



Conceptual Design Report

New Mexico Rail Runner Express Operations & Maintenance Facility

Submitted to:

Rio Metro Regional Transit District



RIO METRO
REGIONAL TRANSIT DISTRICT

Prepared by:



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Background

The New Mexico Department of Transportation (NMDOT) in cooperation with the Rio Metro Regional Transit District (RMRTD) implemented commuter rail service between Belen, NM and Santa Fe, NM over a four-year period between 2004 and 2008, commonly referred to as New Mexico Rail Runner Express (NMRX). The service covers approximately 100 miles and 22 weekday trains focused primarily during the peak periods. The NMDOT purchased the line from the BNSF in 2005 along with some extra property for stations and maintenance activities.

To support the service a rail vehicle maintenance and storage yard was constructed which included a maintenance canopy covering a single track that includes an inspection pit. The maintenance canopy is open on all four sides to allow for access to the equipment and the movement of material via forklift to the maintenance track. The tracks north and south of the covered pit were built as part of the project and provide for train storage. The current warehouse, which is part of the RMRTD lease of private property, is extremely old and is in poor condition. The RMRTD also leases office space adjacent to the maintenance and warehouse area to house RMRTD staff and staff from RMRTD's contract operator/maintainer for the service. This office space is provided in two 2-story buildings, which are also of significant age.

A Facility Master Plan was conducted in August of 2016 to create a long-range blueprint for a more efficient and cost-effective use of the property. Maintenance is currently conducted in the open and all the equipment is subject to weather elements. RMRTD would like to avoid leasing land, warehouse and office space and re-locate these functions on currently owned or purchased property. Given RMRTD's financial constraints the plan will need to be phased in a sequence that makes sense logistically, financially, and operationally. To meet these objectives the RMRTD will consider the purchase of additional property beyond what is currently owned by the NMDOT if it is necessary to accommodate the maintenance, warehousing, operational and administrative functions of the service.

Project Goals

In the Fall of 2021, RMRTD commenced preliminary planning and engineering activities for the NMRX Operations & Maintenance Facility (OMF) project with the objective of satisfy the following goals:

- Improve the quality, efficiency, safety, and timeliness of railyard maintenance and operations services at the site to support the NMRX rail system.
- Produce a flexible design that will allow for the logical phasing and expansion of facilities as funding and operations permit.
- Improve maintenance functionality and increase maintenance capabilities.
- Provide proper staff amenities and adequate office space.
- Reduce NMRX operating costs by streamlining maintenance activities.
- Eliminate inefficiencies and risks to both employees and equipment.
- Provide support facilities for Maintenance of Way, Station Maintenance, and bus feeder system maintenance and office space for RMRTD executive and administrative staff.

Project Reports

The following is a list of reports generated to date concerning the NMRX Operations & Maintenance Facility (OMF) project:

- Facility Assessment, New Mexico Rail Runner Express; WSP, April 2016
- Facility Master Plan, New Mexico Rail Runner Express; WSP, August 2016
- Categorical Exclusion, NMRX Operations & Maintenance Facility; WSP, March 2022
- Phase I Environmental Site Assessment, NMRX Operations & Maintenance Facility; WSP, March 2022
- Geotechnical Memo, Rio Metro NMRX, Commuter Rail Facility Yard Improvement Project; WSP/YeDoma Consultants, LLC, March 2022

Existing Conditions

The Rail Runner Express Operations & Maintenance Facility (OMF), which is accessed from the east on Iron Ave. SE, operates a fleet of 9 diesel-electric locomotives, 9 bi-level cab coaches and 13 bi-level coaches in a push-pull configuration. Peak vehicle requirements for daily service are:

- One, 5-coach consist with 2 locomotives.
- One, 4-coach consist with 1 locomotive.
- One, 3-coach consist with 1 locomotive.
- Three, 2-coach consist with 1 locomotive.
- One, 2-coach consist with 1 locomotive, Ready Train.

The three remaining vehicles, 1 locomotive and 2 coaches, are not required for daily pull-out or ready status and serve as the system's reserve fleet. This reserve fleet allows for vehicle maintenance activities to occur on vehicles while still achieving daily service requirements.

