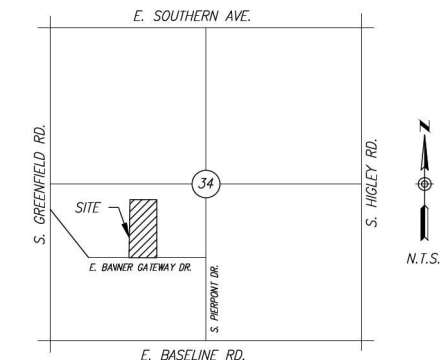
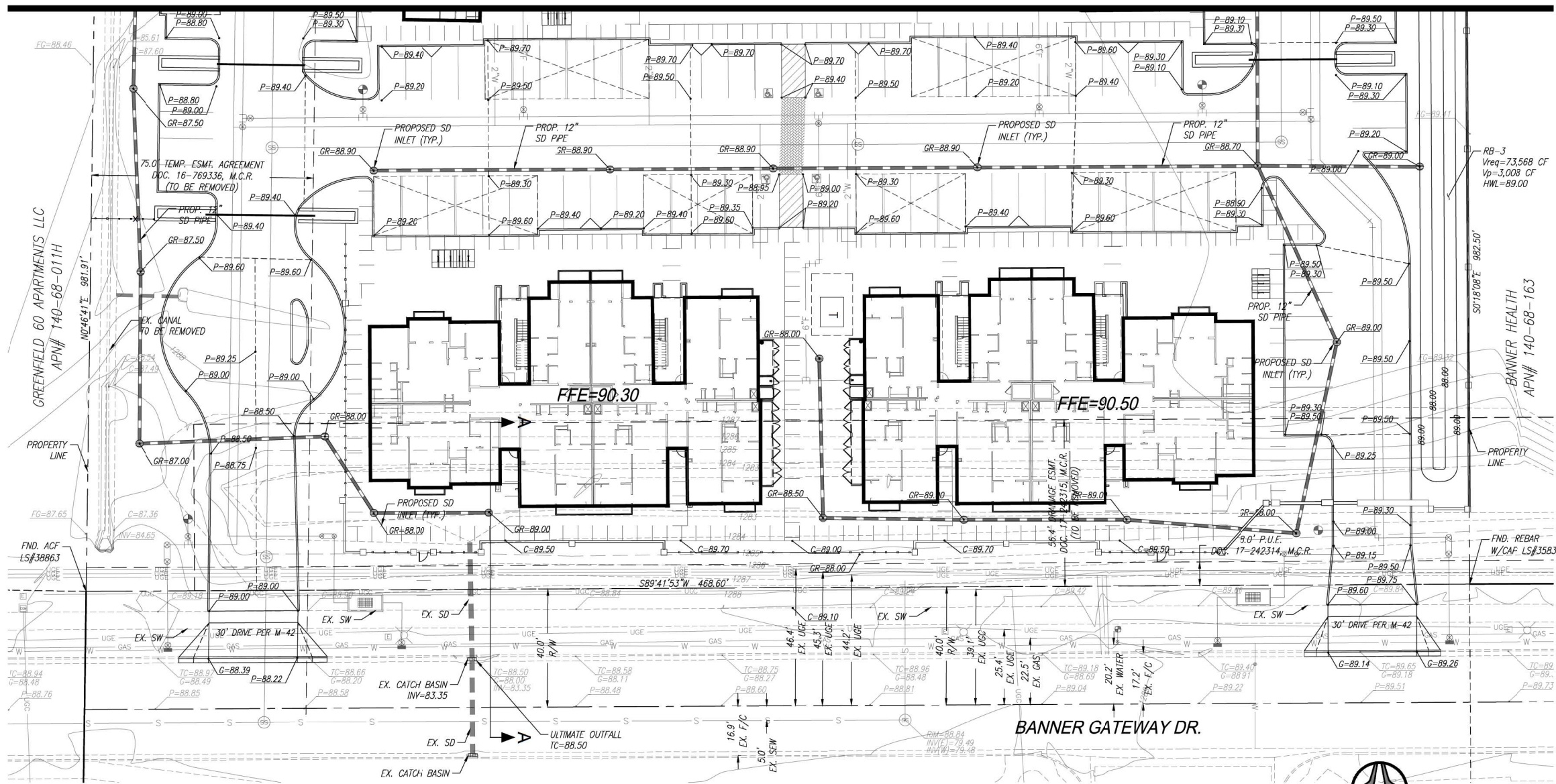


