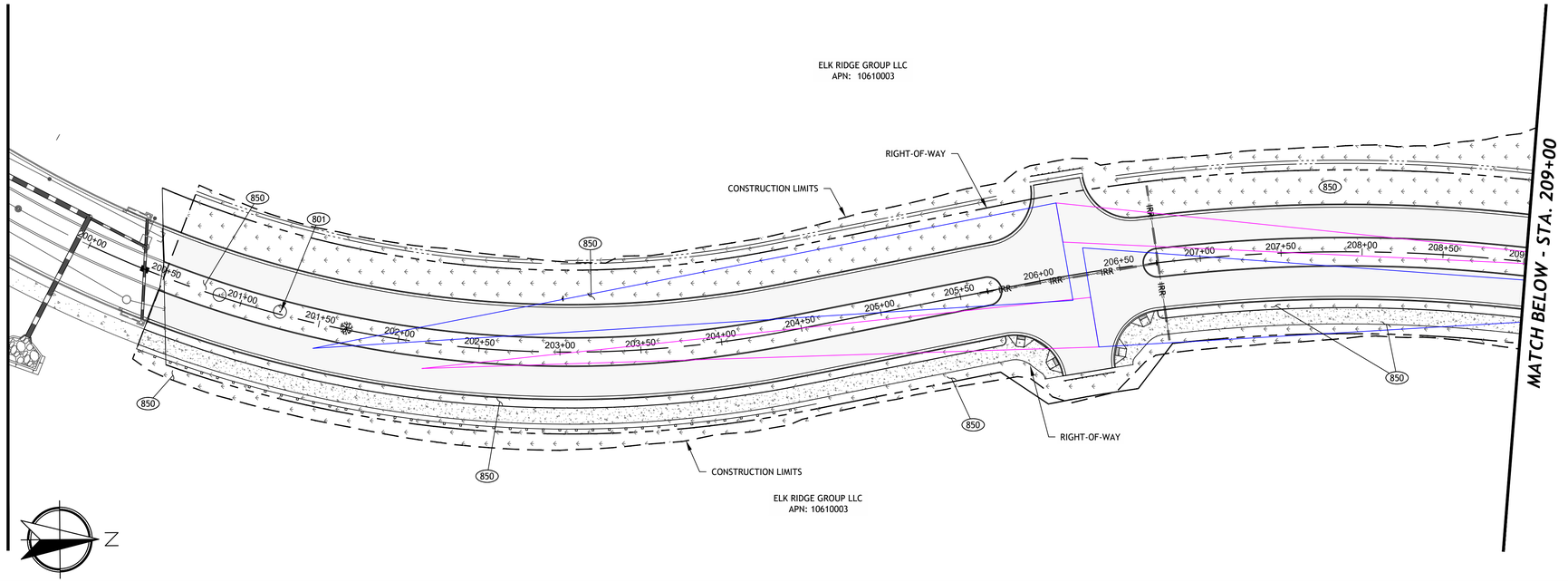
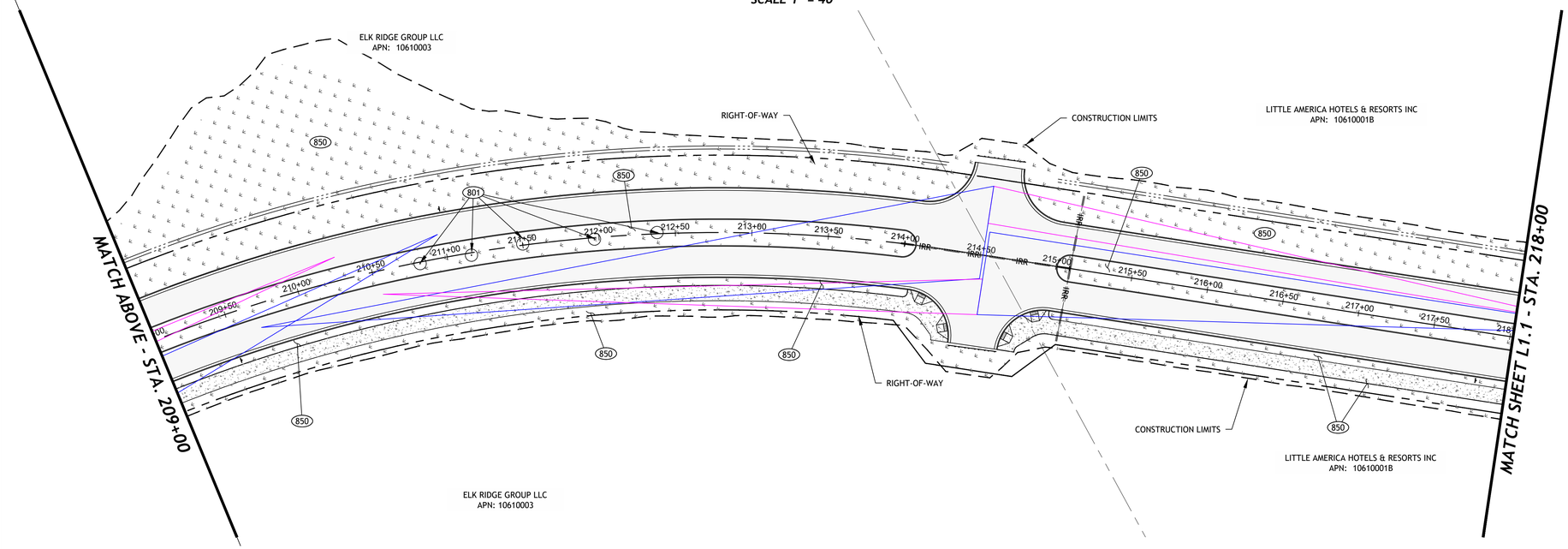
CITY OF FLAGSTAFF
JW POWELL EXTENSION
SEWER TRANSMISSION MAIN
PLAN & PROFILE