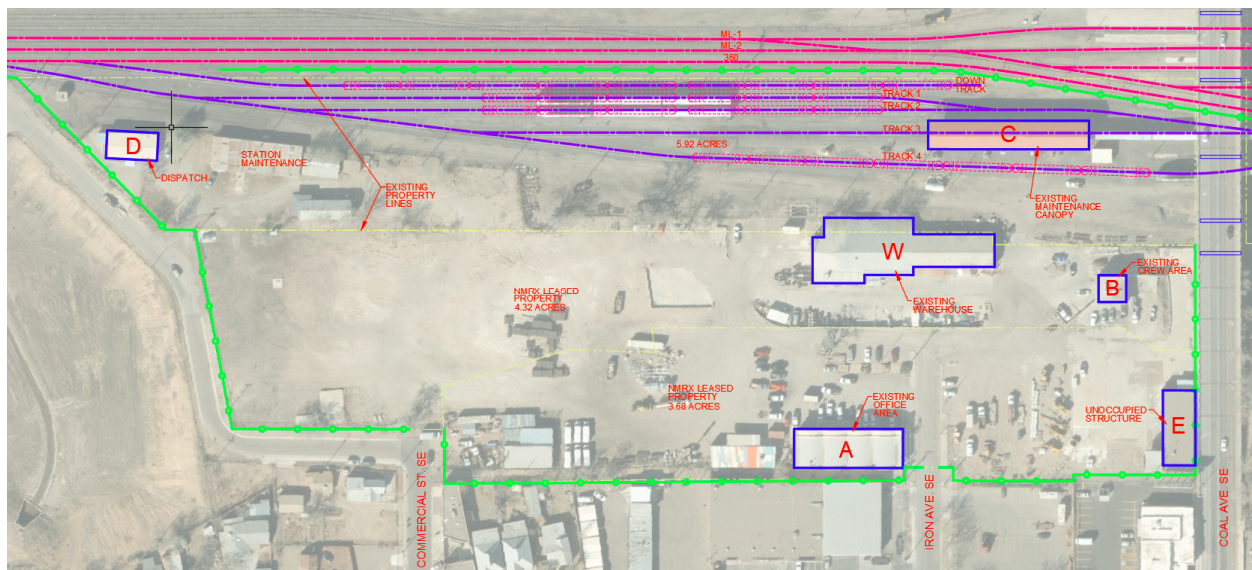


Figure 1: Existing NMRX Operations & Maintenance Facility

The building “C” in Figure 1 illustrates the location of the 35’ wide by 200’ long maintenance canopy with 25’ long servicing pit. The maintenance canopy is open on all four sides to allow for access to the equipment and the movement of material via forklift to the maintenance track. This canopy and the surrounding yard track are the only areas within the OMF in which vehicle maintenance and daily servicing can be performed. The maintenance canopy is outfitted with portable vehicle lifting jacks to allow for truck replacements, a sewer connection for toilet dumping (cab cars only), a potable water connection for vehicle water tank replenishment (cab cars only), lubricants and compressed air. Vehicle wayside power is provided near the maintenance canopy but is undersized and is not in a convenient location. A small shed next to the maintenance canopy houses an air compressor and some cleaning and lubrication products. Buildings “C” and “D” and all OMF tracks are located on RMRTD owned property.

All train consists are required to run through the maintenance canopy for daily service and inspection since the storage tracks are not equipped with sewer, water, and compressed air utilities. Rail vehicle maintenance activities under or near the canopy consist of truck replacements, wheelset replacements, HVAC replacements, engine compartment component replacements, brake work, preventive maintenance, general running repairs and infrequent prime mover replacements.

Other vehicle servicing activities performed onsite include fueling, sanding, and washing. Stationary fueling facilities are not provided on site. Locomotive diesel tanks are replenished through a contracted fuel truck delivery service. This service requires the proper positioning of locomotives in order for the fuel truck to gain access to the tanks. The sanding function is being performed through the use of a sanding trailer. Sanding is generally done at the maintenance canopy to forego the movement of the sanding trailer through the vehicle storage yard, since accessing sanding port locations are not always easy to accomplish in the yard. Vehicle washing is being performed through the use of a cart mounted rotating brush with detergent feed. Since the brush cart can only wash the sides of the vehicles, a trailer mounted high-pressure wash wand unit is also used in the process to clean the other surfaces of the train.

Building “W” illustrated in Figure 1 is the location of the current warehouse which is part of the RMRTD lease of private property. This warehouse is extremely old and is in poor condition. The warehouse stores a good portion of the required materials for vehicle maintenance including larger components such as HEP units, traction motors and combo wheelsets while trucks and coach wheelsets are stored outside. The warehouse also includes a small machine shop area where minor general fabrication and welding activities occur. Some MOW parts are stored in the warehouse, but a large portion of MOW’s stock is located a couple hundred feet to the south of the warehouse in an exterior area.

Buildings “A” and “B” illustrated in Figure 1 are the locations of leased office and crew space. The larger of the two-story buildings (“A”) contains most of the office and crew areas except for dispatch; the dispatch function is located in building “D”. The smaller two-story building (identified as building “B” in Figure 1) serves primarily as crew space for the vehicle maintenance staff. Both “A” and “B” buildings are of older construction and not within current ADA compliance standards, with the smaller building being in poor condition. Building “E” on the leased East Parcel is currently occupied by an outside concern. This garage type building is expected to become the home for the Station Maintenance group in the near future.

Needs Analysis

This assessment focuses on the operational conditions of the yard facilities and its ability to effectively accommodate vehicle servicing requirements. The following conditions exist that reduce service efficiency, increase operating costs, and create potential safety hazards.

OPERATIONAL FINDINGS

1. The maintenance canopy is undersized and lacks suitable functionality to effectively maintain the commuter fleet. Although RTD staff and its service contractor have been able to perform the duties to keep the rail system running, they must continually improvise and deal with inefficiencies to complete maintenance activities.
2. The limited servicing facilities that are provided at the NMRX OMF are not typical per the industry and may be viewed as substandard.
3. A large premium is being paid to provide fuel truck services. Approximately 20,000 gallons of diesel fuel is used over a three-day period.
4. Vehicles are being indexed for every car in the train consists for daily service and inspection activities. This practice of indexing one car over a servicing area is time consuming and leads to additional operating costs and is not ideal for mechanic safety.
5. Daily service and inspection of trains should be performed at one position stop. During this one stop the consist should be fueled, lubricants filled, sand boxes filled, toilets dumped, and water tanks replenished. Ideally this is performed at the end of daily service.
6. Many transit agencies provide sewer, water, and compressed air in the vehicle storage yard. This arrangement may be of consideration for the NMRX OMF. Although this arrangement would incur additional capital costs, it would allow greater flexibility in daily servicing.
7. An automatic vehicle washer should be provided to clean all vehicle surfaces effectively.
8. A suitable sized vehicle maintenance facility should be provided to allow for uninterrupted component change-outs, running repairs and more complicated maintenance repairs.
9. A safe and effective method should be provided to change-out trucks without having mobile cranes crossing active tracks to shuttle components.
10. Ample space should be provided to store system large spares such as coach wheelsets, locomotive wheelset combos, and coach and locomotive trucks.
11. Future OMF should accommodate the expected growth of the vehicle fleet.
12. An effective fall protection system and a facility overhead crane should be provided to accommodate vehicle roof top and engine compartment change-outs.
13. Work area should be provided for the maintenance of trucks and other large components.
14. The parts and materials warehouse should be adjacent to interior vehicle work tracks.
15. Although prime movers are infrequently replaced, a properly design facility with adequately sized overhead bridge crane would be a positive.
16. Wheel truing cannot be performed onsite, and this function requires truck disassembly, multiple moves, and an offsite contractor to perform this function.
17. MOW track service equipment is being maintained on an outside track area.
18. NMRX bus feeder system maintenance and operations facilities may make sense to be included in the OMF. These facilities could also maintain other system support vehicles.