# PRELIMINARY GRADING AND DRAINAGE PLAN FOR BANNER GATEWAY APARTMENTS

A PORTION OF THE NORTHEAST QUARTER OF SECTION 32,  
TOWNSHIP 1 NORTH, RANGE 6 EAST, OF THE GILA AND SALT RIVER  
MERIDIAN, MARICOPA COUNTY, ARIZONA

MATCH SHEET PGD-02



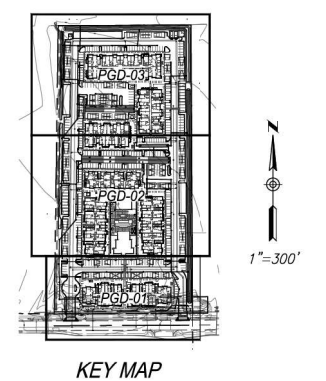
**VICINITY MAP**  
T1N, R6E, SEC 34

**CIVIL ENGINEER**  
HUBBARD ENGINEERING  
1201 S. ALMA SCHOOL RD. SUITE #12000  
MESA, AZ 85210  
PHONE: (480) 892-3313  
CONTACT: SHAWN HANRAHAN

**SURVEY**  
HUBBARD ENGINEERING  
1201 S. ALMA SCHOOL SUITE #12000  
MESA, AZ 85210  
PHONE: (480) 892-3313  
FAX: (480) 892-7051  
CONTACT: ADRIAN BURCHAM, PLS

**ARCHITECT**  
AO ARCHITECTS  
144 NORTH ORANGE ST.  
ORANGE, CA 92666  
CONTACT: SERAFIN MARANAN  
TEL: (714) 639-9860

**OWNER**  
OAKDALE REALTY LUXURY LIVING  
5773 WOODWAY DRIVE #415  
HOUSTON, TEXAS 77057



**DRAINAGE CALCULATIONS**  
REQUIRED VOLUME POST-DEVELOPMENT  
V = REQUIRED RETENTION VOLUME, C.F.  
F = RAINFALL DEPTH 2.2 IN. (100YR-2HR)  
A = TOTAL AREA, 415,126 S.F.  
C = RETENTION COEFFICIENT, 0.85 (MULTIFAMILY)  
V = (2.2 IN. / 12) \* .85 \* 415,126 S.F.  
= 64,690 C.F.

**DRYWELL NOTE:**  
ALL DRYWELLS SHOWN ON THIS PROJECT SHALL BE MAINTAINED BY THE OWNERS AND ARE TO BE REPLACED BY THE OWNERS WHEN THEY CEASE TO DRAIN THE SURFACE WATER IN A 36-HOUR PERIOD. REGULAR MAINTENANCE OF THE DRYWELL SILTING CHAMBER IS REQUIRED TO ACHIEVE THE BEST OPERATION OF THE DRYWELL

**PARCEL ACREAGE**  
415,126 SF. OR 9.53 NET AC.

**CUT/FILL**  
CUT = 6,375 CY  
FILL = 18,128 CY

**SHEET INDEX**  
PGD-01 PRELIM. GRADING AND DRAINAGE PLAN  
PGD-02 PRELIM. GRADING AND DRAINAGE PLAN  
PGD-03 PRELIM. GRADING AND DRAINAGE PLAN

**BASIS OF BEARING**  
THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SECTION 34 TOWNSHIP 1 NORTH, RANGE 6 EAST OF THE GILA AND SALT RIVER MERIDIAN, MARICOPA COUNTY, ARIZONA. SAID LINE BEARS SOUTH 89 DEGREES 41 MINUTES 53 SECONDS WEST

**BENCHMARK**  
PLAN ELEVATIONS ARE BASED ON THE CITY OF MESA BENCHMARK LOCATED AT 48TH AND BASELINE. DESCRIBED AS "BRASS TAG T.C. W ENTRANCE 4850 E. BASELINE" ELEVATION = 11288.99 (NGVD-29)