JOB NO:17COF02 | BY:DCW/SJ
DATE: MARCH 2026 | CHECKED:JOL

S2.0



PLAN VIEW
SCALE 1" = 40'



GRAPHIC SCALE 1" = 40'
40 0 40 80 120

CONSTRUCTION NOTES

LANDSCAPING (800)

801 LANDSCAPE TREE

850 HYDROSEED ALL DISTURBED AREAS WITH CITY OF FLAGSTAFF NATIVE SEED MIX

PLANT LIST

PONDEROSA PINE

GAMBEL OAK

SITE TRIANGLE CALCULATIONS

Intersection site distances are calculated using equations from A Policy on Geometric Design of Highways and Streets (Green Book) Chapter 9, Section 9.5.2 - Case B - Intersections with stop control on minor road.

Case B1 (Left Turn from Minor Road):
$IDS = 1.47 \times V_{major} \times t_g$

V_{major} = 40 mph (Signed 35mph)
t_g = 8 sec (7.5 sec + 0.5 sec for median width/future 4 lane roadway)
IDS = 470 ft

Case B2 (Right Turn from Minor Road):
$IDS = 1.47 \times V_{major} \times t_g$

V_{major} = 40 mph (Signed 35mph)
t_g = 7 sec (Case B1 - 1 sec)
IDS = 415 ft

Case B3 (Crossing Maneuver Minor Road):
IDS = Case B1.