DESIGN RECOMMENDATIONS

1. A new interior railcar maintenance facility should be constructed for inspections, component change-outs, running repairs and heavy maintenance that would include:
 - a. A drop table with release track and capable of holding a vehicle on either side.
 - b. Two posted-rail vehicle repair positions with running board and rooftop access platforms and outfitted with suitable fall protection.
 - c. An overhead crane covering the drop table and vehicle repair positions capable of lifting all vehicle components.
 - d. A welding/machine shop with proper ventilation.
 - e. A component washroom for high-pressure wand cleaning with proper grating and drainage.
 - f. An air compressor and lubrication storage/pump room.
 - g. A conditioned electronics shop and storage room.
 - h. A toolbox and portable shop equipment storage area.
2. A central warehouse should be constructed adjacent to the railcar maintenance facility to efficiently store all parts and materials necessary to support all system maintenance requirements.
3. A daily service and inspection track should be provided to allow for the fueling, lubricant filling, sanding, toilet dumping and water tank replenishment without having to index the train for every railcar location.
4. A support shop area should be provided to service MOW equipment and other system vehicles.
5. A new office and crew building should be constructed to provide adequate facilities for office staff, train operators and maintenance crews. This facility should include training and conference areas.
6. RMRTD maintenance crew and equipment needs should be accommodated.
7. Consideration should be given for a potential automatic train washing facility.
8. Consideration should be given for a potential wheel truing facility.
9. Fleet growth should be accommodated.

SYSTEM FLEET PROJECTIONS

Below is a table of the system's projected fleet based on current ridership trends. The new Operations & Maintenance Facility should be designed to accommodate this anticipated fleet.

Scenario	Baseline	Paired Express	1-Hour Headway	30-Minute Headway (Full Build)
Consists in Peak Service	6	7	5	8
Vehicles in Peak Service				
Locomotive	6	7	5	8
Coach	11	14	15	24
Cab	6	7	5	8
Rescue Vehicles and Vehicles Available for Maintenance During Peak Service				
Locomotive	3	3	4	3
Coach	2	2	2	3
Cab	3	3	4	3
Total Vehicles				
Locomotive	9	10	9	11
Coach	13	16	17	27
Cab	9	10	9	11
Total	31	36	35	49
Vehicles Above Baseline Scenario	--	+5	+4	+18
Passenger Capacity				
Seats Available Peak Service	2,480	3,066	2,930	4,688
% of Baseline Scenario	--	124%	118%	189%

Space Needs Program

The Space Needs Program presented in this section was developed based on client interviews and the design team's experience with operations, maintenance, and storage facilities. This program serves as the basis of design and provides an estimation of space required for today's operation and as the fleet and staff grows in the future. Actual building square footages may vary due to site design constraints, circulation efficiency and value-added design features. The program is divided into two separated construction phases: Initial Build and Final Build. The program includes the following information for each space.

- Description. A description of the space.
- Space Standard. The standard of each space is based on the function, equipment and furnishings accommodated. The standards are given in square feet. Where the configuration of the space is critical, dimensions are given for each space.
- Qty. Identifies the number of spaces to be accommodated.
- Area. Area in square feet for the proposed space. Note that where a space standard is given, the area equals the space standard times the quantity.
- Staff. Identifies the number of staff to be accommodated.
- Remarks. Lists pertinent design information.

The space requirements shown for each function are net useable area. A circulation factor is applied to the total net usable area to arrive at a gross square footage requirement. In addition to circulation, the factor provides for spaces such as mechanical and electrical chases, structure, and width of walls.

INITIAL BUILD

Description	Space Standard	Qty.	Area	Staff	Remarks
Office/Welfare					
Common Areas					
Lobby [O]	400	1	400		
Restroom - Mens [E]	200	1	200		Admin area
Restroom - Womens [E]	200	1	200		Admin area
Custodial Closet [E]	30	1	30		Admin area
Multipurpose Room [E]	480	1	480		
Break Room [E]	1,000	1	1,000		50 people at tables/chairs
Vending/Kitchenette [E]	200	1	200		Kitchenette, vending machines
Restroom/Locker - Mens [E]	1,050	1	1,050		100 full-length lockers, shower
Restroom/Locker - Womens [E]	720	1	720		50 full-length lockers, shower
Custodial Room [E]	60	1	60	2	Outsourced, supv by MOE
Comm/Server Room(s) [E]	120	1	120		
MOE (Contractor)					
MOE Manager [E]	192	1	192	1	4 person table w/ chairs
MOE Asst Manager [E]	144	1	144	1	
MOE Leadman Office [E]	240	1	240	3	On shop floor, shared office w/ 3 workstations
MOE Admin Area [O]	240	1	240	1	Area for Clerk, files, printer/copier
Service Personnel				23	
MOW (Contractor)					
MOW Supt [E]	192	1	192	1	
MOW Asst Supt [E]	120	2	240	2	
MOW Admin Assistant [E]	120	1	120	1	
Track Supv Office [E]	240	1	240	3	Shared office w/ 3 workstations
Service Personnel				20	
Signals/PTC (Contrator)					
Signals Supt [E]	192	1	192	1	
Signals Asst Supt [E]	120	1	120	1	
Maintainers				4	Use Crew Room
PTC Manager [E]	144	1	144	1	
Maintainers				2	Use Crew Room
Crew Room [E]	320	1	320	8	Tables/chairs for 8 people
Subtotal			6,844		
Circulation	40%		2,738		
Subtotal Including Circulation			(sf) 9,582	75	