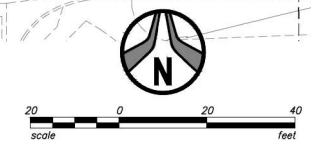
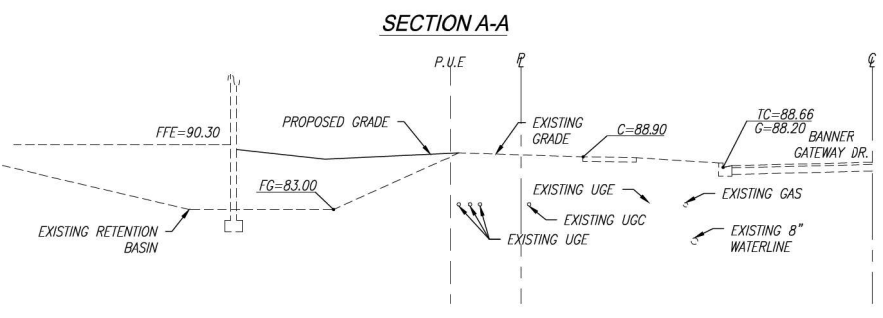
**EX. OFF-SITE RETENTION**  
EX. VOLUME=13,587 CF

**RETENTION PROVIDED**  
1,030 LF. OF 10' CMP  
VP = 80,896 CF  
VR = 78,277 CF  
(MUST EXCEED EX. VOLUME)

**DRYWELLS REQUIRED**  
0.10 CFS PERCOLATION RATE  
12,960 CF/36 HOURS  
78,277 CF/12,960 CF/36 HRS  
6 DRYWELLS REQUIRED

**FLOOD INSURANCE RATE MAP (FIRM) INFORMATION**

COMMUNITY NUMBER	PANEL NUMBER	SUFFIX	PANEL DATE (EFT/REV)	FIRM INDEX DATE	FIRM ZONE	BASE FLOOD ELEVATION OR FLOOD DEPTH
040048	2288	M	NOVEMBER 4, 2015	NOVEMBER 4, 2015	X	N/A



- LEGEND**
- DRYWELL
  - PROPOSED HDPE STORM DRAIN
  - PROPOSED SANITARY SEWER
  - PROPOSED WATER LINE
  - FIRE HYDRANT
  - DRAINAGE FLOW DIRECTION
  - GRADE BREAK
  - PROPOSED ELEVATIONS
  - EXISTING ELEVATIONS
  - CONCRETE CURB (AND GUTTER)
  - PROPOSED SMH
  - PROPOSED 24" SD INLET
  - PROPOSED TYPE 'F' SD INLET
  - PROPOSED 2" WATER METER
  - EXISTING GAS
  - EXISTING SEWER LINE
  - EXISTING WATER LINE
  - EXISTING UNDERGROUND ELEC.
  - EXISTING STORM DRAIN
  - EXISTING BACKFLOW PREVENTOR
  - EXISTING WATER VALVE
  - EXISTING FIRE HYDRANT
  - EXISTING SEWER MANHOLE

1201 S. Alma School Rd.  
Suite 12000  
Mesa, AZ 85210  
Ph: 480.892.3313  
www.hubbardengineering.com

**HUBBARD ENGINEERING**

**PRELIMINARY GRADING AND DRAINAGE PLANS  
BANNER GATEWAY APARTMENTS**  
A PORTION OF THE SOUTHWEST QUARTER OF SECTION 34,  
TOWNSHIP 1 NORTH, RANGE 6 EAST OF THE GILA AND SALT RIVER  
MERIDIAN, MARICOPA COUNTY, ARIZONA

Date: 10/19/2024  
Project No.: 21114  
Project Eng.: M. WOLF  
Project Mgr.: S. HANRAHAN