60% DESIGN
COF PROJECT NO: 03-16010

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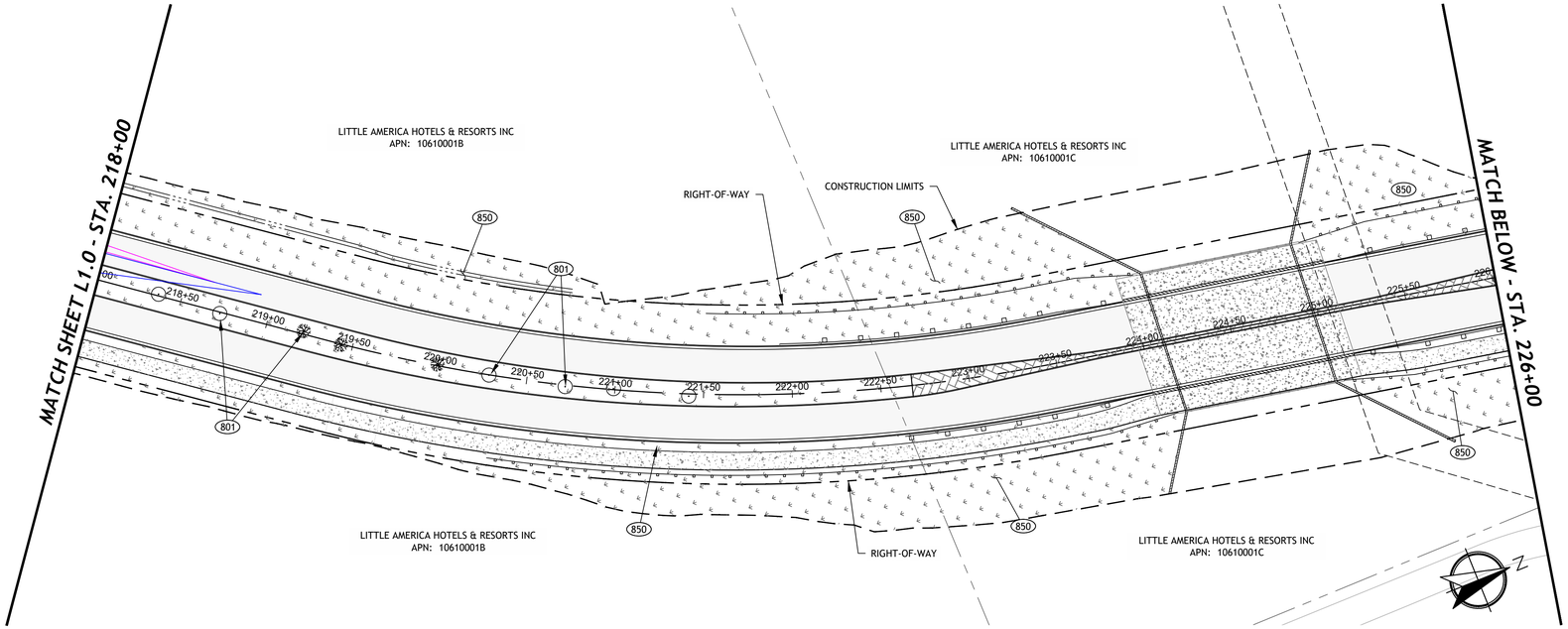
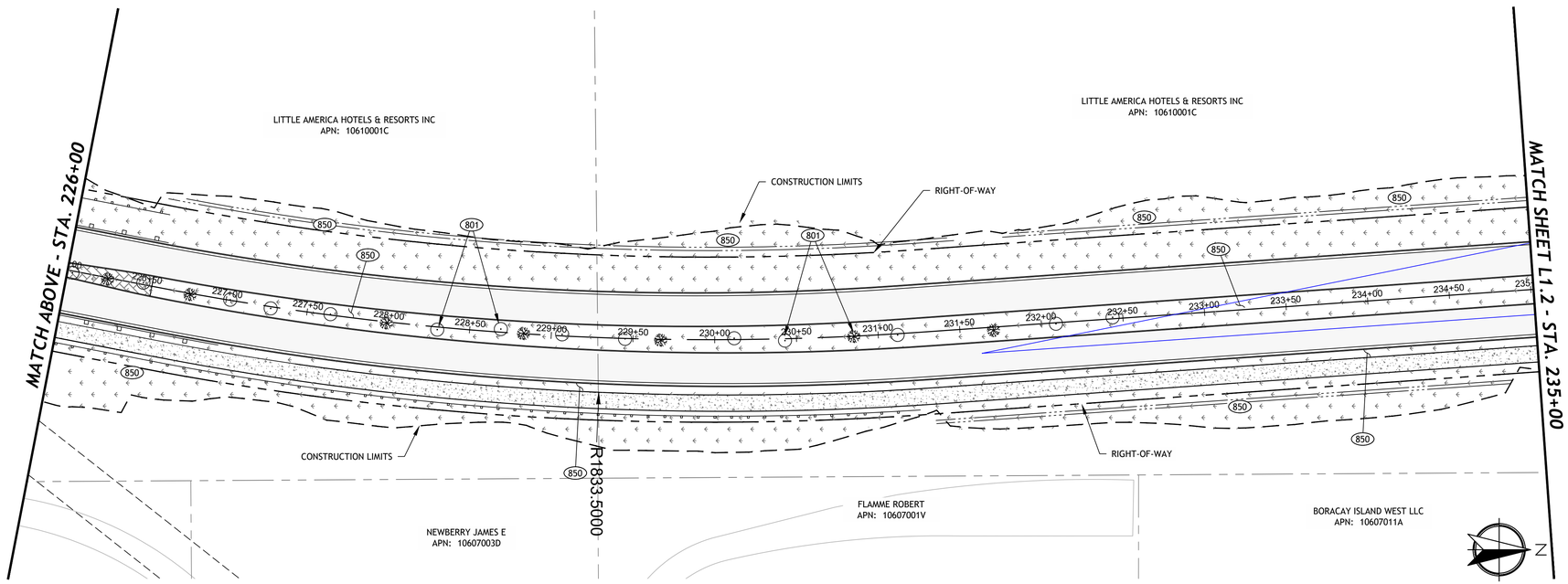
CITY OF FLAGSTAFF
JW POWELL EXTENSION
LANDSCAPING PLAN