Description	Space Standard	Qty.	Area	Staff	Remarks
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Shop/Storage						
Heavy Repair Track	[O]	30 x 240	7,200	1	7,200	Posted rail w/ lower/upper platforms & material lifts, drop table, 30T crane (32' vert clear), fall protection, lube reels, wayside, swamp coolers
Release/Storage Track	[O]	20 x 140	2,800	1	2,800	30T crane, 4 trucks (2 loco, 2 coach), 31 wheelsets (9 loco, 22 coach)
Component Clean	[O]		600	1	600	Embedded rail, pressure washer, jet spray cabinet
Machine Shop	[O]		1,200	1	1,200	General fabrication & welding equipment
Electronic Shop/Storage	[E]		240	1	240	Conditioned area, workstation, shelving
Equipment/Toolbox Storage	[O]		600	1	600	Single car brake test, forklift, misc equip, 16 toolboxes
Lube/Compressor Room	[E]		600	1	600	1000-EO, 280-HEP, 280-JR, 55-COMP, 280-EC, Tote-BIO, 150 PSI
Storeroom	[E]		5,000	1	5,000	
Stores Office	[E]		160	1	160	2 Shared office w/ 2 workstations
Tool Crib	[E]		100	1	100	
Mechanical Room(s)	[E]		320	1	320	Secure storage for common tools
Electrical Room(s)	[E]		160	1	160	
Subtotal					18,980	
Circulation			20%		3,796	
Subtotal Including Circulation				(sf)	22,776	2

Total Building(s) Area				(sf)	32,358	77
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Exterior Areas							
Fueling Tracks	[C]	30 x 595	17,850	1	17,850		50k gal, fueling, lubrication (EO, HEP, EC), sanding, dumping, refilling
Vehicle Storage Tracks							Wayside power, lighting, near cleaning supplies
5-car Trainset (plus 2 locos)	[X]	14 x 580	8,120	1	8,120		
4-car Trainset	[X]	14 x 425	5,950	1	5,950		
3-car Trainset	[X]	14 x 340	4,760	1	4,760		
2-car Trainset	[X]	14 x 255	3,570	4	14,280		
Locos	[X]	14 x 85	1,190	1	1,190		
Coaches	[X]	14 x 100	1,400	2	2,800		
Service Vehicles							
MOE	[X]	10 x 20	200	1	200		
Employee/Visitor Parking							
Employee	[X]	9 x 20	180	60	10,800		
Visitor	[X]	9 x 20	180	4	720		

FINAL BUILD

Description	Space Standard	Qty.	Area	Staff	Remarks
Office/Welfare					
Common Areas					
Lobby [O]	400	1	400		Adj to Reception, 4 chairs
Reception/Waiting	200	1	200		
Restroom - Mens [E]	240	2	480		Admin area
Restroom - Womens [E]	240	2	480		Admin area
Custodial Closet [E]	40	1	40		Admin area
Training Room [E]	1,250	1	1,250		50 people at tables
Storage [E]	150	1	150		Tables/chairs, training aids
Conference Room [E]	320	1	320		12 people at tables
Break Room [E]	400	1	400		Office staff, kitchenette
Fitness Center [E]	600	1	600		
Executive (NMRX)					
Conference Room [E]	320	1	320	1	16 people
Director [E]	252	1	252	1	Private office
Asst Transit Dir - Bus [E]	192	1	192	1	Private office
General Staff [O]	64	6	384	6	Cubicles
Reception/Waiting [O]	200	1	200	1	Single counter area, 4 chairs
Marketing					
Marketing Manager [E]	120	1	120	1	Private office
Marketing Staff [O]	64	5	320	5	Cubicles
Planning					
Planning Manager [E]	120	1	120	1	Private office
Planning Staff [O]	64	3	192	3	Cubicles
Finance & Accounting					
Finance Director [E]	144	1	144	1	Private office
Finance Manager [E]	120	1	120	1	Private office
Staff [O]	64	3	192	3	Cubicles
Human Resources					
HR Manager [E]	120	1	120	1	Private office
HR Staff [O]	64	2	128	2	Cubicles
Customer Service					
Cust Serv Manager [E]	120	1	120	1	Private office
Cust Serv Counter [O]	500	1	500	4	
Cust Serv Waiting Area [O]	200	1	200		Adj to Cust Serv Counter
Dispatch [E]	500	1	500	2	Display wall w/ 2 consoles

Description	Space Standard	Qty.	Area	Staff	Remarks
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Office/Welfare - Cont'

Administration (NMRX)						
Operations Manager [E]		192	1	192	1	Private office
Ops Supv/QA Office [E]		192	1	192	2	Shared office w/ 2 workstations
Planning/Safety Office [E]		192	1	192	2	Shared office w/ 2 workstations
Admin Staff [O]		64	2	128	2	Cubicles
Administration (Contractor)						
General Manager [E]		224	1	224	1	Private office
Asst VP [E]		192	1	192	1	Private office
Deputy GM [E]		192	1	192	1	Private office
Reception [O]		120	1	120	1	Single counter area
Accountant [E]		120	1	120	1	Private office
Vault [E]		120	1	120	1	Counting table, supplies, vault
T&E (Contractor)						
Manager [E]		192	1	192	1	Private office
Safety Officer [E]		120	1	120	1	Private office
Supervisor Office [E]		320	1	320	4	Shared office w/ 4 workstations
Crew Room [E]		360	1	360	46	Tables for 12 people, 14 engr, 16 conduct, 16 ticket
Station Maintenance (NMRX)						
Supervisor [E]		120	1	120	1	Private office
Crew Room [E]		240	1	240	7	Tables for 8 people
Subtotal				11,468		
Circulation		40%		4,587		
Subtotal Including Circulation			(sf)	16,055	108	