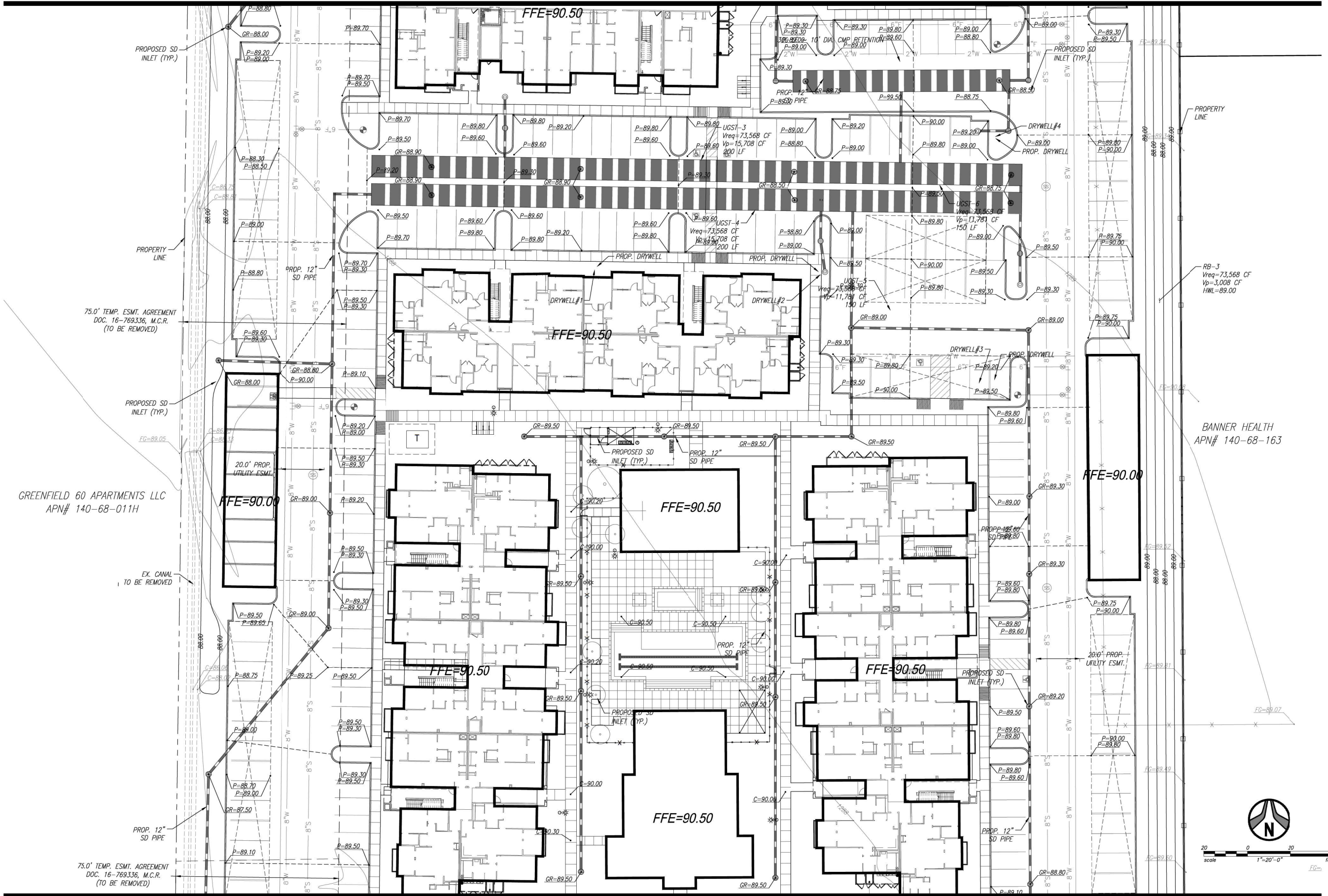
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SHT: 01 OF 03  
PGD-01

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MATCH SHEET PGD-01

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Suite 1200  
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**PRELIMINARY GRADING AND DRAINAGE PLANS**  
**BANNER GATEWAY APARTMENTS**  
A PORTION OF THE SOUTHWEST QUARTER OF SECTION 34,  
TOWNSHIP 4 NORTH, RANGE 6 EAST OF THE GILA AND SALT RIVER  
MERIDIAN, MARICOPA COUNTY, ARIZONA