JOB NO:17COF02 | BY:DCW/SJ | CHECKED:JOL
DATE: MARCH 2026

L1.0





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IDS = Case B1.

GRAPHIC SCALE 1" = 40'

40 0 40 80 120

60% DESIGN
COF PROJECT NO: 03-16010

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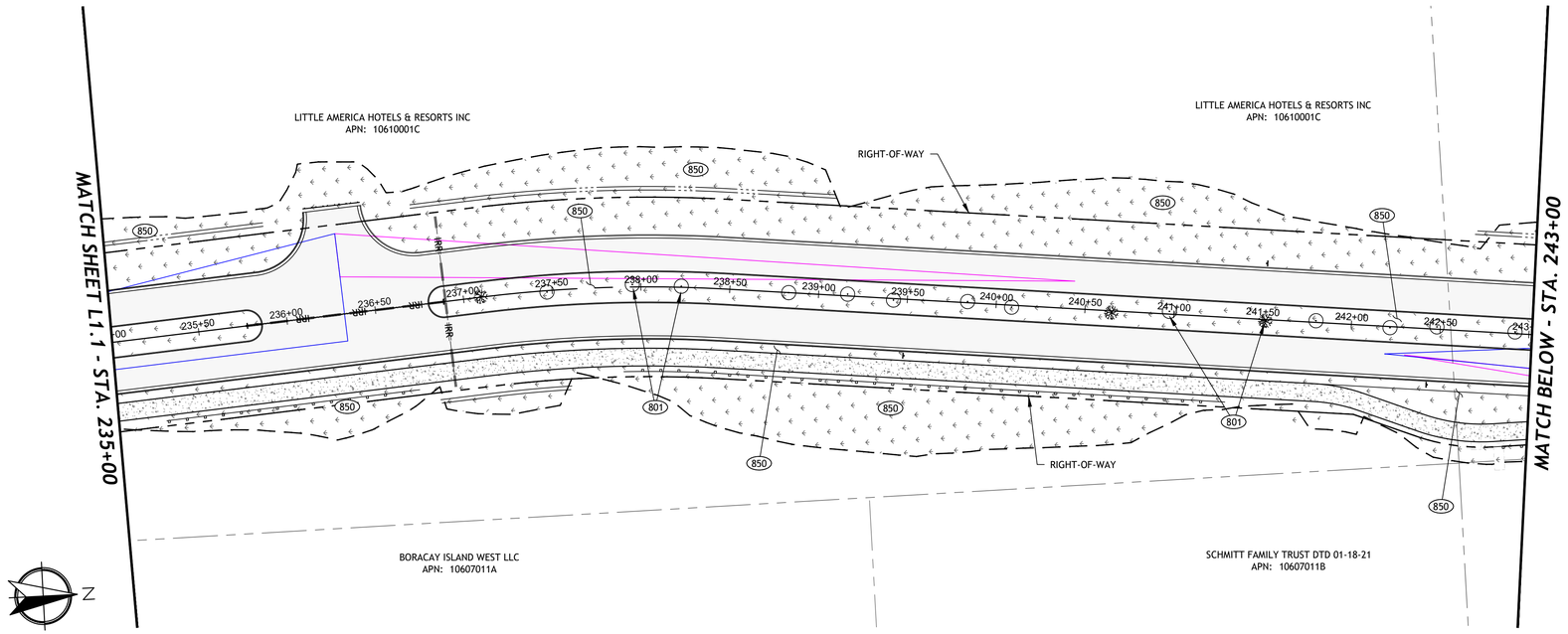