Shop/Storage

Service & Inspection Track [O]	30 x 240	7,200	1	7,200		Posted rail w/ lower/upper platforms & material lifts, fall protection, lube reels, wayside, swamp coolers
MOW Shop [E]	48 x 48	2,304	1	2,304	2	2 bays (lift, flat)
Station Maintenance Shop [E]	24 x 48	1,152	1	1,152		1 bay, snow blower, consumables, mowers
Mechanical Room(s) [E]		400	1	400		
Electrical Room(s) [E]		200	1	200		
Comm/Server Room(s) [E]		120	1	120		
Subtotal				11,376		
Circulation		20%		2,275		
Subtotal Including Circulation			(sf)	13,651	2	

Description	Space Standard	Qty.	Area	Staff	Remarks
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Wheel Truing Facility

Wheel Truing Bay	[E]	30 x 72	2,160	1	2,160		Lathe type machine w/ conveyor
Subtotal					2,160		
Circulation			10%		216		
Subtotal Including Circulation				(sf)	2,376	-	

Train Wash Facility

Train Wash Bay	[E]	24 x 200	4,800	1	4,800		Drive-thru type
Wash Equipment Room	[E]		1,600	1	1,600		Pumps, tanks, reclaim, power, etc.
Subtotal					6,400		
Circulation			10%		640		
Subtotal Including Circulation				(sf)	7,040	-	

Total Building(s) Area	(sf)	39,122	110
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Exterior Areas

Vehicle Storage Tracks							Wayside power, lighting, near cleaning supplies
5-car Trainset (plus 1 loco)	[X]	14 x 580	8,120	-	-		
4-car Trainset	[X]	14 x 425	5,950	8	47,600		
3-car Trainset	[X]	14 x 340	4,760	-	-		
Locos	[X]	14 x 85	1,190	3	3,570		
Coaches	[X]	14 x 100	1,400	6	8,400		
Railbound Storage Tracks	[X]	14 x 200	2,800	1	2,800		11 equipment pieces total
Service Vehicles							
T&E							
Large	[X]	12 x 32	384	1	384		Bus
Medium	[X]	10 x 20	200	1	200		Van
MOW							
Large	[X]	12 x 32	384	14	5,376		
Medium	[X]	10 x 20	200	6	1,200		
Station Maintenance	[X]	10 x 20	200	8	1,600		
Employee/Visitor Parking							
Employee	[X]	9 x 20	180	90	16,200		
Visitor	[X]	9 x 20	180	4	720		
Yard Storage	[X]		80,000	1	80,000		Ties, turnouts, reels, poles, dumpsters, conex boxes, stakes

Site Analysis

The existing Rail Runner Express Operations & Maintenance Facility (OMF) is located just west of Broadway Blvd SE, between Commercial St. SE and Coal Ave. SE, and accessed from Iron Ave. SE. This site, just south of the Albuquerque Train Station, is located in an industrial-commercial area is adjacent to a freight and passenger rail corridor that has been actively in service for over a hundred years. The site is located just north of an operational BSNF freight rail yard and an old and out of service BNSF maintenance complex. See the Conceptual Design section and Drawing 1 for further site details.

The existing NMRX site is ideal for expansion and improvement for the NMRX rail system for several reason, such as:

- Existing site infrastructure improvements made by NMRX can be reused.
- Rail Runner's start of revenue service, Albuquerque Train Station, is less than a 1/3 mile away from their existing facility.
- Site track and facility improvements can be made without limiting current rail operations.
- Site size and geometry program needs are satisfied.
- Site road access is good.
- Properties required for facility improvements are owned by a willing seller.
- The existing site responds positive to the following operational characteristics:
 - Site Configuration (operational effectiveness)
 - Alignment Proximity/Connectivity (distance/connection to mainline)
 - Alignment Location (geometric position on mainline)
 - Site Access (roads)
- The existing site responds positive to the following site characteristics:
 - Neighborhood Compatibility (edge conditions)
 - Zoning/Land Use
 - Site and Facilities Cost (facilities, grading, utilities, soils)
 - Real Estate Acquisition (cost, complexity, legalities)
 - Relocation Cost (displaced occupants and uses)
 - Environmental Impact (wetlands, hazardous materials)
 - Cultural Resources (archaeological, architectural, historical)
 - Stormwater Management (drainage, treatment)



Conceptual Design

Drawings 2, 3 and 4 at the end of this report illustrate the configuration of the new OMF site and maintenance building. These layouts depict the both the Initial and Full Build conditions of the project. Due to the scale of the improvements envisioned at the OMF, the need to continue operations during construction, and the probable capital funding stream, project priorities were set. Railcar maintenance and train fueling are the most immediate concerns to be addressed. These two concerns are remedied in the Initial Build conceptual design and project costs have been identified. Once the Initial Build improvements are completed, then Final Build design elements can be addressed. Although all potential design improvements are shown in the Final Build conceptual plan, these improvements can be further separated into smaller projects as required:

- Service & Inspection Track Addition
- Automatic Train Washer
- Wheel Truing Facility
- MOW Shop
- Storage Track Improvements (Configuration, Utilities, etc.)
- Storage Track Expansion (Increased Train Storage)
- Administration/Operations Building Addition

EXISTING SITE (Drawing 1)

The Existing Site Plan (Appendix A) illustrates the current conditions of the Rail Runner OMF. NMDOT currently owns the 5.92-acre parcel shown between the mainline and the warehouse labeled “W”. Both privately owned parcels immediately adjacent to the east of the NMRX property are being leased by the Rail Runner. The building labeled “A” is a leased two-story office building occupied by Rail Runner transportation and administrative functions. Building “B”, a much smaller leased two-story building, is being used by Rail Runner maintenance crews for office and welfare space. Building “C” is the maintenance canopy. This canopy structure is outfitted with a service pit and is the location of most vehicle maintenance activities. Building “D” is currently being used for dispatch. Building “E” on the leased East Parcel is currently occupied by an outside concern. This garage type building is expected to become the home of the Station Maintenance group in the near future. The primary access to the site is off of Iron Ave. SE.

INITIAL BUILD (Drawing 2)

The Conceptual Initial Build Site Plan assumes both the 4.32-acre (West Parcel) and the 3.68 (East Parcel) acre parcels of land immediately east of the existing OMF are purchased and access to the new OMF will be relocated from Iron Ave. SE to Commercial St. SE. All road vehicles will access the site from this new location. The current topographical difference between the West Parcel and the East Parcel will be addressed through the construction of a retaining wall running two-thirds the length of the new combined site. Employee parking is provided on north side of the new maintenance building with visitor parking being positioned near the main entrance of this building. Vendor deliveries will be to south side of the maintenance building, which is the location of the component delivery area under the bridge crane, the storeroom, and the lube room. Fuel and sand trucks will pass to the south of the maintenance building and turn north to reach their delivery points just north of the Lead Ave. SE bridge.

Administration and transportation office/welfare areas will be constructed in the future during the Full Build. With this in mind, the initial build of the office/welfare areas need to be logically designed to allow for convenient expansion. One of the design goals is not having to reconfigure Initial Build areas in the future. Until the Full Build is completed, administrative and transportation functions will continue to be housed in building “A”.

Daily servicing of trains will occur on Track 3, just north of the Lead Ave. SE bridge, with the addition of fuel, lubricant/coolant, and sand distribution systems. Trains will be positioned on this track without the need of indexing consists; except in the case of trainsets with two locomotives. In this one stop, trains will be refueled, replenished with lubricants, dumped of toilet waste, and refilled with flushing solution.

Additional track and turnouts will be provided to the yard to accommodate the new maintenance and fuel/sand facilities. Track 360 will be acquired to provide adequate length to the north end of Track 3 and Track 4 will be reconfigured in this area for the new fuel/sand functions. A double crossover will be added between these two tracks to direct traffic into the new maintenance shop or into the storage yard.

FULL BUILD (Drawing 3)

To prepare for potential funding streams, the design and construction of the project has been broken into phases, Initial and Full. The original project master plan, conducted in 2016, divided the total project into five construction phases. Based on system priorities and operational practicality, the first two phases of that master plan were selected to become part of the Initial Build. Although it is believed the Initial Build is of correct sized and scope, the project could be scaled to fit the determined budget.

The Conceptual Full Build Site Plan illustrates the completed master plan at some undetermined time in the future after the completion of the Initial Build. This final phase of construction will include the addition of a Service & Inspection (S&I) track, an automatic vehicle washer, a wheel truing bay, a MOW Shop, train storage tracks and a 16,000 SF office expansion to the maintenance building for transportation and administration. These construction elements could be completed under one project or divided into several smaller projects as funding allows.

Beyond the Full Build, this site is well suited for the expansion of the maintenance activities. There is room to build a couple of additional enclosed maintenance tracks to the west side of the planned shop. Of course this would require the acquisition of another layover yard to accommodate a larger fleet.

FLOOR PLAN (Drawing 4)

The Conceptual Floor Plan shows the 34,750 SF maintenance shop that includes a two-story portion. The main employee and visitor entrance is located on the north side of the facility. The Storeroom is located south of the office and crew areas and will be configured with 20’ vertical clearance suitable for pallet racks and will also have open floor area for the storage of large components. A Parts Counter is provided near the center of the shop for the issuance of smaller parts and large components will be issued through the overhead door at the southwest part of the storeroom. Also, in this area will be the Lube/Compressor Room. In addition to the building air compressor, this room will house above ground double wall tanks for the storage of various lubricants that will be delivered to the shop via high-pressure piping.

The main shop area of the floor plan consists of one through track bay with posted-rail. The track bay will have multi-levels. These levels include the pit between the track gauge, depressed floor outside the tracks at 3'-6" below top of rail, top of rail level for interior coach access, running board lower platform level at 5'-0" for locomotive engine compartment access and an upper platform level at 16'-0" with gangways for car rooftop access. Lift tables are provided to move tools and materials from depressed floor to top of rail to the lower platform.