---

Date 10/19/2024	Project Eng. M. WOLF
Project No. 21114	Project Mgr. S. HANRAHAN

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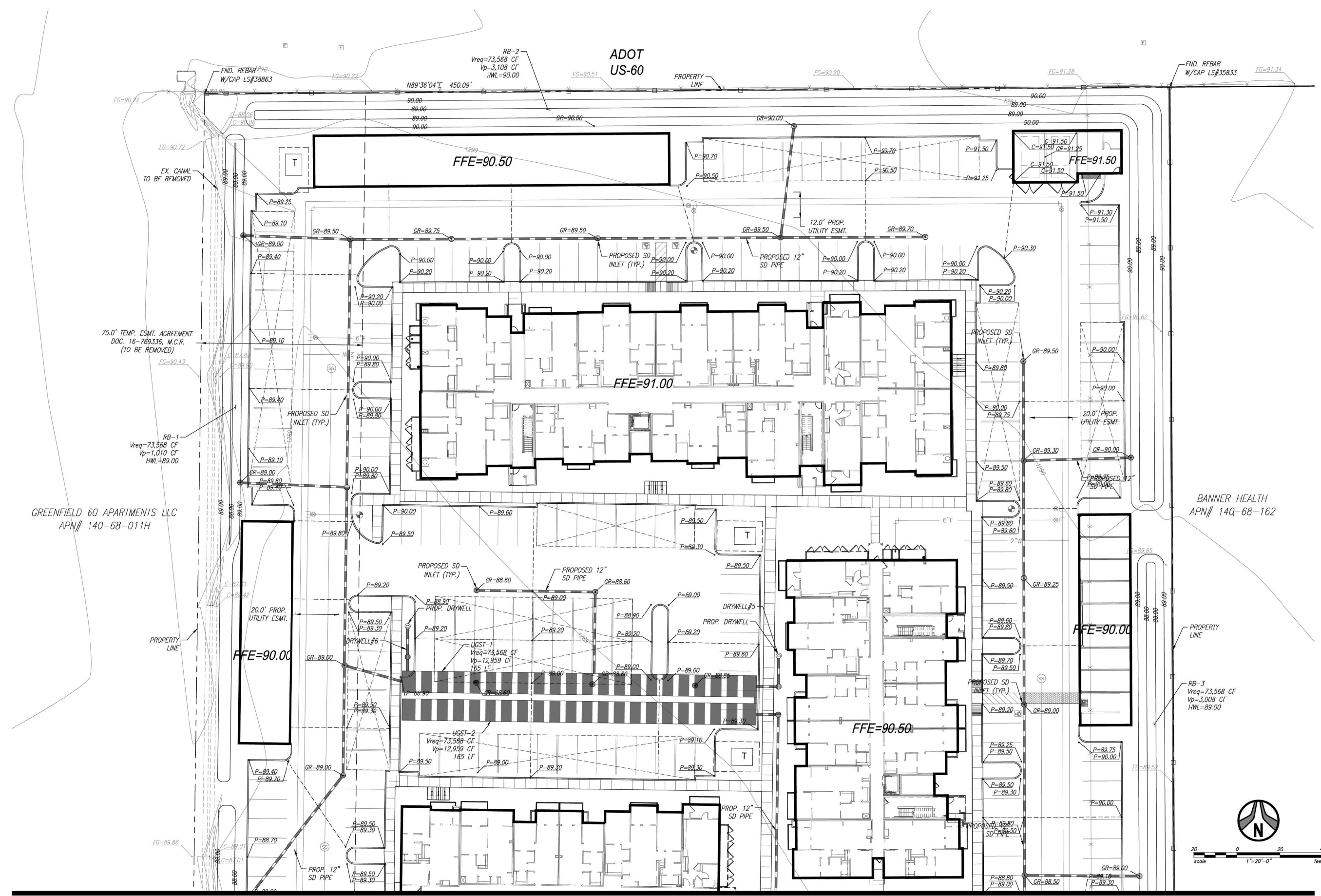
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PGD-02

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Ph. 480.892.3313  
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**PRELIMINARY GRADING AND DRAINAGE PLANS**  
**BANNER GATEWAY APARTMENTS**  
 A PORTION OF THE SOUTHWEST QUARTER OF SECTION 34,  
 TOWNSHIP 4 NORTH, RANGE 6 EAST OF THE GILA AND GALL RIVER  
 MERIDIAN, MARICOPA COUNTY, ARIZONA

---

Date 10/19/2024	Project Eng. M. WOLF
Project No. 21114	Project Mgr. S. HANRAHAN

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