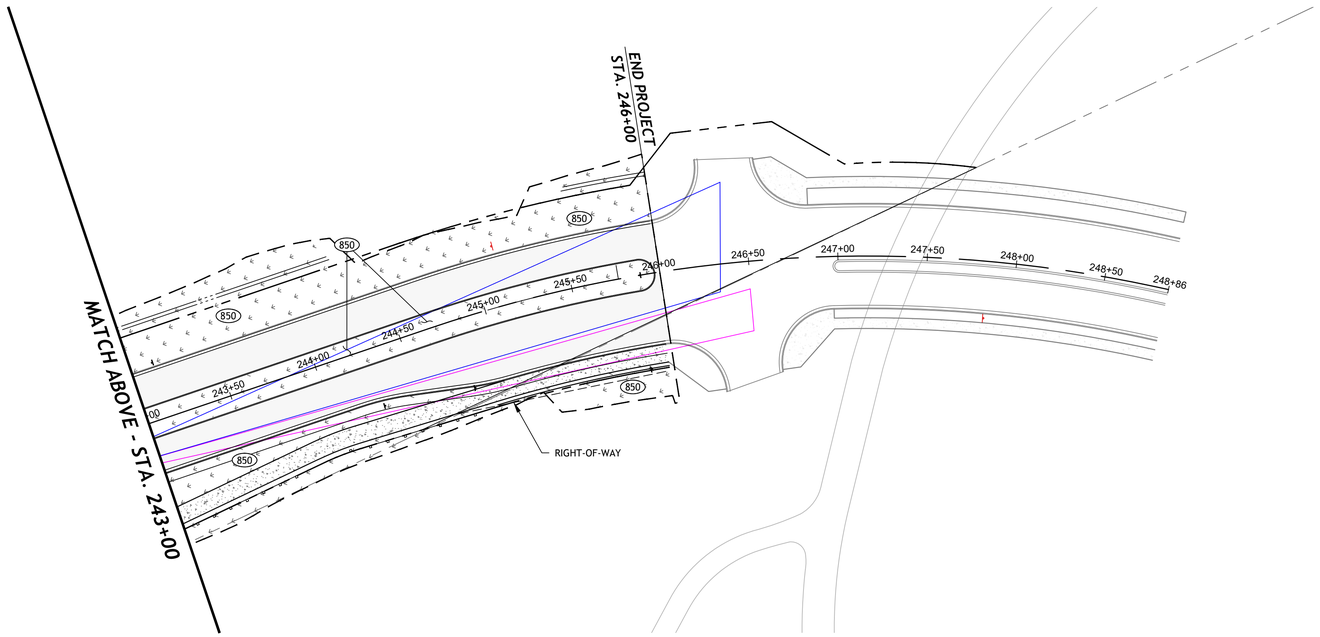
CITY OF FLAGSTAFF
JW POWELL EXTENSION
LANDSCAPING PLAN

JOB NO:17COF02 | BY:DCW/SJ | CHECKED:JOL
DATE: MARCH 2026

L1.1





CONSTRUCTION NOTES

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GRAPHIC SCALE 1" = 40'

40 0 40 80 120

60% DESIGN
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L1.2