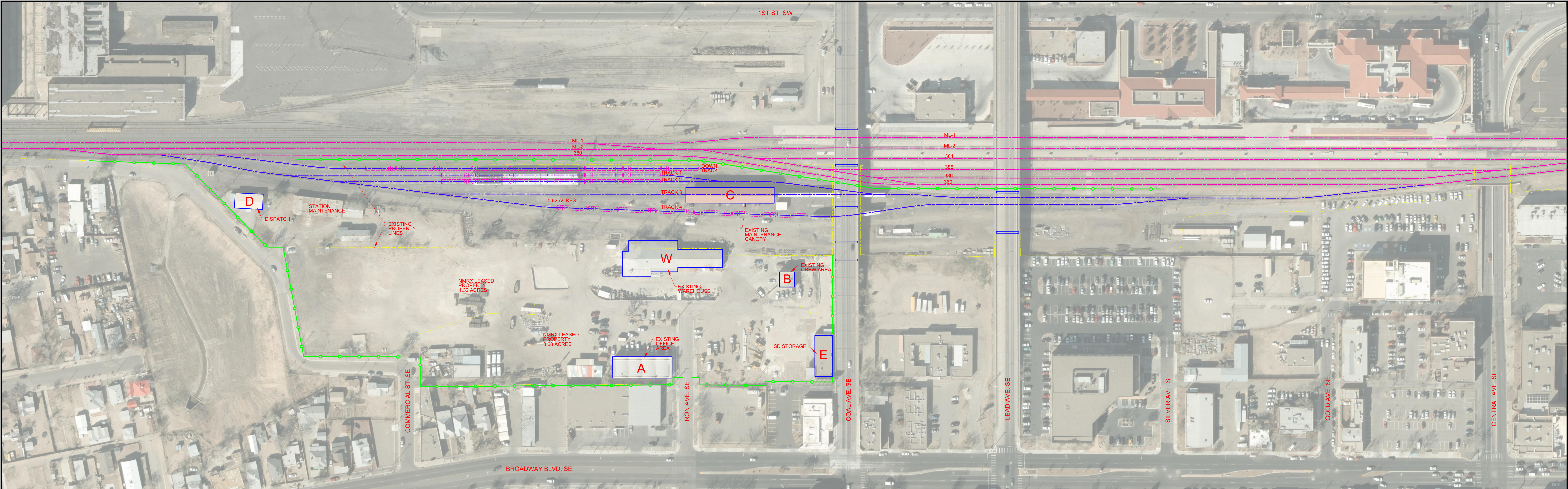
Track will be outfitted with a drop table to swap out trucks on locomotives and coaches. The drop table's release track will extend out to the truck and wheelset storage area with embedded rail. This area can be accessed by a delivery truck dropping off these components under the bridge crane. A 30-ton overhead bridge crane will span the entire shop, capable of lifting trucks and all other heavy car components throughout the shop.

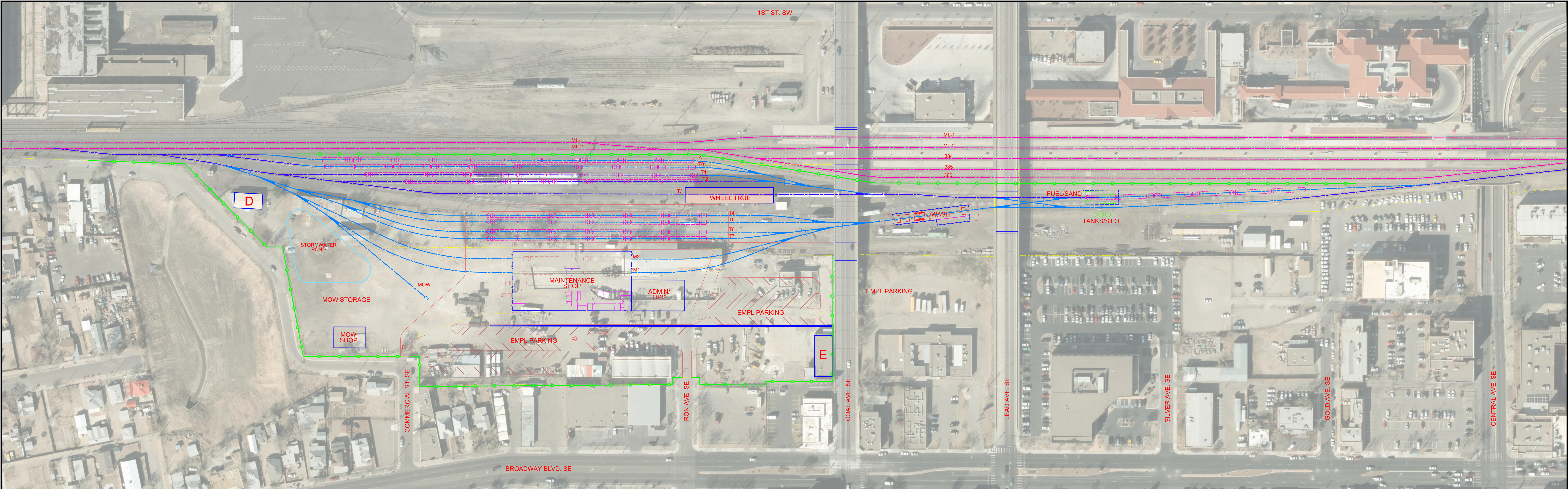
Included in the maintenance building's initial build are office, break and lockers facilities for the MOE and MOW departments.

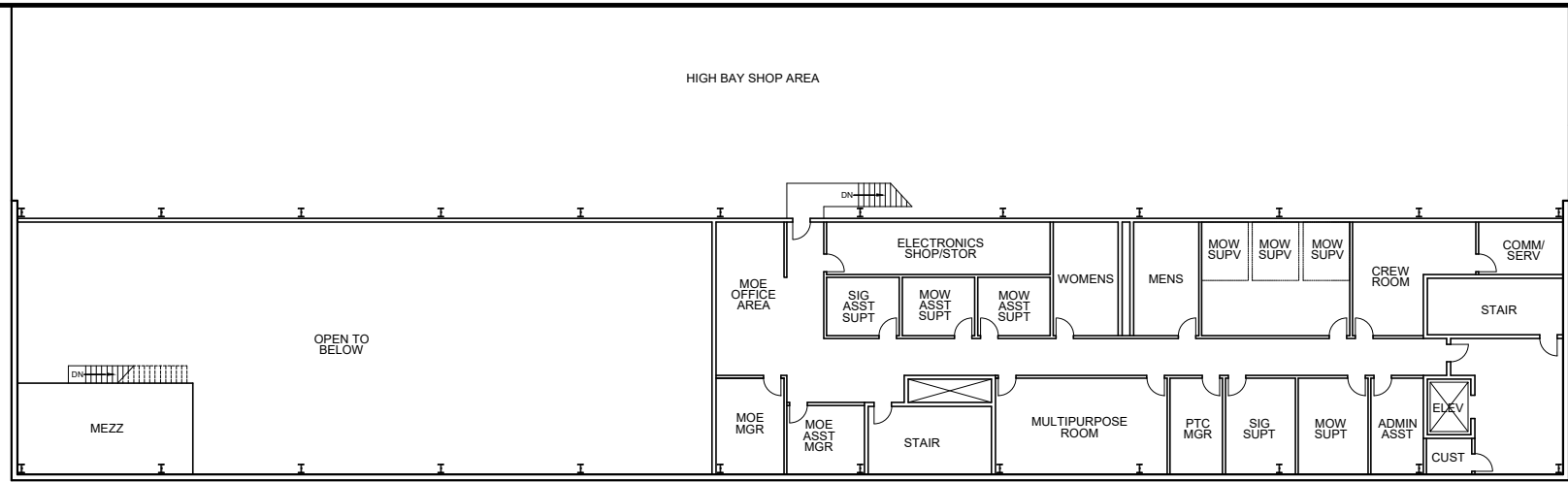
Appendix A: Design Drawings

The layout drawings beginning on the following page were developed in close coordination with NMRX management and are as follows:

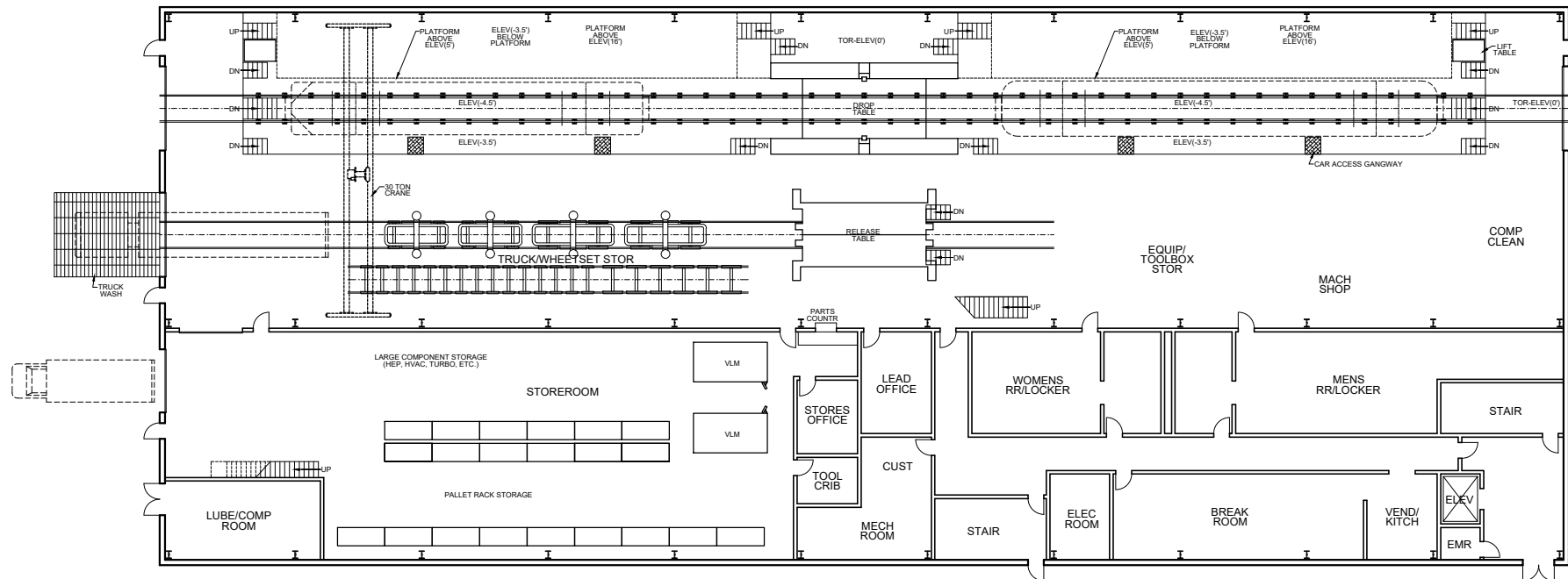
1. Existing Site Plan: Depicts the current configuration of the OMF.
2. Conceptual Site Plan – Initial Build: Depicts the configuration of the OMF at the end of the Initial Build of the project.
3. Conceptual Site Plan – Full Build: Depicts the configuration of the OMF at the completion of the project.
4. Conceptual Floor Plan: Depicts the configuration of the maintenance shop at the completion of the Initial Build.







2ND FLOOR



1ST FLOOR

NEW MEXICO RAIL RUNNER EXPRESS (NMRX)

RIO METRO TRANSIT DISTRICT

Prime Consultant:



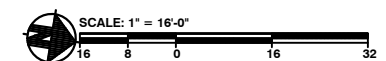
6100 Uptown Blvd NE, Suite 700, Albuquerque, NM 87110

Subconsultant:



FEASIBILITY STUDY

Conceptual Floor Plans



Date: 3/16/2022	
CADD File: NMRX Floor - 20220316	
Drawing No: 4	Rev. -
Scale: 1" = 16'	
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